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**VOLUME II
DATA AND SUPPORTING DOCUMENTS**

**REMEDIAL INVESTIGATION REPORT
FOR
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
AT
NAVAL INDUSTRIAL RESERVE ORDNANCE PLANT
FRIDLEY, MINNESOTA**

**JUNE 1987
CONTRACT NO. DACA45-86-C-0015**

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13. LABORATORY ANALYTICAL PROCEDURES USED FOR
NOVEMBER 1986 SAMPLING ROUND

PARAMETER	ANALYSIS PROCEDURE NO.	REQUESTED DETECTION LIMIT (mg/l)
<u>VOLATILES</u>		
Chloromethane	EPA-624	0.005
Bromomethane	used for	0.005
Vinyl chloride	all Volatiles	0.005*
Chloroethane		0.005
Methylene chloride		0.005
Trichlorofluoromethane		0.005
1,1 Dichloroethene		0.005
1,1 Dichloroethane		0.005
trans 1,2 Dichloroethene		0.005
Chloroform		0.005
1,2 Dichloroethane		0.005
1,1,1 Trichloroethane		0.005
Carbon tetrachloride		0.005
Bromodichloromethane		0.005
1,2 Dichloropropane		0.005
trans 1,3 Dichloropropene		0.005
Trichloroethene		0.005
Benzene		0.005
Dibromochloromethane		0.005
1,1,2 Trichloroethane		0.005
Cis 1,3 Dichloropropene		0.005
2 Chloroethylvinyl ether		0.005
Bromoform		0.005
1,1,2,2 Tetrachloroethane		0.005
Tetrachloroethene		0.005
Toluene		0.005
Chlorobenzene		0.005
Ethyl benzenene		0.005
1,3 Dichlorobenzene		0.005
1,2 Dichlorobenzene		0.005
1,4 Dichlorobenzene		0.005
Methyl ethyl ketone		0.01
Cis 1,2 Dichloroethylene		0.001
Xylene		0.015

Metals (Dissolved and Total)

Arsenic	EPA-7060	0.005
Barium	EPA-200.7	0.2
Cadmium	EPA-200.7	0.0002
Chromium	EPA-200.7	0.0005
Lead	EPA-200.7	0.001
Mercury	EPA-7470	0.0004
Selenium	EPA-7740	0.050**
Silver	EPA-200.7	0.001
Copper	EPA-200.7	0.001
Manganese	EPA-200.7	0.01
Nickel	EPA-200.7	0.04
Zinc	EPA-200.7	0.050
<u>Cyanide</u>	EPA-335.2	0.02
<u>Cations</u>		
Calcium	EPA-200.7	0.05
Magnesium	EPA-200.7	0.01
Sodium	EPA-200.7	0.05
Potassium	EPA-200.7	0.05
<u>Anions</u>		
Sulfate	EPA-375.2	10.0
Nitrate	EPA-353.2	0.1
Chloride	SM-407B	1.0
<u>Alkalinity</u>	SM-403	5.0

* State of Minnesota Standard for Vinyl Chloride is 0.00015. This detection level will be met if possible.

** State of Minnesota Standard for Selenium is 0.045. This detection level will be met if possible.

2. BRAUN ENGINEERING REPORT ON HAZARDOUS WASTE

STORAGE AREA C



CG: RUSSELL E. PERDUE
LE: BILLY R. HILF
RV: BILLY R. HILF

Rec'd 7-31-86 - RMT

July 25, 1985

FMC Corporation
Attn: Mr. Douglas L. Hildre
Northern Ordnance Division
4800 East River Road
Minneapolis, MN 55421

RE: 85-232 SOIL BORING AND
LABORATORY ANALYSES
FMC Corporation
Minneapolis, MN
Addendum to Report
Dated July 17, 1985

Dear Mr. Hildre:

We have completed the chemical analyses of the additional water sample delivered to our laboratory on June 5, 1985. From visual observations in the laboratory, it was determined that the sample was highly contaminated and needed to be analyzed by the head space technique 8.82 in "Test Methods for the Evaluating of Solid Wastes, Physical and Chemical Methods." Analysis was performed on a Tracor 565 gas chromatograph with a photoionization detector and Hall electrolytic conductivity detector connected in series. The results of these analyses are in the table given. Please note that the units are in milligrams per kilogram or parts per million.

If you have any questions or if we can be of further service, please feel free to contact us at your convenience.

Very truly yours,

BRAUN ENVIRONMENTAL LABORATORIES, INC.

Brenda L. Himrich

Brenda L. Himrich
Laboratory Manager

Roger V. Blomquist

Roger V. Blomquist, Ph.D.
Vice President

RLB/RVB:sec

Attachments

MCEV. (INF)
X 1/4/86

85-232

Well Location FMC

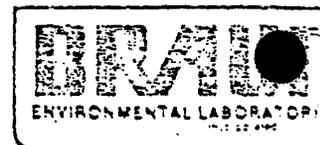
Halogenated Compounds Ball Detektor

Comments Headspace

Non-halogenated Compounds Photo Ionization Detector

Units mg/kg

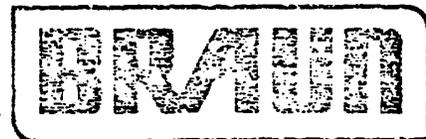
Parameters	2-0-003 #903			Detection Limits 10g Sample
Acetone	N.D.			20
Benzene	N.D.			0.1
Cumene	N.D.			2.0
Ethyl Benzene	3.3			0.1
Methyl ethyl ketone	N.D.			20
Methyl Isobutyl Ketone	N.D.			2
m-Xylene	11			0.1
o-Xylene & p-Xylene	6.9			0.1
Tetrahydrofuran	N.D.			20
Toluene	2.4			0.1
Allylchloride (3-chloropropene)	N.D.			1.
Bromodichloromethane	N.D.			0.5
Bromoform	N.D.			2.
Bromomethane	N.D.			N/A
Carbon Tetrachloride	N.D.			0.1
Chlorobenzene	N.D.			0.1
Chlorodibromomethane	N.D.			1.
Chloroethane	N.D.			N/A
2-Chloroethyl vinyl ether	N.D.			1.
Chloroform	N.D.			0.5
Chloromethane	N.D.			N/A
Dibromomethane	N.D.			1.
1,2-Dibromoethane	N.D.			1.
Dichloroacetonitrile	N.D.			2.
1,1-Dichloro-1-propene	N.D.			0.5
1,3-Dichloro-1-propene (cis)	N.D.			0.5
1,3-Dichloro-1-propene (trans)	N.D.			0.5
2,3-Dichloro-1-propene	N.D.			1.
1,2-Dichlorobenzene	N.D.			1.
	N.D.			



85-232 SOIL BORING AND
LABORATORY ANALYSIS
From Sump Collector in
Drum Storage Building
FMC Corporation
Minneapolis, MN

FMC CORPORATION

Services Since 1957



July 17, 1985

If you have any questions or if we can be of further service,
please feel free to contact us at your convenience.

Very truly yours,

BRAUN ENGINEERING TESTING, INC.



David D. Vieau
Engineering Geologist



Brenda L. Himrich
Laboratory Manager

DDV/BLH:gec

Attachments



July 17, 1985

85-232 SOIL BORING AND
LABORATORY ANALYSIS
From Sump Collector in
Drum Storage Building

A. INTRODUCTION

A.1. Soil Borings: The borings were taken on May 30, 1985, with a truck-mounted core and auger drill. The sampling was performed in accordance with ASTM D1586 "Penetration Test and Split Barrel Sampling of Soils." Using this method, we advanced the bore hole with the hollow-stem auger to the desired test depth. Then a 140-pound hammer falling 30 inches drove a standard, 2-inch OD, split barrel sampler a total penetration of 2 feet below the tip of the hollow-stem auger. The blows for the last foot of penetration were recorded and are an index of soil strength characteristics. Soil sampling was continuous from the soil surface to the termination depth of the boring.

A.2. Soil Classification: Mineral soils encountered in the borings were visually and manually classified in the field by the crew chief in accordance with ASTM D2487 "Unified Soils Classification System" and ASTM D2488 "Recommended Practice for Visual and Manual Description of Soils." A copy of ASTM D2487 is attached. All samples were then returned to the laboratory for review of the field classifications by an Engineering Geologist. Representative samples will remain in this office for a period of 60 days to be available for your examination.

A.3. Collection of Samples for Chemical Analysis: Samples for volatile organic hydrocarbons were collected in 40 ml VOA vials with teflon lined septums. Samples were collected in duplicate in the field and stored in a cooler with ice until returned to



July 17, 1985

the laboratory for analyses. Metals analyses were collected in linear polypropylene bottles that had been rinsed with nitric acid. Samples were maintained in a cooler on ice until brought to the laboratory for analyses. Sampling equipment was rinsed with methanol and deionized water in the field. A copy of our quality assurance/quality control manual for Braun Environmental Laboratories was sent to you previously. This project involved the analyses of two samples. One of the samples was analyzed in duplicate for metals.

A.4. Chemical Analyses: Volatile hydrocarbon were analyzed utilizing the Minnesota Department of Health method 466A for soil samples. This procedure included extraction with methanol followed by concentration with a purge and trap device and automatic injection onto a gas chromatograph. Analysis was performed on a Tracor model 575 gas chromatograph equipped with a Hall electrolytic conductivity detector and a photoionization detector. The results of the analysis are in the appendix.

Analyses for metals was be accomplished according to "Methods for Chemical Analyses of Water and Wastewater" EPA-600/4-79-020. The results of the metal analysis are in Table I.

We were advised by the EPA Quality Assurance lab that for levels as low as these it is inadvisable to perform the Hexavalent Chromium analysis. The test procedure is considered highly inaccurate at this level.

B. RESULTS

B.1. Logs: Log of Boring sheets indicating the depth and identification of the various soil strata, the penetration resistan-



July 17, 1985

ces, and water level information are attached. It should be noted that the depths shown as boundaries between the strata are only approximate. The actual change may be more of a transition and the depth of change likely varies horizontally.

B.2. Soils Encountered: The soil boring encountered poorly graded gravel with sand in the upper 4 feet of soil encountered in the sump. The gravel was dark in color, wet and in a loose condition. Beneath the gravel, dark brown, slightly silty sand was encountered to the 10-foot depth. This sand was wet to waterbearing, and in a loose to medium dense condition, with generally increasing penetration resistances recorded with depth. The general appearance of the gravel and slightly silty sand in the upper 10 feet of the soil boring was oily, and may probably fill.

Below 10 feet, to the termination depth of 14.5 feet, the soil boring encountered a brown colored, slightly silty sand. This sand was noted to decrease in relative moisture content with depth from wet to moist. The soil samples indicated the sand was probably natural alluvium.

B.3. Chemical Analyses: The levels of metals found are much lower at the 10-foot to 12-foot level than at the 4-foot to 6-foot level. Trichloroethylene was the major volatile organic compound detected. The levels of volatile organics also dropped off drastically from the 4-foot to 6-foot level to the 10-foot to 12-foot levels (430 ug/l to 62 ug/l for trichloroethylene).

MS/K
P/M

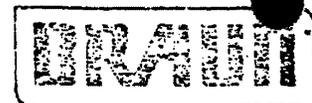


TABLE I

<u>Sample Description</u>	<u>Total Chromium mg/k</u>	<u>Cadmium mg/k</u>	<u>Lead mg/k</u>
ST-1 4-6'	24	2.8	32
ST-1 4-6' Duplicate	24	2.8	32
ST-1 10-12'	7.4	0.17	4.7

ENVIRONMENTAL
SCIENCE SYSTEMS

APPENDIX



LOG OF BORING

ENGINEERING TESTING

PROJECT: 85-232 SOIL BORINGS FMC 4800 East River Road Minneapolis, MN				BORING: ST-1	
				LOCATION: Sump Collection in Drum Storage Building	
				DATE: 5/30/85	SCALE: 1" = 4'
Elev.	Depth	ASTM D2487 Symbol	Description of Materials (ASTM D2486)	BPF	WL Tests or Notes
	0	GP	POORLY GRADED GRAVEL with SAND, dark brown, wet, loose. (Fill)	2	
	2			4	
	4	GP	POORLY GRADED GRAVEL with CLAYEY SAND, dark brown, wet, loose. (Fill)	4	
				6	
	8	SP-SM	POORLY GRADED SAND with SILT, fine to medium-grained, dark brown, wet to waterbearing, loose (Fill)	8	
				4	
				6	
	10	SP-SM	POORLY GRADED SAND with SILT, with a trace of Gravel, dark brown, wet, medium dense. (Fill)	7	
				12	
				13	
	12	SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, wet, medium dense. (Alluvium)	18	
				24	
				22	
	14.5	SP-SM	POORLY GRADED SAND with SILT, fine-grained, brown, moist, medium dense. (Alluvium)	29	
			Water level down 10' with 12' of hollow-stem auger in the ground.		
			Water level not encountered to cave-in depth of 1' immediately after withdrawal of auger.		

(See Report and Standard Plates for evaluation and descriptive terminology.)

VOLATILE ORGANICS

Act # 85-232

Location FMC 5/30/85

Halogenated Compounds Hall Detector

Tests P & T MeOH Extraction

Non-halogenated Compounds Photo Ionization Detector

Results mg/kg

Parameters	ST-1, 4'6'	ST-1 10'12'	Detection Limits 10g Sample
	853	854	
Acetone	N.D.	N.D.	20
Benzene	N.D.	N.D.	0.5
Chloroform	N.D.	N.D.	1.0
1,2-Dichloroethane	7.9	N.D.	0.5
Diethyl ketone	N.D.	N.D.	20
Isobutyl Ketone	N.D.	N.D.	2
Methane	19	N.D.	1.
m-Xylene & p-Xylene	28	N.D.	1.
Tetrahydrofuran	N.D.	N.D.	20
Toluene	6.9	N.D.	0.5
Trichloroethene (3-chloropropene)	N.D.	N.D.	1.
1,1-Dichloroethane	N.D.	N.D.	0.5
Acrylonitrile	N.D.	N.D.	2.
1,1-Dichloroethane	N.D.	N.D.	N/A
Carbon Tetrachloride	N.D.	N.D.	0.5
1,2-Dichlorobenzene	N.D.	N.D.	1.
1,1-Dibromoethane	N.D.	N.D.	1.
1,1-Dibromoethane	N.D.	N.D.	N/A
Chloroethyl vinyl ether	N.D.	N.D.	1.
Acrylonitrile	N.D.	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	N/A
1,1-Dichloroethane	N.D.	N.D.	1.
1,1-Dibromoethane	N.D.	N.D.	1.
Chloroacetonitrile	N.D.	N.D.	2
1,1-Dichloro-1-propene	N.D.	N.D.	0.5
1,1-Dichloro-1-propene (cis)	N.D.	N.D.	0.5
1,1-Dichloro-1-propene (trans)	N.D.	N.D.	0.5
1,1-Dichloro-1-propene	N.D.	N.D.	1.
1,1-Dichlorobenzene	N.D.	N.D.	2.



VOLATILE ORGANICS

5/30/85

Halogenated Compounds Hall Detector

Soil Extraction

Non-halogenated Compounds Photo Ionization Detector

mg/kg

Compounds	ST-1 4'-6'	ST-1 10'-12'	Detection Limits 10g Sample
1,1,1-Trichloroethane	853	854	
1,2-Dichlorobenzene	N.D.	N.D.	1.
1,4-Dichlorobenzene	N.D.	N.D.	1.
1,1-Dichloroethane	N.D.	N.D.	N/A
1,2-Dichloroethane	N.D.	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	0.5
1,2-Dichloroethylene	N.D.	N.D.	0.5
1,2-Dichloroethylene (cis & trans)	19	N.D.	0.5
1,1-Dichloroethane	N.D.	N.D.	N/A
1,2-Dichloropropane	N.D.	N.D.	1.
1,3-Dichloropropane	N.D.	N.D.	3.
1,1,1-Trichloroethane	N.D.	N.D.	2.
1,1,2-Trichloroethane	N.D.	N.D.	2.
1,1,2,2-Tetrachloroethane	N.D.	N.D.	0.5
1,1,2,2-Tetrachloroethane	N.D.	N.D.	2.
1,2-Dichloroethylene	26	66	2.
1,1,1-Trichloroethane	1.2.	N.D.	0.5
1,1,2-Trichloroethane	N.D.	N.D.	0.5
1,1,2-Trichloroethylene	430	62	0.5
1,1,1-Trichloroethane	N.D.	N.D.	0.5
1,2,3-Trichloropropane	N.D.	N.D.	2.
1,1,2-Trichlorotrifluoroethane	N.D.	N.D.	1.
1,1,1-Trichloroethane	N.D.	N.D.	N/A

N.D. means "not detected"

N/A means "no quantitation standard available"



Descriptive Terminology



Designation D 2457 - 83

Standard Test Method for CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES

UNSATURATED SOILS		SATURATED SOILS	
Soil Name	Soil Description	Soil Name	Soil Description
Very loose sand	Grain size No. 4 and finer 2.0 - 1.0	Very loose sand	Grain size No. 4 and finer 2.0 - 1.0
Loose sand	Grain size No. 4 and finer 2.0 - 1.0	Loose sand	Grain size No. 4 and finer 2.0 - 1.0
Medium sand	Grain size No. 4 and finer 2.0 - 1.0	Medium sand	Grain size No. 4 and finer 2.0 - 1.0
Dense sand	Grain size No. 4 and finer 2.0 - 1.0	Dense sand	Grain size No. 4 and finer 2.0 - 1.0
Very loose gravel	Grain size No. 20 and finer 0.85 - 0.425	Very loose gravel	Grain size No. 20 and finer 0.85 - 0.425
Loose gravel	Grain size No. 20 and finer 0.85 - 0.425	Loose gravel	Grain size No. 20 and finer 0.85 - 0.425
Medium gravel	Grain size No. 20 and finer 0.85 - 0.425	Medium gravel	Grain size No. 20 and finer 0.85 - 0.425
Dense gravel	Grain size No. 20 and finer 0.85 - 0.425	Dense gravel	Grain size No. 20 and finer 0.85 - 0.425
Very loose clay	Grain size No. 200 and finer 0.075 - 0.0075	Very loose clay	Grain size No. 200 and finer 0.075 - 0.0075
Loose clay	Grain size No. 200 and finer 0.075 - 0.0075	Loose clay	Grain size No. 200 and finer 0.075 - 0.0075
Medium clay	Grain size No. 200 and finer 0.075 - 0.0075	Medium clay	Grain size No. 200 and finer 0.075 - 0.0075
Dense clay	Grain size No. 200 and finer 0.075 - 0.0075	Dense clay	Grain size No. 200 and finer 0.075 - 0.0075

PARTICLE SIZE IDENTIFICATION

Boulders	over 12 in.
Cobbles	3 to 12 in.
Gravel	
Coarse	No. 10 - 3
Fine	No. 4 - 10
Sand	
Coarse	No. 4 - No. 10
Medium	No. 10 - No. 40
Fine	No. 40 - No. 200
Silt	No. 200 - 300
Clay	less than 300

RELATIVE DENSITY OF COHESIONLESS SOILS

Very loose	0 - 4 BPF
Loose	5 - 10 BPF
Medium dense	11 - 30 BPF
Dense	31 - 50 BPF
Very dense	51 - 80 BPF

CONSISTENCY OF COHESIVE SOILS

Very soft	0 - 1 BPF
Soft	2 - 5 BPF
Rather soft	6 - 10 BPF
Medium	11 - 20 BPF
Rather stiff	21 - 30 BPF
Stiff	31 - 40 BPF
Very stiff	41 - 50 BPF
Hard	51 - 80 BPF

DRILLING NOTES

Standard penetration test borings were advanced by 3" or 6" ID hollow stem augers unless noted otherwise. Jetting water was used to clean the auger prior to sampling on all where indicated. Standard penetration test borings are designated by the prefix "ST" (Split Tube).

Power auger borings were advanced by 4" or 6" diameter continuous flight soil stem augers. Soil classification and stratigraphies are inferred from disturbed samples augered to the surface and are therefore somewhat approximate. Power auger borings are designated by the prefix "B".

Hand borings were advanced manually with a 1" diameter probe and are limited to the depth from which the probe can be manually withdrawn. Hand borings are indicated by the prefix "H".

SAMPLING - All samples are taken with the standard 2" C split tube sampler except where noted. "U" indicates true (undisturbed) sample.

BPF - Numbers indicate blows per foot recorded in sands penetration test also known as "N" value. The sampler is set into undisturbed soil below the 10" diameter auger. 15" resistances are then counted for second and third 6" increments and added to get BPF. Where they differ significantly they are reported in the following form - 2/3 for the second and third increments respectively.

WH - "W" indicates that sampler penetrated soil under weight hammer and no additional drilling required.

NOTE - All tests run in accordance with applicable ASTM standards.

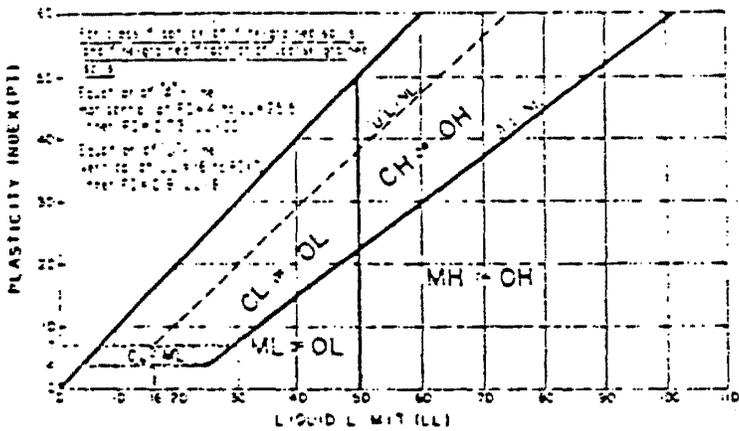
1. This test method covers the classification of soils for engineering purposes based on grain size distribution, plasticity, and organic content. It is applicable to all types of soils, including those that are highly organic or highly plastic.

2. The classification of soils is based on the results of grain size analysis, liquid limit, plastic limit, and plasticity index tests. The classification is based on the following criteria:

- Grain size analysis: The grain size distribution curve is plotted on a semi-logarithmic scale. The soil is classified based on the percentage of soil passing through various sieve sizes.
- Liquid limit and plastic limit: The liquid limit (LL) and plastic limit (PL) are determined using the Casagrande liquid limit test and the Casagrande plastic limit test, respectively.
- Plasticity index: The plasticity index (PI) is the difference between the liquid limit and the plastic limit.

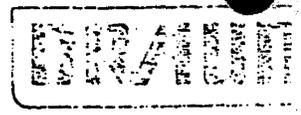
3. The classification of soils is based on the following criteria:

- Grain size analysis: The soil is classified based on the percentage of soil passing through various sieve sizes.
- Liquid limit and plastic limit: The liquid limit (LL) and plastic limit (PL) are determined using the Casagrande liquid limit test and the Casagrande plastic limit test, respectively.
- Plasticity index: The plasticity index (PI) is the difference between the liquid limit and the plastic limit.



LABORATORY TESTS

D _s	Dry Density,pcf	OC	Organic Content, %
W _d	Wet Density,pcf	S	Percent of Saturation, %
M _v	Natural Moisture Content, %	SG	Specific Gravity
LL	Liquid Limit, %	C	Cohesion
PL	Plastic Limit, %	φ	Angle of Internal Friction
PI	Plasticity Index, %	q _u	Unconfined Compressive Strength



1. NIROP SPILL HISTORY 1984, 1985, 1986

SPILLS84

DATE	SHIFT	SPILL MATERIAL	QUANTITY	LOCATION	SOURCE	CLEANUP METHOD	SPILL LETTER	REPORT COMPLETED	CORRECTIVE ACTION	ACTION COMPLETED
1-9-84	1	TRICHLORO-ETHYLENE	15 GAL	ASSEMBLY TANK	TANK ?	FLOOR DRY	NO			
1-9-84	2	SODIUM CYANIDE	30 GAL	PLATING TANK	TANK CLEANING & SUMP OUTSIDE WITH LEAK	DIKE BUILT, AREA STEAM CLEANED, & SOLN. VACUUMED	YES	1 FEB	DISCONTINUE FREEZING CYANIDE SOLUTION	1 FEB
1-20-84	1	PHOSPHORIC ACID	2 GAL	INSPECTION	MISSING LID ON JUG	NO DATA	NO			
1-21-84	3	TRIM SOL	2 GAL	MACHINE SHOP	NO DATA	SUMP SUCKER THEN FLOOR DRY	NO			
1-23-84	3	ETHYLENE GLYCOL	5 GAL	MACHINE SHOP	PIPE FITTING NEAR PUMP LEAK	NO DATA	NO		REPAIR FITTING	23 JAN.
1-23-84	3	NITRIC ACID/ BENCHMARK ENS	20 GAL	PLATING	NO DATA	NO DATA	NO			
1-24-85	1	PEPSET 2600	5 GAL	FOUNDRY	NO DATA	NO DATA	NO			
1-24-84	2	NITRIC ACID	2 PT	RECEIVING	LEAKY CONTAINER	WATER ADDED, SOLN. NETRALIZED	NO			
1-25-84	1	LUBRICATING OIL	5 GAL	MAINT. SUB 4	COMPRESSO OIL LEAK	NO DATA	NO			
1-26-84	1	KURE-N-SEAL (XYLOL)	3 GAL	LATERAL TRANS. SYSTEM	DRUM KNCKED OVER BY CONTRACTOR	BY CONTRACTOR	NO			
2-14-84	3	MACHINE OIL	2 GAL	SHIPPING	MACHINE LEAK	FLOOR DRY	NO			
2-15-84	2	PEPSET 3500	1 PT	FOUNDRY	DRUM SEAM LEAK	FLOOR DRY	NO			

SPILLS84

2-17-84 1	ZINC CHROMATE PRIMER/ BC 100	25 GAL	PAINT SHOP	VALVE LEFT OPEN & CHECK VALVE MALFUNCTION ALLOWED SOLN. TO BACKFLOW THRU LINE	FLOOR DRY	NO	FIX CHECKVALVE	17 FEB.
2-20-84 1	HYDRALIC FLUID NO DATA		TEST HIGH DAY	LEAK FROM MACHINE UNDER TESTING		NO DATA NO		
2-28-84 1	STODDARD SOLVENT	3 GAL	WASTE OIL HOLD TANK	CHECK VALVE FAILURE DRAINED OIL FROM TANK	FLOOR DRY	NO	REPAIR CHECK VALVE	28 FEB.
3-3-84 3	BC 100/STODDARD SOLVENT	50 GAL	PAINT SHOP	SHUT OFF VALVE LEFT OPEN	FLOOR DRY	NO		
3-11-84 3	HYDRALIC OIL	20 GAL	MACHINE SHOP	NO DATA	VACUUM THEN FLOOR DRY	NO		
3-21-84 3	GASOLINE	6 GAL	HOUSE- KEEPING STORAGE	CUSHMAN CART FUEL TANK PUNCTURE	CATCH CAN & EMPTY TANK	NO		
3-11-84 2	TRICHLORO- ETHYLENE	200 GAL	PLATING	CLOGGED RETURN LINE ALLOWED TRIC. TO DRAIN THROUGH WATER STOPCOCK TO SUMP & SANITARY SEWER	SOLN. PUMPED TO DRUMS	YES	12 APR REPLACE RETURN LINE, PK PLAN ON RETURN LINES	23 APR. 23 APR.
4-18-84 3	CYANIDE SOLN.	15 GAL	CYANIDE STORAGE ROOM	CONTAINER LEAK	SOLN. TRANSFERRED TO CYANIDE HOLD TANK	NO		

SPILLS84

4-28	1	MACHINE OIL	1 PT	MACHINE SHOP	MACHINE OIL LEAK	FLOOR DRY	NO		
5-22-84	2	OIL	1 QT	MACHINE SHOP	NO DATA	FLOOR DRY	NO		
5-26-84	1	ISOCURE CATALYST	MINIMAL	FOUNDRY	DRUM LEAKED INSIDE STORAGE CABINET	FLOOR DRY	NO		
6-4-84	?	CUTMAX 570/WAYLUBE 68	2 GAL	OIL STORAGE ROOM	DRUM LEAKS	FLOOR DRY	NO		
6-12-84	1	HYDRALIC FLUID	15 GAL	ROAD SOUTH OF SCRAP SHED	NO DATA	FLOOR DRY	NO		
6-12-84	2	111 TRICHLORO-ETHANE	7 GAL	ASSEMBLY	HOSE RUPTURE ON PARTS WASH TANK	FLOOR DRY, FAN USED TO VENT AREA	NO	REPAIR HOSE	12 JUNE
6-14-84	2	CINCOOL 400	20 GAL	MACHINE SHOP	PLUGGED FILTER IN COOLANT RESERVOIR LEAKED SOLN. TO FLOOR, EMPLOYEE OPEN STORMED DRAIN	NONE	YES	18 JUNE SEWAR MANHOLES SEALED & PAINTED YELLOW, PH PROG. ON FILTERS, EMPLOYEE REPRINDED	JULY 1984
6-25-84	1	CINCOOL 400	40 GAL	MACHINE SHOP	WATER HOSE LEFT ON OVER-FLOWING COOLANT RECYCLING TANK	SUMP SUCKER	NO		
6-26-84	1	PAINT	1 GAL	MACHINE SHOP	NO DATA	FLOOR DRY	NO		
7-6-84	3	CUTMAX 570	3 GAL	MACHINE SHOP	MACHINE HOSE LEAK	FLOOR DRY	NO		
7-11-84	1	QUENCH OIL	3 GAL	WORTH FORTY	OLD HEAT TREAT	SOLN. VACUUMED	YES	14 AUG. PROPERTY CONTROL WILL	14 AUG.

SPILLS84

				FURNANCE OFF OF SPILLED GROUND SOLN. TO AND OUT GROUND OF TANK DURING REMOVAL ACTIVITY			COVER MACHINES BETTER, MAINT. TO PUMP OIL OUT OF MACHINES	
7-15-84 2	METRO CLEAN AWAY 100 (ACID)	3 GAL	FUEL OIL ACID UNLOADING ATE HOUSE THROUGH METAL STORAGE, SPIGOT SPILL SOLN. VACUUMED	DRUM YES REMOVED TO ACID STORAGE, SPILL SOLN. VACUUMED		19 JULY	STORE ACID DRUMS IN ACID STORAGE, USE PLASTIC SPIGOTS	13 AUG.
7-19-84 2	MOBILMET ALPHA	40 GAL	MACHINE NO DATA SHOP	FLOOR NO DRY DIKE, SOLN. VACUUMED				
7-29-84 1	CYANIDE SOLN. (ENDOX)	NO DATA	PLATING TANK OVERFLOW TO SUMP PLUGGED INTO DRAIN CYANIDE DRAIN IN HOLD TANK RINSEWATER TANK, BACKED WATER INTO ENDOX TANK	SUMP YES PUMPED CYANIDE MOLD TANK		7 AUG.	INSTALL T IN RINSEWATER DRAIN LINE, PH PROGRAM ON CYANIDE TANK DRAINS	7 AUG.
8-9-84 1	OIL FROM LIGHTING BALLAST	1 OZ	MRB ENGIN- ERING	LEAKING WIPED UP, BALLAST CAPACITOR CASING CHECKED OVERHEATED FOR ALLOWING LEAK, NO OIL TO LEAK FLOW FROM OIL/ SAND PACKING MATERIAL	NO		BALLAST REPLACED	9 AUG.
8-14-84 2	TRICHLORO- ETHYLENE	15 GAL	ASSEMBLY NO DATA	SOLN. NO VACUUMED				
8-16-84 3	GASOLINE	2 BT	BROADWAY CUSHMAN BY SAFETY CART CENTER TANK LEAK THRU FILL PIPE	FLOOR NO DRY				
8-17-84 1	TRICHLORO-	3 GAL	PLATING LEAK AT	FLOOR NO				

SPILLS84

	ETHYLENE			BASKET, DRY SOLN. TO FLOOR					
8-20-84 1	HYDRALIC FLUID	4 GAL	ROAD NORTH OF PLANT	BACKNOE HOSE RUPTURE	SAND ADDED TO ABSORB OIL	NO			
8-23-84 1	NICKEL SULFAMATE SOLN.	25 LBS IN SOLN.	PLATING	TANK LEAK WHEN LOW SOLN. LEVEL ALLOWED ELECTRIC HEATER TO MELT PLASTIC TANK LINER	NONE	YES	31 AUG.	REPLACE ELECTRIC HEATERS	31 AUG.
	TRICHLORO- ETHYLENE	2 GAL	ASSEMBLY	LOOSE FILTER CAUSED LEAK	SOLN. VACUUMED	NO		FILTER SCREW TIGHTENED	27 AUG.
8-29-84 1	STODDARD SOLVENT	2 GAL	WELDING	SOLN. SLOSHED OUT OF PORTABLE TANK IN TRANSPORT	FLOOR DRY	YES	10 SEPT.	REPLACE TANK LTD, TRAINING FOR LIFT DRIVERS, TANKS LABELLED, CHEMICAL ROUTES FOR DILERS	30 SEPT. 30 OCT. 30 SEPT. 30 SEPT.
8-31-84 1	TRIMSOL	10 GAL	MACHINE SHOP	MACHINE BEING MOVED TILTED CAUSING SPILL FROM SOLN. RESERVOIR	SUMP SUCKER	NO			
9-2-84 3	TRIMSOL	35 GAL	MAINT. AT OIL/WATER SEPARATOR	TANK LEAK	SOLN. VACUUMED	NO			
9-5-84 1	KEROSENE	2 GAL	WDT	HOSE LEAK FROM TANK	FLOOR DRY	NO			
9-12-84 1	HYDRALIC FLUID	1 PT	TEST	MILITARY EQPT. TEST PIT	NO DATA	NO			

SPILLS84

LEAK								
9-13-84	3	ANTIFREEZE	2 GAL	TEST	PUMP LEAK	FLOOR DRY	NO	
9-14-84	1	ISOPROPANOL	5 GAL	ASSEMBLY	PARTS SOLN.	WASH TANK VACUUMED FELL OFF OF MOVING FORKLIFT	NO	
9-20-84	1	PAINT THINNER	5 GAL	PAINT SHOP	KNOCKED OVER	SOLN. VACUUMED PAINT CAN	NO	
9-20-84	1	MOBILMET ALPHA	15 GAL	MACHINE SHOP	CLOGGED LINE	FLOOR DRY DIL OUT THRU AIR INTAKE	YES	24 OCT. FIX OIL FILTRATION SYSTEM
9-21-84	3	NICKEL SULFAMATE SOLN.	1 QT	PLATING	DRUM LEAK	DRUM PUMPED TO ANOTHER DRUM	NO	
10-13-84	2	PETROFLUID 171	3 GAL	TEST	NO DATA	FLOOR DRY	NO	
10-18-84	3	PETROFLUID 171	1 QT	TEST	HOSE FROM DRUM	NO DATA LEAK	NO	
10-18-84	2	SULFURIC ACID	1 PT	RECEIVING	DRUM BUNG LEAD	SOLN. NEURTA- LIZED	NO	
11-14-84	3	CHROME/ NITRIC ACID SOLN.	200 GAL	PLATING	ACID SOLN ATE THRU MILD STEEL VALVE & TO FLOOR & CLARIFYER	SOLN. TANK TRUCK ACQUIRED TO PUMP DUT CLARIFYER, SUMP, & NEUTRA- LIZER TANK; SOLNS. BATCH TREATED	YES	30 NOV. REPLACE ALL MILD STEEL NIPPLES W/ STAINLESS STEEL, TRAINING FOR PLATING STAFF ON SPILL CONTROL
11-22-84	2	WASTE OIL	1 PT	TEST	PIT NO DATA AREA	FLOOR DRY	NO	
11-23-84	3	CHROME ACID	4 GAL	PLATING	NO DATA	SORBENT	NO	

SPILLS84

SOLN.			PILLOWS						
11-26-84	3	ELECTRO STRIPPER SOLN.	2 QT	PLATING	NO DATA	NO DATA	NO		
11-27-84	1	PEPSET	4 GAL	FOUNDRY	MAINT. CUT PIPES TO DISCONNECT MACHINE & SOLN. DRAINED TO FLOOR	PEPSET	YES	17 DEC.	ALL MACHINE DISPOSITION REQUEST TO BE REVIEWED BY HMC
11-?-84	2	CUTMAX 570	2 QT	MACHINE SHDP	SOLN. FROM DRUM DRY SATELITE STORAGE TO FLOOR	FLOOR	NO		
12-5-84	1	STODDARD SOLVENT	10 GAL	MACHINE SHDP	DRUM SIPHONED BY WASH BOOTH SPRAY NOSE	FLOOR DRY	YES	22 JAN	CHECK VALVE INSTALLED IN HOSE
12-8-84	1	NICKEL/ NITRIC ACID SOLN.	1 PT	PLATING	RESIDUAL IN PIPE DRAINED ONTO PLUMBER	NONE	NO		
12-20-84	1	NICKEL SULFAMATE SOLN.	SMALL	PLATING	NO DATA	NO DATA	NO		
12-21-84	2	NO DATA	NO DATA	PLATING	BLUE LIQUID DN FLOOR	PUMPED TO WEST SUMP	NO		
12-23-84	2	HYDRALIC FLUID	2 PT	TEST	NO DATA	FLOOR DRY, PAIL UNDER LEAK	NO		

Facility Department

SPILLS85

DATE	SHIFT	SPILL MATERIAL	QUANTITY	LOCATION	SOURCE	CLEANUP METHOD	SPILL LETTER	REPORT COMPLETED	CORRECTIVE ACTION	ACTION COMPLETED
1-2-85	2	COPPER CYANIDE	25 GAL	PLATING	FILTER HOSE LEAK TO FLOOR	PUMP LIQUID TO EMPTY TANK	YES	16 JAN	SEGREGATE AND DISE CYANIDE TANKS	
1-16-85	2	CHROME SOLN.	200 GAL	PLATING	TANK OVERFLOW TO FLOOR	PUMP LIQUID TO EMPTY TANK	NO			
1-17-85	1	HYDRALIC OIL	5 GAL	WELDING	TRACTOR HOSE RUPTURE	FLOOR DRY	NO		REPLACE HYDRALIC HOSE	17 JAN.
1-20-85	3	NICKLE SOLN.	30 GAL	PLATING	PUMP LEAK TO FLOOR	PUMP LIQUID TO EMPTY TANK	NO		FIX PUMP	20 JAN.
1-21-85	2	SULFURIC ACID	1 PT	ACID STORAGE	DRUM BUNG LEAK	NEUTRALIZED	NO			
1-21-85	1	DIESEL OIL	10 GAL	LATERAL TRANS. SYSTEM	CABDOSE FUEL IN TANK EXPANSION	FLOOR DRY	NO			
1-22-85	3	AQUAQUENCH 251	4000 GAL	FOUNDRY	DRAIN VALVE STUCK OPEN	NONE	YES	1 FEB	DISCONNECT PIPE FROM SANITRAY SEWAR	11 FEB
1-24-85	3	ENSTRIP S	50 GAL	PLATING	PIN HOLE IN STEAM COIL SIPHONED TANK TO SUMP	NONE	YES	7 MAR	REPLACE HEATING COILS WITH TEFLON COATED HEATING COILS	7 MAR
2-5-85	3	NICKEL ACETATE	50 GAL	PLATING	TANK OVERFLOW TO FLOOR	PUMP LIQUID TO EMPTY TANK	NO			
2-5-85	1	CHROME SOLN.	NO DATA	PLATING	TANK LEAK TO FLOOR	PUMP LIQUID TO EMPTY TANK	NO			
2-5-85	2	TRIM SOL	5 GAL	MACHINE SHOP	TANK OVERFLOW TO FLOOR	SUMP SUCKER	NO			

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2-7-85	1	PETROFLUID 111	5 GAL	TEST	HOSE SIPHONED TANK TO FLOOR & SANITARY SEWER	NONE	YES	28 FEB.	CAP ALL STORM SEWER DRAINS & SEAL ALL SANITARY SEWER DRAINS	1 APRIL
2-7-85	3	APCD 467	5 GAL	NDT	TANK LEAK	FLOOR	NO		DRY	
2-8-85	3	CHROME SLUDGE SOLN.	5 GAL	PLATING	ACID ATE THROUGH DRUM	NEUTRAL-	NO		IZED SOLN. IN NEW DRUM	
2-8-85	1	NICKEL SULFAMATE SOLN.	20 GAL	PLATING	STUCK VALVE	NO DATA	NO		FIX VALVE	8 FEB.
2-11-85	1	OIL FROM LIGHTING BALLAST	1 OZ	ADMIN. BLDG.	LEAK IN BALLAST CASING	OIL ON METAL GUARD & BALLAST REMOVED TO ELEC. CRIB, CAP. EMPTY, OIL ON GUARD WIPED OFF & PENTONE WASHED, ALL DEBRIS PLACED IN PCB DRUM, 3 DROPS OF OIL ON RUG CLEANED BY HSKP.	NO	BALLAST REPLACED	11 FEB.	
2-13-85	1	FUEL OIL #6	1 GAL	STORAGE TANK #5	PIPELINE LEAK	PHYSICAL	NO		COMPRESSION BANDAGE PLACED AROUND PIPE LEAK. FITTING TIGHTENED UPON EMPTYING TANK IN SEPTEMBER	20 FEB. PIPE REPA COMPLETE OCTOBER 1985
2-15-85	1	FUEL OIL #6	1 BT	BOILER ROOM	PIPELINE LEAK	RAG WIPE	NO		TANKS DRAINED PIPELINE REPLACED	OCTOBER 1
2-20-85	1	NAPHTHA	1 PT	RECEIVING	DRUM LEAK	FLOOR	NO		DRY	

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2-20-85 2	DIESEL FUEL	1 PT	LATERAL TRANS. SYSTEM	RAILROAD PUMP ENGINE FUEL TANK EXPANSION	XTRA NO FUEL FROM TANK			
2-21-85 1	COOLING FLUID	1 GAL	NORTH FOURTY BY DRUM RACKS	UNKNOWN SUMP SUCKER	NO			
2-22-85 2	NICKEL SULFAMATE SOLN.	5 OZ	PLATING	FILTER # 14705 LEAK INTO PAIL	NONE NO		REPAIR FILTER	25 FEB.
2-23-85 1	HYDRALIC FLUID	5 GAL	TEST	EMPLOYEE WIPED UP SAT ON SAWHORSE WHICH DISCONNECTED HYDRALIC HOSES	NO W/ RAGS			
3-1-85 2	NICKEL SULFAMATE SOLN.	5 GAL	PLATING	FILTER # USN006356 LEAKED TO FLOOR	SOLN. PUMPED TO ACID HOLD TANK	NO	REPAIR FILTER	2 MARCH
3-7-85 3	CYANIDE SOLN.	NONE	PLATING	CYANIDE SUMP PUMP FAILURE	NONE NO		REPAIR PUMP	
3-12-85 1	CUTMAX 570	15 GAL	MACHINE SHOP	RETURN LINE PUSHED OUT OF TANK BY PRESSURE	VACUUMED, YES SUMPSUCKER THEN FLOOR DRY	13 MAR	EXTEND PIPE, CLAMP PIPE	19 MARCH
3-21-85 1	GRINDING MUD	40 LBS	WELDING	MAINT. DUMPING INTO HOPPER INTO HOPPER SPILL	SHOVELED NO INTO HOPPER			
4-10-85 2	ELECTROLESS NICKEL	2 GAL	PLATING	HOSE KNOCKED OUT OF TANK, SOLN. IN HOSE TO FLOOR	SOLN. PUMPED INTO DRUM	NO		
4-15-85 2	DIESEL FUEL	1 PT	MAINT.	HOSE LEAK DUE TO	NONE NO		REPAIR HOSE	16 APRIL

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Date	Material	Quantity	Location	Incident Description	Resolution	Date
4-17-85 1	MANGANESE PHOSPHATE SOLN.	5 GAL	PLATING	RUN OVER HOSE TANK OVERFLOW SOLN, NO PUMPED INTO DRUM THEN ACID HOLD TANK		
4-24-85 1	DIELECTRIC CAPACITOR	1 GAL	FOUNDRY	HOLE IN CAPACITOR DRAINED FLUID, RAGS	REPLACE CAPACITOR	24 APRIL
4-25-85 2	HYDRALIC FLUID	10 GAL	MACHINE SHOP	DIL RAN FROM DIS-ASSEMBLED PIPING, SOLN. NO VACUUMED & PUT IN BOILER OIL SYSTEM		
4-25-85 2	BATTERY ACID	2 GAL	MACHINE SHOP	MERCURY ACID MALFUNC-TIONED & DROVE INTO OPEN PIT	ACID NEUTRALIZED & SHOVELED INTO DRUM	
4-26-85 3	CUTMAX 570	1 GAL	MACHINE SHOP	OIL LEAK FROM MACHINE LEFT ON FLOOR	ABSORBED WITH FLOOR DRY	
5-21-85 3	EBONAL C	UNKNOWN	PLATING	OVERFLOW VALVE MALFUNC-TION	PLATING SHUTDOWN LIQUID BLEED INTO SUMP	REPAIR VALVE 21 MAY
5-27-85 1	LUBRICATING OIL	1 GAL	MACHINE SHOP	LEAK	ABSORBED WITH FLOOR DRY	
5-29-85 2	AMMONIA VAPORS	UNKNOWN	PLATING	EXPERI-MENTAL WASTE TREAT-MENT	EMPLOYEES NO EVACUATED, PLASTIC SHEET COVERED TANK UNTIL VENT FIXED	VENTILATION FIXED 30 MAY
5-29-85 3	CHROMATE SEALER	UNKNOWN	PLATING	VALVE	PLATING NO	VALVE

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Date	Quantity	Material	Location	Incident Description	Actions Taken	Completion Date
				HALFUNC- SHUTDOWN, TION TANK LIQ. PUMPED INTO ANOTHER TANK	REPAIRED	30 MAY
5-30-85 1	2 GAL	HYDRALIC OIL	SOUTH OF SCRAP SHED	HYDRALIC ABSORBED NO HOSE WITH RUPTURE FLOOR DRY & SHOVELED INTO HOPPER	HOSE REPLACED	30 MAY
6-1-85 3	2 GAL	HYDRALIC OIL	TEST AREA OILY IN ASSB. RAGS LEAKING FLOOR FROM BAGS DRY	ABSORBED NO WITH FLOOR DRY		
6-6-85 2	10 GAL	ALKALI SOAK SOLUTION	PLATING	HOSE LIQUID NO BROKE VACUUMED LIQUID TO ALKALI TO PIT HOLDING TANK	HOSE REPLACED	6 JUNE
6-10-85 1	1 GAL	ANTIFREEZE	MAINT.	JUG LAID DIL WIPED NO ON SIDE UP IN STOR. CABINET		
6-24-85 1	30 GAL	NICKEL SULFAMATE	PLATING	AUTOFILL LIQUID NO VALVE VACUUMED STUCK TO EMPTY OPEN TANK OVERFILLING TANK	VALVE FIXED	24 JUNE
6-27-85 1	30 GAL	ZINC CHROMATE PRIMER/ BC 100	OIL STOCK- ROOM	PRIMER LIQUID YES VALVE SQUEEGED LEFT OPEN ONTO & CHECK SHOVEL VALVE TO DRUM FAILURE	CHECK VALVE REPLACED	
6-28-85 3	1 GAL	SOLVENT PROBABLY XYLOL	LTS TRASH COMPACTOR AVE. EAS	TRASH BAG FLOOR YES FROM 14TH DRY INTO TRASH LEAKED CART, SOLVENT SOLVENT ONTO TRAS IN CART & COMPACTOR INTO TRAS LET COMPACTOR EVAPORATE		
6-28-85 1	5 GAL	ZINC CHROMATE/	OIL	SAME AS SAME AS SAME AS	CHECK VALVE	

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	BC 100		STOCK- ROOM	SPILL YESTER- DAY	SPILL YESTER- DAY	SPILL YESTER- DAY	REPLACED
7-1-85 1	XYLOL/ BC100	5 GAL	OIL STOCK- ROOM	SAME AS 6-28-85	SAME AS 6-28-85	SAME AS 6-28-84	CHECK VALVE REPLACED
7-2-85 1	TRIMSOL/ WATER	5 GAL	MACHINE SHOP	LIP ON MACHINE DRIP GUARD NOT TO DIL/ LONG ENOUGH	VACUUMED WITH SUMP SUCKER, WATER SEPARATOR	NO	WORK ORDER TO FIX DRIP FAN LIP, STORM SEWAR MANHOLE COVER RESEALED
7-2-85 1	ZINC CHROMATE/ #37 GRAY PAINT	5 GAL	OIL STOCK- ROOM	SAME AS 6-28-85	SAME AS 6-28-85	NO	CHECK VALVE REPLACED
7-11-85 1	RANDOLPH ENAMEL	1 GAL	RECEIVING	LOOSE SID ON CAN CAME WITH OFF WHEN SHOVEL BOX LEFT INTO WASTE ON SIDE	ENAMEL SCOOPED WITH PAINT DRUM	NO	
7-12-85 3	TRIMSOL	3 GAL	MACHINE SHOP	HOSE FROM FLOOR BARREL SIPHONING HOSE BARREL	DRY, RAISED ABOVE LID	NO	
7-23-85 2	KEROSENE	4 GAL	NDT	WASTE DRUM OVER FILLED	VACUUMED LIQUID & MOPPED RESIDUE	NO	
7-31-85 1	TRIMSOL	7 GAL	VLS	SUMP SUCKER FELL OFF MERCURY	VACUUMED WITH SUMP SUCKER	NO	
8-1-85 1	WATER SOLUABLE WASTE	1 GAL	VLS	RELEASE FROM INGERSOL	FLOOR DRY AND VACUUMED WITH SUMP SUCKER	NO	
8-14-85 3	HYDRALIC FLUID	5 GAL	TEST	MACHINE MAINT.	VACUUMED WITH SUMP SUCKER	NO	

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8-17-85 3	ENPLATE 419 ELECTROLESS NICKEL	75 GAL	PLATING	PUMP LEAK OVER 3 DAYS	PUMPED LIQUID INTO TANK	NO	FEFATP PUMP
8-19-85 3	ENDOX 576 ALKALINE CLEANER	50 GAL	PLATING	TANK OVERFLOW	WASTE TREATMENT	NO	
9-5-85 1	CHROMIC ACID	200 GAL	PLATING	TANK LEAK	TANK PUMPED, WASTE TO TREATMENT	NO	TANK REPAIRED
9-12-85 1	TRICHLORO- ETHYLENE	520 GAL	NOT FOUNDRY	STEAM LEAK	W/ML	165	STEAM VALVES REPAIRED.

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SFILLS86

DATE	SHIFT	SPILL MATERIAL	QUANTITY	LOCATION	SOURCE	CLEANUP METHOD	SPILL LETTER	REPORT COMPLETED	CORRECTIVE ACTION	ACTION COMPLETED
1-4-86	1	SLUDGE INSIDE PLATING DUCTS	2 LBS	COURTYARD EAST OF PLATINGS	REMOVED DUCTWORK	SLUDGE & SNOW SHOVELED INTO DRUM, & THEN INTO HOT WATER BATH	NO			
1-6-86	1	WATER	15 GAL	NC ROOM	WATER TANK BY GLYCOL TANK	VACUUMED OFF OF FLOOR	NO			
1-17-86	1	TRICHLORO ETHYLENE	1 GAL	OUTSIDE BY TANK	OVERFILL PORTABLE TANK	VACUUMED W/ WET DRY VAC	NO			
1-19-86	3	LUBE OIL	2 GAL	ASSEMBLY TEST AREA	OIL LEAK FROM MACHINE	ABSORBED W/FLOOR DRY	NO			
1-20-86	3	CHROMATE-SULFURIC DIP	30 GAL	PLATING	TANK AUTOPUMPED WATER SHUTOFF FAILURE, TANK OVERFLOW	NO				
1-21-86	2	ALKALINE CLEANER	100 GAL	PLATING	FLOAT CONTROL FAILURE, TANK OVERFLOW	PUMPED INTO ALKALI HOLD TANK	NO			
1-23-86	3	ALKALINE CLEANER	150 GAL	PLATING	TANK OVERFLOW	PUMPED INTO ALKALI HOLDING TANK	NO			
1-23-86	2	CUTTING OIL	12 GAL	MACHINE SHOP	CHIP HOPPER OVERFLOW	CLEANUP BY MAINT.	NO			
1-23-86	2	WATER	30 GAL	COPY CENTER	LOSE H2O BY HOSE	BY HOUSE-KEEPING	NO			
1-24-86	1	ALKALINE CLEANER	3 GAL	PLATING	TANK OVERFLOW	LEFT IN SUMP FOR TREATMENT	NO			
1-27-85	1	TRIMSOL	2 GAL	MACHINE SHOP	RESERVOIR OVERFLOW	LIQUID ABSORBED	NO			

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			(SPARES CELL)		W/ FLOOR DRY			
1-28-86	3	HYDROCHLORIC ACID 50 %	20 GAL	PLATING	TANK OVER FLOW DUE TO VALVE MALFUNC- TION	PUMPED INTO ACID HOLDING TANK	NO	
1-28-86	1	UNKNOWN	1 GAL	OUTSIDE NORTH OF PLANT	DRUM LEAK	ABSORBED	NO W/ FLOOR DRY	
1-28-86	3	ALKALINE CLEANER	50 GAL	PLATING	TANK #24 OVERFLOW	PUMPED INTO ALKALI HOLDING TANK	NO, HOWEVER BRUCE WAS CALLED ABOUT THE NUMEROUS TANK OVERFLOWS	BRUCE THINKS THAT OVER FLOWS MAYBE DUE TO DI WATER SYSTEM PROBLEMS
2-6-86	1	TRICHLORO- ETHYLENE	2 GAL	NDT	MAINT. HOSE FELL OUT OF DRUM UPON CLEANOUT	SOLVENT EVAPORATED	NO	
2-7-86	3	TRICHLORO- ETHYLENE	25 GAL	PLATING	LARGE VAP. DEG STILL FLOAT VALVE MALFUNCTION SENDING TCE TO FLOOR	SOLVENT PUMPED INTO DRUM	NO	PLUMBERS FIXING VAP. DEG. ON 1ST SHIFT
2-9-86	1	BLACK OXIDE DYE	2 GAL	PLATING		DYE WASH INTO SUMP	NO	
2-26-86	1	GREASOFF 3	25 GAL	PLATING	TANK OVERFLOW	LIQUID PUMPED INTO SUMP	NO	
3-22-86	1	HYDRALIC OIL	3 GAL	RECEIVING	HOSE LEAK	ABSORBED W/ FLOOR DRY	NO	
4-3-86	1	TRIMSOL	10 GAL	MACHINE SHOP	NOT KNOWN	ABSORBED S/ FLOOR DRY	NO	
4-3-86	1	MOBILMET ALPHA	1 GAL	MACHINE SHOP	HOSE RUPTURE	ABSORBED W/ FLOOR DRY	NO	HOSE REPLACED, MOBILMET ALPHA OIL REMOVED DUE TO

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SFILLS86

Date	Material	Quantity	Activity	Description	Result	Notes
4-16-86 3	NITRIC ACID W/ NICKEL & WATER	40 GAL	PLATING	INTERNAL LIQUID NO PUMP PUMPED INTO CORROSION BRUT CONTAINER & TRANSFERRED TO WASTE TREATMENT		HYDRALIC OIL CONTAMINATION PUMP REPLACED
5-29-86 3	ALKALINE CLEANER	15 GAL	PLATING	TANK LIQUID NO OVERFLOW PUMPED INTO TANK		
5-29-86 2	AMMONIA	10 LBS	HEAT TREAT	INTERNAL SOLENOID YES SOLENOID REPLACED, LEAK INTO AREA NITROGEN VENTILATED PIPELINE		PIPELINE SYSTEM STUDIED TO MINIMIZE FUTURE OCCURRANCE
6-8-86 3	MANGANESE PHOSPHATE	200 GALS	PLATING	VALVE LIQUID NO MALFUNC- PUMPED TION & INTO TANK TANK OVERFLOW		
6-19-86 1	HYDRALIC OIL & WATER	6 GAL	MAINTENANCE	RESIDUAL DIRT DIKE NO OIL & BUILT IN RAINWATER FRONT OF IN DRUM DRAIN, SPILLED LIQUID WHEN VACUUMED MOVED W/SUMP- SUCKER		
6-22-86 3	WATER & CUTTING OIL	1 GAL	CONTRACTOR (COUR OFF PIPE CAUGHT YARD NEXT CUTTING IN NATURAL TO PLATING MACHINE DEPRESSION DURING IN CONCRETE RAINSTORM LIQUID FLOODING SCOOPED UP, MACHINE SOME TO RESERVOIR STORM SEWER (1 PT)			
7-30-86 1	CHROME SOLUTION UNKNOWN		PLATING	CHROME SOLUTION NO RINSE BATCH WATER TREATED TO ACID/ ALKALI SUMP		
9-12-86 1	MERCURY	8 OZ	TEST	METAL DROPS NO		

PUSHED SUCKED OFF
 OUT U- OF TABLES
 TUBE END & TOOLS W/
 DUE TO ASPIRATOR,
 VACUUM MERCURY
 PRESSURE ABSORBENT
 TEST USED TO
 DECONTAMINATE
 AREA, IN
 TEST SHOW
 BELOW OSHA
 LIMITS

9-9-86	1	GASOLINE	1 GAL	MAINT GARAGE	TANK OVER FLOW BY BERG OIL DURING TANK FILLING	FLOOR DRY NO PUT ON LIQUID WITHIN 30 SECONDS	
9-11-86	1	HYDRALIC OIL	2 QTS	MAINT 5TH AVE WEST	HOSE BREAK ON FMC TRACTOR	SPILLSTOPPER DRAIN COVERS PLACED ON 2 STORM DRAINS WATER & OIL VACUUMED W/ SUMP-SUCKER	NO HOSE REPLACED DURING SPILL CLEANUP
9-30-86	1	BATTERY ACID	1 QT	SWORD FACILITY	ACID BOIL OVER WHEN CHARGING FORKLIFT IN BATTERY	ACID WHEN NEUTRALIZED AND PLACED IN TRASH CAN	NO FORKLIFT SENT TO MAINTAINENCE TOBE WASHED OFF
10-1-86	2	HYDRALIC OIL	30 GAL	WELDING	HOSE RUP- TURE ON LAKE ERIE METAL PRESS	DIL VACUUMED OIL FILM & ABSORBED W/ ABSORBENT	NO
10-5-86	1	HYDRALIC OIL	10 GAL	WELDING	HOSE LEAK ON LAKE ERIE META PRESS	OIL VACUUMED & OIL FILM ABSORBED W/ABSORBENT	NO
10 20 86	1	DILY SUBSTANCE	1 GAL	OUTSIDE ON WATER PUDDLE	UNKNOWN YELLOW-GREEN DILY LIQUID	OIL ON WATER PUDDLE VACUUMED W/ SUMP-SUCKER, RESIDUAL ABSORBED W/ PILLOWS	NO

Facility Department

SPILLS86

11-10-86 1	HYDRALIC OIL MIL-H-17111	2 GAL	TEST	REFILL OIL ON DRUM CONCRETE OVERFLOW VACUUMED W/ SUMP- SUCCER & MOPPED W/ STODDARD SOLVENT	NO
11-16 1	GREASE	1 QT	ASSEMBLY	GREASE IN GREASE PAINT CAN WIPED UP KNOCED W/ RAGS, OVER TO RAGS TO FLOOR RECYCLE DRUM	NO

**3. ANALYTICAL RESULTS OF EXCAVATED DRUM CONTENTS
AND SHIPPING MANIFESTS**



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312-841-8600

JAN 23 1984

VED

JAN. 21, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE
ST. PAUL, MN. 55101

PROJECT OFFICE

ATTN: MR. MARK KOENIG

RE: NITROP SITE CLEANUP, DAC445-84-G-0020
DRUM COMPOSITE RESULTS

DEAR MR. KOENIG,

THE ANALYSIS RESULTS OF DRUM COMPOSITES ARE ATTACHED FOR YOUR INFORMATION. ANALYSIS RESULTS OBTAINED ARE SUMMARIZED BELOW:

- DC-2-IL (INERT LIQUIDS) - COMPLETE AND SUFFICIENT AND READY TO SOLIDIFY AT LANDFILL UNDER D006 (CADMIUM)
- DC-3-FS (FLAMMABLE SOLIDS) - COMPLETE AND SUFFICIENT READY FOR DISPOSAL AT LANDFILL UNDER D001 (IGNITABLE)
- DC-2-Bs (BASESOLID) COMPLETE AND SUFFICIENT READY FOR DISPOSAL AT LANDFILL.
- DC-1-IS (INERT SOLIDS) - RESULTS SHOW 65 PPM PCB IN COMPOSITE. MUST LOCATE PCB DRUM(S) BEFORE DISPOSAL. ADDITIONAL COMPOSITING ON 1-19-84 OR 1-20-84 WEATHER PERMITTING.

Sincerely,

Dean Ramsey

cc. JKOSTELLO - w/o A
NITROP FILES - w/ A
NITROP RF FILE - w/o
DOC. FILE - w/ATT

SPECIAL WASTE DISPOSAL DECISION

3561 PROFILE: NRP88613 01/11/84
NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-2-IL
INERT LIQUID/DC-2-IL

ORIGINATOR REQUEST FOR DECISION.
PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS.

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY
- INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
- SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
- ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
- AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY (IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. 2006) AND/OR BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
- THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY, BECAUSE: _____
- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
- THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING when scheduled USING THE FOLLOWING METHOD(S) Skid - Capped
- ADDITIONAL CONDITIONS: Drum condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
- NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED, ALLOW _____ DAYS TO OBTAIN PERMIT.
- FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.
- THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/18/84 COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER

NAME: _____

SIGNATURE: [Signature]

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER.

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
- I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____
- I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____ SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT.

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
- THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____ SIGNATURE: _____
GENERAL MANAGER - TRANSFER FACILITY

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

DRUMS # 15 19 20

GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: _____

DATE: 1-23-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

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GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

DRUMS 29 31
 29 30 33

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL
 SIGNATURE: _____
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-23-84

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-23-84

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DRUMS 1 25

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-23-84

SIGNATURE: _____

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON.

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5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
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DRUMS # 8 13
10 11

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
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WITNESS: LARRY BELL

SIGNATURE: _____

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-23-84

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SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-23-84

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4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC

DRUMS #
 23
 23-7
 23-5
 23-6
 23-3
 23-2

THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.

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SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: _____

DATE: 1-23-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

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MINNESOTA

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GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

DRUMS 24 - 1/10 (10 - miss - small)

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRAC

TITLE: FIELD TECH

DATE: 1-23-84

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

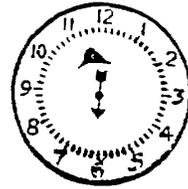
ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.



Chemical Waste Management, Inc.
 Environmental Remedial Action Division
 150 W 137th Street
 Riverdale, Illinois 60627
 312/841-8600

JAN 27 '84 AM

RECEIVED



CONSTR. OPER. DIV.

JAN 26, 1984

PROJECT OFFICE

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE & CUSTOMS HOUSE
 ST. PAUL, MN. 55101

ATTN: MR. MAZIK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
 ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

PCB - DRUM COMPOSITES (SECOND COMPOSITE TO ISOLATE DRUM(S) FOR DISPOSAL PURPOSES).

COMPOSITE # 6 CONFIRMED 650 ppm. (CONTAINS 6 DRUMS).
 WE MAY COMPOSITE INDIVIDUAL DRUMS IN # 6 TO ISOLATE FURTHER DRUM(S).

Very Truly Yours,
 Dean Manning

CC. JACLOSTELLO
 NIROP FILE
 DOC. FILE
 M. HENKE

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

NDFILL

TO: INTERPOL LAB

ATTN: JOHN RAFFERY

SAMPLE INVENTORY AND MASTER PACKING LIST

x	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL
		PCB-1													
		PCB-2													
(		PCB-3													
		PCB-4													
		PCB-5													
		PCB-6													
		PCB-7													
		PCB-8													
		TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) C Mark Hanks 1-23-84 1430

Signature _____ Date and Time _____

FIELD CUSTODIAN _____ Date and Time _____

Sample Prep. Sample as is

WT. % SOLVENTS

Trichlorofluoromethane _____

Methanol _____

1,1,2-Trichloro-1,2,2-Trifluoroethane _____

Ethanol _____

Acetone _____

Methylene Chloride _____

Isopropanol _____

Propanol _____

ethyl Acetate _____

Methyl Ethyl Ketone 0.06

1,1,1-Trichloroethane _____

1,2-Dichloroethane _____

Trichloroethylene 0.4

2-Methoxyethanol _____

Propyl Acetate _____

Butanol _____

2-Ethoxyethanol _____

Toluene 0.03

Methyl Isobutyl Ketone _____

Tetrachloroethylene _____

Butyl Acetate _____

Ethylbenzene 0.07

Xylenes 0.3

Styrene _____

2-Ethoxyethanol Acetate _____

2-Butoxyethanol _____

Hydrocarbons C₆-14 0.5

Naphthalene _____

Phenol _____

Cresols _____

Dimethyl & Trimethyl Phenols _____

Other Solvents:

Notes: _____

UC-4-BS

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC
150 WEST 137TH ST
RIVERDALE, IL 60167
ATTN: TIM CASHEN / JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-4-BS
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - (2-1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CNM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A-88611</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECHNICIAN
EMPLOYER: ENZAC

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENZAC
DATE: 1-10-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

3559 PROFILE: NRP88611 01/11/84
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-4-B5
 BASE SOLID/DC-4-B5

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. Carlson

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Brown Opaque Low Visc. liq.
pH	6.0	w/ ~50% settled Brown Solids
Flash Point °FCC	7200°	
Cyanide (±/-)	-	Solvent: D.Oak
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Soluble
% Solids (V/V)		
% Chlorine		
% Sulfur		
PCB		Comments
		Does NOT
	Total	FPT
Aq		
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
PB		
CE		

NIROP

MINNEAPOLIS, MN

SOURCE: ENC SITE: ALA DC-4-B5

BASE SOLID/DC-4-B5

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cashen

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides as CN, Total, mg/l			
C O D, mg/l				Cyanides as CN, Free, mg/l			
B O D, mg/l							
Total Solids @ 105°C	39.163%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
11.3% H ₂ O %	30.0%			Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	25.75%			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
o Scrub, gNaOH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	<0.07						
Barium, as Ba, mg/l	114.	1.70					
Boron, as B, mg/l				Oil and Grease, mg/l	16.0%		
Cadmium, as Cd, mg/l	8.60	0.01					
Chromium, Total as Cr, mg/l	4.27	<0.01					
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<10		
Copper, as Cu, mg/l	71.5			Chloroform, mg/l	<10		
Iron, Total as Fe, mg/l	6850.			DDT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	312.	<0.01		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	80.8			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	<0.07			Parathion, mg/l	<10		
Silver, as Ag, mg/l	<0.25			2, 4, D, mg/l			
Zinc, as Zn, mg/l	1250.	3.40.		2, 4, 5, TP (Silver), mg/l			
				PCB's, mg/l	<10		
				6-56	<10		
Sulfonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				SOLVENTS: NOT DETECTED			
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Iron, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED						

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

DC-3-FS

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE RELY UPON YOU TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A COMPOSITE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC.
150 WEST 137TH ST
RIVERDALE, IL 60107
ATTN: TIM CASHEN / JACK KOLAPANIS

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-3-FS
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - 2-1 PINT CONTAINERS
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NiLOP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A-88614</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-10-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE DISPOSAL DECISION

3559 PROFILE: NRP88611 01/11/84
NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-4-BS
BASE SOLID/DC-4-BS

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS.

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY
 INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
 SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
 ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
 AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY. _____
(IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. _____) AND/OR
 BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
 THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY, BECAUSE: _____

- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
 THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING when scheduled USING THE FOLLOWING METHOD(S):
landfill

ADDITIONAL CONDITIONS: Drum Condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
 NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
 FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

- THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/18/84

COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER

NAME: _____

SIGNATURE: W. Asher

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
 I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____

- I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____

SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
 THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____

SIGNATURE: _____

GENERAL MANAGER - TRANSFER FACILITY

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management Technical Center

MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-3-F5
FLAMM SOLIII/DCC-3-F5

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casler

TEST	AS RECEIVED	LEACHATE	ANALYST INITIALS	TEST	AS RECEIVED	LEACHATE	ANALYST INITIALS
Specific Gravity							
PH							
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides as CN, Total, mg/l			
COD, mg/l				Cyanides as CN, Free, mg/l			
BOD, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Solids @ 105°C	46.12%			Nitrogen, Organic as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°	8.0%			Total Hardness as CaCO ₃ , mg/l			
ASH Content, on ignition	25.5%			Calcium Hardness as CaCO ₃ , mg/l			
Long Vane STURB	4650			Magnesium Hardness as CaCO ₃ , mg/l			
*Acid Soluble Silica, mg/l				Arising as AS, mg/l	<0.0X		
Barium as Ba, mg/l				Barium as Ba, mg/l	249		
Boron as B, mg/l				Boron as B, mg/l			
Cadmium as Cd, mg/l	0.87	0.01		Cadmium as Cd, mg/l			
Chromium, Total as Cr, mg/l	1020	0.31		Chromium, Total as Cr, mg/l			
Insoluble Chromium @ Cr, mg/l				Oil and Grease, mg/l		54.4%	
Copper as Cu, mg/l	24.5			Cadmium, mg/l	<10		
Iron, Total as Fe, mg/l	16700			Chloride, mg/l	<10		
Iron, elemental as Fe, mg/l				DDT's, mg/l	<10		
Lead as Pb, mg/l	301	<0.01		Dioxin, mg/l	<10		
Manganese as Mn, mg/l				Enorm, mg/l	<10		
Magnesium as Mg, mg/l				Hexachlor, mg/l	<10		
Mercury as Hg, mg/l	<0.005			Linear, mg/l	<10		
Nickel as Ni, mg/l	8.18			Methoxychlor, mg/l	<10		
Selenium as Se, mg/l	0.16			Toxaphene, mg/l	<10		
Silver as Ag, mg/l	0.74			Permethrin, mg/l	<10		
Zinc as Zn, mg/l	3250	47.3		2,4-D, mg/l			
				2,4,5-TP (Sorex), mg/l			
				PCB's, mg/l	<10		
				1-510	<10		
Bisphenol-A as BPA, mg/l							
Carbonates as CO ₃ , mg/l							
Chloride as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l							
Sulfate as S, mg/l	DISSOLVED						

3560 PROFILE: NRFAB8614 02/11/0
NIROF
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-3-FS
FLAMM SOLID/DCC-3-FS

Sample Prep. 1.28g +
2.47g CS₂

WT. % SOLVENTS

Trichlorofluoromethane _____
Methanol _____
1,1,2-Trichloro-1,2,2-Trifluoro
ethane _____
Ethanol _____
Acetone _____
Methylene Chloride _____
Isopropanol _____
Propanol _____
Ethyl Acetate _____
Methyl Ethyl Ketone _____
1,1,1-Trichloroethane _____
1,2-Dichloroethane _____
Trichloroethylene _____ 0.06
2-Methoxyethanol _____
Propyl Acetate _____
Butanol _____
2-Ethoxyethanol _____
Toluene _____ 2
Methyl Isobutyl Ketone _____
Tetrachloroethylene _____
Butyl Acetate _____
Ethylbenzene _____ 12
Xylenes _____ 39
Styrene _____

2-Ethoxyethanol Acetate _____
2-Butoxyethanol _____
Hydrocarbons C₇₋₁₂ 12
Naphthalene _____ 0.2
Phenol _____
Cresols _____
Dimethyl & Trimethyl Phenols _____

Other Solvents:

C₃ Benzene _____
C₄ Benzene 3
C₅ Benzene 2

Notes: _____

SPECIAL WASTE DISPOSAL DECISION

3560 PROFILE: NRPA88614 01/11/84
NIRCP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-3-FS
FLAMM SOLID/DCC-3-FS

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS.

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY
 INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
 SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
 ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
 AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY. _____
(IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. D001) AND/OR
 BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
 THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY, BECAUSE: _____
 THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
 THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING When scheduled USING THE FOLLOWING METHOD(S) _____

ADDITIONAL CONDITIONS: Drum Condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
 NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
 FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

- THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/18/84 COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER
NAME: _____
SIGNATURE: Asker

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
 I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____

- I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____ SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
 THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____ SIGNATURE: _____
GENERAL MANAGER - TRANSFER FACILITY

3560 PROFILE: NRPAS8E14 01/11/84

NIRQP

MINNEAPOLIS, MN

SOURCE: ENC SITE: ALA DC-3-FS

FLAMM SOLID/DCC-3-FS

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Caskey

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Blue-Green Jelly and Moist
pH	N/A	clumped solids.
Flash Point °F	N/A	
Cyanide (±/-)	-	Toluene Odor
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Insoluble Floccs
% Solids (V/V)		
% Chlorine		
% Sulfur		
PCB		Comments
		Floccs immediately when exposed to flame
	Total	FPT
Ag		
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		

DC-2-LL

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC.
150 WEST 137TH ST
RIVERDALE, IL 60127
ATTN: TIM CASHEN / JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-2-IL
3. EQUIPMENT AND SAMPLING METHOD USED: * FROZEN SOLID - HARD TO SAMPLE * ONLY 1/2 QT.
EACH SEPARATE CATEGORY OF DRUMS WERE SAMPLED SO EACH COMPOSITE IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: 1 QT - ~~(scribble)~~
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A 88613</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-10-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-10-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

3561 PROFILE: NRP88613 01/11/84
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-2-IL
 INERT LIQUID/DC-2-IL

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. Carben

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Blue opaque low visc. liq. w/10%
pH	6.0	Settled DARK bluish-brown Solids
Flash Point °F	>200°	
Cyanide (±/-)	-	Solvent Resid
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Soluble
% Solids (V/V)		
% Chlorine		
% Sulfur		
PCB		Comments
		Does NOT ignite
	Total	FPT
Ag		
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
Pb		

SPECIAL WASTE ANALYSIS REPORT

3561 PROFILE: NRFAS8613 01/11/84
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-2-IL
 INERT LIQUID/DC-2-IL

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE DESCRIPTION: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	9.10%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
11.7% H ₂ O	90.0%						
Fish Point, P*	7200			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	6.51%			Total Alkalinity (M), as CaCO ₃ , mg/l			
100mg Vials, BTU/lb	2125 NOT GIVEN			Total Hardness, as CaCO ₃ , mg/l			
10 Scrub, gms/DM/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<0.07						
Barium, as Ba, mg/l	5.78						
Boron, as B, mg/l				Oil and Grease, mg/l	7.5%		
Calcium, as Ca, mg/l	142	7.21					
Chromium, Total as Cr, mg/l	7430	2.12					
hexavalent Chromium @ Cr, mg/l				Alionn, mg/l	<10		
Copper, as Cu, mg/l	15.3			Chloroform, mg/l	<10		
Iron, Total as Fe, mg/l	595			DDTs, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<10		
Lead, as Pb, mg/l	78.4	0.04		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	10.80			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	0.15			Parathion, mg/l	<10		
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l	2560	45.7		2, 4, 5, TP (Silver), mg/l			
				PCE's, mg/l	<10		
				C-512	<10		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<10					

FORM WASTE (Rev. 11-4-88)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management ... No representation concerning sample validity or analytical accuracy or completeness is made by the laboratory receiving this report.

PCB # 7

DRUM COMPOSITES

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 1400 1-23-84
- SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
- EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
- AMOUNT OF SAMPLE OBTAINED: 1 PT
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

DRUMS # 34 35 36 37 39

GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL

SIGNATURE: _____

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSUCCESSFUL FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:
TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: _____
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

DRUMS

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-23-84

WITNESS: LARRY BELL

SIGNATURE: _____

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

DATE	CODE
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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB #1 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Hurling Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l							
Berium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l	< 1		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0060-01

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: DCB #2 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, Dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l			LIPM
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0060-02

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB #3 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Hurling Valve, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l		41	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0060-03

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB #4 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silver), mg/l			
				* PCB's, mg/l	10.2	=	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SCRM WMI-52 (Rev. 11-5-80)
©1980 WASTE MANAGEMENT, INC

0060-04 ✓ Confirmed
 ≠ needs confirmation NOT PCB'S
 if available not PC DM 6/26/

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB #5 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l	10.3	±	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

FORM WMI-52 (Rev. 11-5-80)
 01580 WASTE MANAGEMENT, INC

0060-05 ✓ Confirmed
 † needs confirmation
 it is probably not PCB
 not PCBs
 DM 1/26/

SPECIAL WASTE ANALYSIS REPORT

SALES

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: PCB # 6 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l	650	25 1016	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0060-06

SPECIAL WASTE ANALYSIS REPORT

DATE: _____

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB #7 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l	21		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: PCB # 8 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY, FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				* PCB's, mg/l	21		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0060-08



Chemical Waste Management, Inc.
 Environmental Remedial Action Division
 150 W. 137th Street
 Riverdale, Illinois 60627
 312/841-8600

FEB 1, 1984

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE & CUSTOMS HOUSE
 ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
 ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

RESULTS OF Q.C. TESTS DONE ON Interpole LAB BY OUR TECHNICAL CENTER.

	Tech. center	Interpole (Results Submitted)
PCB#2	2.0 mg/L.	< 5 mg/L. EARLIER
PCB#3	< 5.0 mg/L.	< 5 mg/L.

Very Truly Yours,
 Dean Ramsey

cc. JACLOSTELLO w/o Encl.
 NIROP FILE w encl.
 DOC. FIVE w Encl.
 M. HENKE
 0

PCB # 2

DRUM COMPOSITES

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

ALL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WANT THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: ~~INVESTIGATOR~~ CWM
MINNESOTA 150 W. 139th ST.
Riverside, IL 60629
Attn: Frank Kolopanis

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL PATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: *Mark Henke*
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-23-84

WITNESS: LARRY BELL
 SIGNATURE: *Larry Bell*
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

24-10

WITNESS

PCB # 3

DRUM COMPOSITES

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

ALL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WANT THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB CWM
MINNESOTA 150 W. 137TH
Riverside Rd. Dept 27
ATTN: Jack Kelpman

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIZOP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL PATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

1-23-84
DKW's

GENERATOR: NIZOP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-23-84

TITLE: FIELD TECH

EMPLOYER: ENRAC
1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
adequate ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

3897 PROFILE: NRP
NIROF

01/24/84

MINN., MN

SOURCE: ENC SITE: NRP PCB-3
SOIL FOR PCBs

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: 1/27/84 LAB MANAGER: John M. King

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides as CN, Total, mg/l			
B O D, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen as N, mg/l			
Flash Point, F°							
Ash Content on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
*Acid Soluble, gms/100g				Total Hardness as CaCO ₃ , mg/l			
				Calcium Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness as CaCO ₃ , mg/l			
Arsenic as As, mg/l							
Barium as Ba, mg/l							
Boron as B, mg/l				Oil and Grease, mg/l			
Calcium as Ca, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Alum. mg/l			
Copper as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDTs, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead as Pb, mg/l				Endrin, mg/l			
Manganese as Mn, mg/l				Heptachlor, mg/l			
Magnesium as Mg, mg/l				Lindane, mg/l			
Mercury as Hg, mg/l				Methoxychlor, mg/l			
Nickel as Ni, mg/l				Toxaphene, mg/l			
Selenium as Se, mg/l				Parathion, mg/l			
Silver as Ag, mg/l				2, 4, D, mg/l			
Zinc as Zn, mg/l				2, 4, 5, TP (Sihess), mg/l			
				PCB's, mg/l		<5.0	
Boronates as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrates as NO ₃ , mg/l							
Nitrites as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Sulfides as S, mg/l							

FORM 700-2 (Rev. 11-4-83)
CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is made to any other person receiving this report.



Chemical Waste Management, Inc.
Environmental Response Action Division
180 W. 15TH STREET
MINNEAPOLIS, MN 55402
612-437-8877

FEB. 2, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DACA45-84-C-0020
DRUM TRANSPORTATION DOCUMENTS

DEAR MR. KOENIG,

ATTACHED FOR YOUR REVIEW ARE SAMPLE
MANIFESTS, DISPOSAL DECISION DOCUMENTS AND
THE ANALYTICAL RESULTS REQUIRED FOR FMC
APPROVAL TO REMOVE DRUMMED WASTE AT NIROP
NORTH FORTY.

I HAVE SUBMITTED DOUG HILDRE'S COPIES
TO J. McLAUGHLIN TO EXPEDITE THIS.

ALABAMA WILL NOT ACCEPT MINNESOTA
MANIFESTS, THEREFORE ALABAMA MANIFESTS
WILL ALSO BE REQUIRED.

SINCERELY,

Dean Ramsey

cc: DOUG HILDRE - w/ encl.
J. COSTELLO - w/o encl.
NIROP w/encl.
RF w/o encl.
JIM BUCKLEY
DOC. FILE

GENERATOR (SHIPPER)	
GENERATOR—SHIPPER NAME ② NORTHERN ORDNAVIE DIV. OF FMC	SITE I.D. NO. ③ 00312009
PICKUP ADDRESS ④ 4000 E. RIVER RD.	EPA I.D. MND 006481543
CITY, STATE, ZIP CODE ⑤ Mpls, MN. 55421	PHONE NO. ⑥ 612-571-9201
BUSINESS ADDRESS ⑦ SAME	

Note: anticipated incl. disposal

TRANSPORTER (CARRIER)	
TRANSPORTER NAME ⑬ CHEMICAL WASTE MGT.	MPCA REGISTRATION NO. ⑮ TR 0062
BUSINESS ADDRESS ⑰ 4300 W. 123 RD ST.	EPA I.D. ILD 001826604
CITY, STATE, ZIP CODE ⑱ ACSIP, IL. 60658	PHONE NO. ⑲ 312-396-1060
DATE RECEIVED ⑳ / /	The wastes described above were received by me for shipment to the named Hazardous Waste Facility.
AUTHORIZED SIGNATURE ㉑ x	
TITLE ㉒	
SHIPMENT INTERLINKED ㉓	MPCA REGISTRATION NO. EPA I.D.
DATE RECEIVED ㉔ / /	/ /
AUTHORIZED SIGNATURE ㉕ x	x

⑩ No	QUANTITY SHIPPED	HAZ. MAT.	KIND OF UNIT—PROPER DOT SHIPPING NAME	DOT HAZ. CLASS	SHIPPING WEIGHT
1	4	B6A	...	NA 9189	} Tol
2	1	B6A	...	NA 9189	
3	2	B6A	...	UN1325	
4	26	B6A	...	NA 9189	
5	6	B6A	...	UN 2315	

⑪ Does Generator Plan authorize commingling? YES NO
(If "YES", attach sheet listing other generators and quantities of waste.)

⑫ No	WASTE CODE	MPCA HAZARDOUS PROPERTY	APPROXIMATE PRODUCTION DATES	
			From	To
1				
2				
3				
4				
5				

⑬ SPECIAL INSTRUCTIONS

NO.	EPA HAZ. WASTE ID. NO.	CWM WASTE CODE
1	D006	A 88213
2		A 88611
3	D001	A 88614
4		A 88612
5		A 88156 (PCB contaminated Soil & mixed debris)

SPECIAL EMERGENCY PROCEDURE ATTACHED

SHIPPER'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and EPA.

The wastes described above were consigned to the Carrier named. The Hazardous Waste Facility can and will accept this shipment of hazardous waste, and has a valid permit to do so. I certify that the foregoing is true and correct to the best of my knowledge.

DATE ⑫ / /	AUTHORIZED SIGNATURE ⑬ x	TITLE ⑭
---------------	-----------------------------	------------

HAZARDOUS WASTE FACILITY	
FACILITY NAME ⑯ CHEMICAL WASTE MGT.	STATE PERMIT/LICENSE NO. ⑰ 27
SITE ADDRESS ⑲ PO BOX 55	EPA I.D. ALD 000622464
CITY, STATE, ZIP CODE ⑳ Emelle, ALABAMA 35459	PHONE NO. ㉑ 205-652-9531
DATE RECEIVED ㉒ / /	The wastes described above have been received for processing as per current and valid state permit and/or other applicable laws and ordinances. <input type="checkbox"/> For exceptions see attachment.
AUTHORIZED SIGNATURE ㉓ x	
TITLE ㉔	
DATE WASTE DISPOSED ㉕ / /	I certify that the above named wastes have been processed and/or disposed.
AUTHORIZED SIGNATURE ㉖ x	
TITLE ㉗	

⑳ MAIL TO: HAZARDOUS WASTE, MIS
322 WASHINGTON AVE. S.
HOPKINS, MN 55343

In case of a spill in Minnesota, immediately call the MPCA 24 hour emergency number, (612) 296 7373, and the National Response Center, (800) 424 8802

- White—Hazardous Waste Facility Mail to Generator
- Yellow—Generator (Shipper) Mail to ⑰
- Pink—Hazardous Waste Facility Mail to ⑰
- Orange—Hazardous Waste Facility Mail to Generator
- Gold—Hazardous Waste Facility Retail
- Blue—Transporter (Carrier) Retail
- Green—Generator (Shipper) Retail



SAMPLE

ALABAMA

HAZARDOUS WASTE MANIFEST

CWMA

No 111528

IDENTIFICATION INFORMATION

NAME	ADDRESS	PHONE	EPA ID CODE
GENERATOR NORTHERN ORDNANCE DIV. FAC	4800 E. RIVER Rd. MPLS, MN. 55421	612 571-9201	MMD00648154
TRANSPORTER NO. 1 CHEMICAL WASTE MGT.	4300 W. 123RD ST. ALSIP, IL. 60658	312 396-1060	1LD00080660
TRANSPORTER NO. 2	Note: Anticipated exc. of samples will be disposed		
DISPOSER Chemical Waste Management, Inc. Emelle Facility	P. O. Box 55 Emelle, Alabama 35459	205-652-9531	A|L|D|O|O|O|6|2|4|6

WASTE INFORMATION

CONTAINER NO.	TYPE	DESCRIPTION/CLASS	TOTAL QUAN.	UNIT	EPA Hazardous Waste ID No.	C W M A WASTE CODE	WEIGHT
4	85 GAL	HAZARDOUS WASTE LIQUID ORME NA 9189		DRUM	D006	A 88613	
1	85 GAL	HAZARDOUS WASTE SOLID NOS NA 9189		DRUM		A 88611	
2	85 GAL	WASTE FLAMMABLE SOLID NOS FLAM. SOLID UN 1325		DRUM	D001	A 88614	
26	85 GAL	HAZARDOUS WASTE SOLID NOS NA 9189		DRUM		A 88612	
6	85 GAL	WASTE PSYCHROINATED BIPIRENOLS ORME UN 2315 (PCB CONTAMINATED SOIL AND MIXED DEBRIS)		DRUM		A 86156	

EMERGENCY INFORMATION

EMERGENCY NOS.: DISPOSER — (205) 652-9531 ; GENERATOR — (612) 571-9201 US COAST GUARD 1-800-424-8802

ADDITIONAL INSTRUCTIONS:

CERTIFICATION

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, the U.S. Environmental Protection Agency:

Generator	Title	Date
This is to certify acceptance of the hazardous waste shipment described above:		
Transporter #1	Title	Date
Transporter #2	Title	Date
This is to certify acceptance of the hazardous waste shipment described above for treatment, storage or disposal:		
Disposer	Title	Date

DISPOSAL INFORMATION

CWMA WASTE CODE	QUANTITY	UNIT	PROCESS CODE	LOCATION			COMMENTS
				TRENCH	LEVEL	QUAD	

REGULATORY

DRUM COMPOSITES

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

To: CWM

150 West 137th St
 Pwendale Illinois

60921
 ATTN: Tim Cashen / Jack Kolpans

SAMPLE INVENTORY AND MASTER PACKING LIST

QT #	Pres.	Sample	SAMPLE LOG NUMBER												TO		
2		INERT SOLID	DC	-	1	-	IS										
2		INERT LIQUID	DC	-	2	-	IL										(FROZEN - HARD TO SAMPLE - ONLY 1/2)
2		FLAM SOLID	DC	-	3	-	FS										AKH
2		BASE SOLID	DC	-	4	-	BS										
8		TOTALS															

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Henke 1-10-84 1000

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ Date and Time _____



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers; if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: Northern Ordnance Div / FMC Corp

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY):
4800 EAST RIVER RD
MINNEAPOLIS (FRIDLEY), MINNESOTA

3. COMPANY CONTACTS:

GENERAL	<u>DOUG HILDRE</u>	TITLE	<u>FMC-Envir. Eng</u>	PHONE	<u>612/571-9201</u> * 212
TECHNICAL	<u>DEAN RAMSEY</u>	TITLE	<u>Pres. Mgr.</u>	PHONE	<u>612/572-3715</u>
	<u>TIM CASHEN</u>	TITLE	<u>CWM Tech Center</u>	PHONE	<u>312/841-8360</u>

4. WASTE NAME: PCB Contaminated Solids

5. PROCESS GENERATING WASTE: Remedial Action Cleanup

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED NONE

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
 POWDER OTHER: _____

C. SOLIDS: TOTAL (%): 81 TOTAL DISSOLVED (ppm or %): _____

D. SPECIFIC WEIGHT (AS # PER UNIT): _____

E. pH: 6 (Show the following as range of %)
 (1/10)

AS: H ₂ SO ₄	_____ %	H ₃ PO ₄	_____ %
HCl	<u>N/A</u> %	NaOH	<u>N/A</u> %
HF	_____ %	NH ₄ OH	_____ %
HNO ₃	_____ %	Ca(OH) ₂	_____ %
OTHER:	_____ %		_____ %

F. FLASH POINT: > 200 °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): _____

H. BTU PER #: 1900 ASH CONTENT N/A %

I. CHARACTERISTIC COLOR Green - Brown DISTINCTIVE ODOR slight solvent %

J. HALOGENATED? _____ % SULFONATED? N/A %

K. ALPHA RADIATION AS pCi/l: N/A

7. WASTE COMPOSITION:

A. ORGANIC COMPONENTS (WITH RANGES — INDICATE WHETHER % OR ppm)

PCB	650 ppm as 10/16	
Trace Solvents		
oil & grease	6.9%	

(ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR ANY OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? _____ IF SO, PLEASE NOTE ABOVE.

B. HEAVY METALS (WITH ppm RANGES):

TOTAL	TOTAL LEACHABLE	TOTAL	TOTAL LEACHABLE
Ag 1.46		Hg 0.02	
As 1.49		Ni 33.1	
Ba 2.18	2.14	Pb 324	<0.01
Cd 4.90	0.03	Se <0.08	
Cr 533	0.16	Zn 1250	
Cu 124		Other (ATTACH ADDITIONAL PAGES)	

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" — AT 40 CFR, PART 261, APPENDIX II — SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE.)

C. INORGANIC COMPONENTS (WITH % RANGES):

OTHER

TOTAL CYANIDE	410 ppm		—	%
FREE CYANIDE	—		—	%
SULFIDE AS:	410 ppm		—	%
BISULFITE AS:	—		—	%
SULFITE AS:	—		—	%

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? _____ IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? _____ IF SO, INDICATE WHETHER IT CONTAINS:

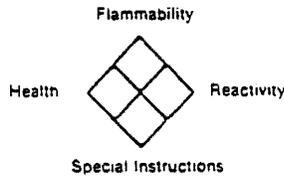
- ORGANOPHOSPHATES — CONTAINING SULFUR YES NO
- CARBAMATES
- CHLORINATED HYDROCARBONS

8. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

(1) TOXICITY RATING: INHALATION _____ DERMAL _____ ORAL _____

(2) HAZARD IDENTIFICATION SYSTEM:



B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED WITH HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE: _____

For Disposal

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? Yes
(SEE 49 CFR 172 101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) CORRECT SHIPPING DESCRIPTION: Waste Polychlorinated Biphenyl
(2) HAZARD CLASS(ES): ORM - E5
(3) MATERIAL I D NO.(S) UN 2315

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? Yes
(SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING

(1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:

Polychlorinated biphenyl 650 ppm

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? NO (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

- (1) THE USEPA HAZARDOUS WASTE NUMBER(S): _____
(2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? _____ (SEE 40 CFR 261.5)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? Yes IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: 750ppm PCB

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? Yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 1/11/84

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? NO IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: 6

GALLONS TONS CUBIC YARDS DRUMS OTHER

PER: DAY WEEK MONTH YEAR ONE TIME

TRANSPORTATION EQUIPMENT REQUIRED: _____

SERVICE/SCHEDULING REQUIREMENTS: _____

GENERATOR'S AUTHORIZED SIGNATORY: X TITLE _____ DATE _____

CONFIDENTIALITY AGREEMENT: _____

as consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By: X Name _____

Title _____

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

WRP A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Intersoil

PROFILE SHEET RECEIVED ON: June 1 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/24/78 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l	21	mg/kg	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitric, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Intercol

PROFILE SHEET RECEIVED ON: Dec 2 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/24/74 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pHNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l		41	AK/KS
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Intertec

PROFILE SHEET RECEIVED ON: Dec 3 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: 11/20/80 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l	21	mg/kg	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

A 86 156

WASTE PROFILE SHEET CODE

LABORATORY: Lab or poll

PROFILE SHEET RECEIVED ON: June 4 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/24/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l		L1	mg/kg
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Intermill

PROFILE SHEET RECEIVED ON: Dec 5 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/24/81 LAB MANAGER: J. R. [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Strontium, as Sr, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l	41	mg/kg	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

A 86156

LABORATORY: Intersoll

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: Dec 6 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: 1/24/81 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l	650	mg/kg	JL
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

TO USE

A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Inter-poll

PROFILE SHEET RECEIVED ON: Dec 7 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/24/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
*Acid Scrub., %NaOH/p				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l	<1	g/kg	
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

A 86156

WASTE PROFILE SHEET CODE

LABORATORY: Interpoll

PROFILE SHEET RECEIVED ON: Dec 8 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/24/74 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l		21	mg/kg
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

Parameters: Run _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

TO: INTERPOL LAB

ATTN: JOHN RAFFERTY

SAMPLE INVENTORY AND MASTER PACKING LIST

Res.	Sample	SAMPLE LOG NUMBER												TOTAL
	PCB-1													
	PCB-2													
	PCB-3													
	PCB-4													
	PCB-5													
	PCB-6													
	PCB-7													
	PCB-8													
	TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

REF. (S) Mark Hanks 1-23-84 1430

Signature _____ Date and Time _____

Signature _____ (OVER) _____ Date and Time _____

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE IN THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE FROM ONE SOURCE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE FROM MORE THAN ONE SOURCE, ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INEPT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INEPT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

h
2
NNN
NS

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-23-84

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

PCB-2

DRUM COMPOSITES

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ON THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST TAKE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

(no more small)

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL
 SIGNATURE: Larry Bell
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
1-23-84

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

PCB-3

DRUM COMPOSITES

WASTE PROFILE SHEET 0001

CERTIFICATION OF REPRESENTATIVE SAMPLE

ALL DEFLECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE ON THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECH
EMPLOYER: ENRAC
1-23-84

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

DATE: _____ REVIEWER: _____

CERTIFICATION OF REPRESENTATIVE SAMPLE

ADDITIONAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1-PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

10 11

GENERATOR: NIROP - CWM - COE
 SAMPLE HOUR/DATE: 1400 1-23-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: [Signature]

EMPLOYER: ENRAC

TITLE: FIELD TECH

DATE: 1-23-84

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

ADDITIONAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

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2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL

SIGNATURE: Mark Henke

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
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4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

29
30

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-23-84

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE ON THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

35
36
38
39

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL

SIGNATURE: [Signature]

TITLE: FIELD TECH

EMPLOYER: ENRAC
1-23-84

SAMPLER NAME: MARK HENKE

SIGNATURE: [Signature]

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE PURPOSES NOTED HEREON.

110 0

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ON THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF THE EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
MINNESOTA

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL AS DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1400 1-23-84
2. SOURCE FROM WHICH SAMPLE TAKEN: INERT SOLID DRUMS WERE DIVIDED INTO 7 SEPARATE SAMPLES TO CONTINUE PCB SEARCH OF INERT SOLID DRUM AT NIROP
3. EQUIPMENT AND SAMPLING METHOD USED: EQUAL AMOUNTS FROM EACH SAMPLE WAS MIXED IN A BUCKET (LINED) & THOROUGHLY MIXED BY A STAINLESS STEEL SPATULA
4. AMOUNT OF SAMPLE OBTAINED: _____
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP - CWM - COE
SAMPLE HOUR/DATE: 1400 1-23-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

ADDRESS: 1 - Mary Bell

EMPLOYER: ENRAC

DATE: 1-23-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-23-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

	A 88611
--	---------

WASTE PROFILE SHEET CODE



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary for our purposes and yours. Be complete in your answers: if your response is "none," so indicate. Answers must be in ink typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: NORTHERN ORDONANCE DIV. OF FMC

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY):
4800 EAST RIVER RD
MINNEAPOLIS (FIDLEY), MN

3. COMPANY CONTACTS:

GENERAL	<u>DOUG HILDRE</u>	TITLE	<u>FMC-ENVIR ENG</u>	PHONE	<u>612/571-92</u>
		TITLE		PHONE	
TECHNICAL	<u>DEAN RAMSEY</u>	TITLE	<u>PROJ. MGR.</u>	PHONE	<u>612/572-31</u>
	<u>TIM CASHEN</u>	TITLE	<u>TECH CENT-GMM</u>	PHONE	<u>312/841-83</u>

4. WASTE NAME: HAZARDOUS WASTE SOLID - n.o.s.

5. PROCESS GENERATING WASTE: Remedial Action Clean-up

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED NONE

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
 POWDER OTHER: _____

C. SOLIDS: TOTAL (%): 39.63 TOTAL DISSOLVED (ppm or %): N/A

D. SPECIFIC WEIGHT (AS # PER UNIT): _____

E. pH: 6.0 (Show the following as range of %)

AS: H ₂ SO ₄	_____ %	H ₃ PO ₄	_____ %
HC1	_____ %	NaOH	_____ %
HF	<u>N/A</u> %	NH ₄ OH	<u>N/A</u> %
HNO ₃	_____ %	Ca(OH) ₂	_____ %
OTHER:	_____ %		_____ %
	_____ %		_____ %

F. FLASH POINT: > 200° °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): _____

H. BTU PER #: N/A ASH CONTENT 25.75%

I. CHARACTERISTIC COLOR BROWN DISTINCTIVE ODOR SOLVENT ODOR

J. HALOGENATED? N/A % SULFONATED? N/A

K. ALPHA RADIATION AS pCi/l: N/A

7. WASTE COMPOSITION:

A. ORGANIC COMPONENTS (WITH RANGES - INDICATE WHETHER % OR ppm)

SEE ATTACHED SHEETS

OIL & GREASE 16%

(ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR / OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? IF SO, PLEASE NOTE ABC

B. HEAVY METALS (WITH ppm RANGES):

TOTAL	TOTAL LEACHABLE	TOTAL	TOTAL LEACHABLE
Ag <u><0.22</u>		Hg <u><0.005</u>	
As <u><0.07</u>		Ni <u>22.8</u>	
Ba <u>119</u>	<u>1.70</u>	Pb <u>312</u>	<u><0.07</u>
Cd <u>8.60</u>	<u>0.01</u>	Se <u><0.07</u>	
Cr <u>427</u>	<u><0.01</u>	Zn <u>1250</u>	<u>3.46</u>
Cu <u>71.5</u>		Other (ATTACH ADDITIONAL PAGES)	

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" - 40 CFR, PART 261, APPENDIX II - SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE)

C. INORGANIC COMPONENTS (WITH % RANGES):

		OTHER
TOTAL CYANIDE	<u><10 -</u> %	
FREE CYANIDE	<u>-</u> %	
SULFIDE AS:	<u><10 -</u> %	
BISULFITE AS:	<u>-</u> %	
SULFITE AS:	<u>-</u> %	

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

N/A

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? IF SO, INDICATE WHETHER IT CONTAINS:

N/A

- ORGANOPHOSPHATES - CONTAINING SULFUR YES NO
- CARBAMATES
- CHLORINATED HYDROCARBONS

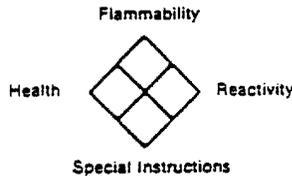
8. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

(1) TOXICITY RATING: INHALATION _____ DERMAL _____ ORAL _____

N/A

(2) HAZARD IDENTIFICATION SYSTEM:



B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE:

FOR DISPOSAL

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? _____ (SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) CORRECT SHIPPING DESCRIPTION: HAZARDOUS WASTE HIGHS SOLID
- (2) HAZARD CLASS(ES): NA
- (3) MATERIAL I.D. NO.(S) NA (NA # 9189)

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? _____ (SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE
NA

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? _____ (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

- (1) THE USEPA HAZARDOUS WASTE NUMBER(S): NA
- (2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? _____ (SEE 40 CFR 261.5)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? _____ IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: _____

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 1-11-84

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? NO IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: 1

GALLONS TONS CUBIC YARDS DRUMS OTHER

PER: DAY WEEK MONTH YEAR ONE TIME

TRANSPORTATION EQUIPMENT REQUIRED: _____

SERVICE/SCHEDULING REQUIREMENTS: _____

GENERATOR'S AUTHORIZED SIGNATORY: _____ TITLE _____ DATE _____

CONFIDENTIALITY AGREEMENT: _____

_____ in consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By: _____
Name

Title

3559 PROFILE: NRPA89611 01/11/8
 NTRGP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-4-B5
 BASE SOLID/DC-4-B5

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: _____ Technical Center
 PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casler

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides as CN, Total, mg/l			
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	39.13%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
11.7% CO_2 H_2O	30.0%						
Fresh Point, °F				Total Alkalinity (P), as $CaCO_3$, mg/l			
Ash Content, on ignition	25.75%			Total Alkalinity (M), as $CaCO_3$, mg/l			
Heating Value, BTU/lb				Total Hardness, as $CaCO_3$, mg/l			
*Acid Solub. g/100g				Calcium Hardness, as $CaCO_3$, mg/l			
				Magnesium Hardness, as $CaCO_3$, mg/l			
Arsenic as AS, mg/l	<0.07						
Barium as Ba, mg/l	114.	1.70					
Boron as B, mg/l				Oil and Grease, mg/l	116.0%		
Calcium as Ca, mg/l	8.40	0.01					
Chromium, Total as Cr, mg/l	4.27	<0.01					
Resistant Chromium @ Cr, mg/l				Alum., mg/l	<10		
Copper as Cu, mg/l	71.5			Chloroform, mg/l	<10		
Iron, Total as Fe, mg/l	1650			DDT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead as Pb, mg/l	512.	<0.01		Endrin, mg/l	<10		
Manganese as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium as Mg, mg/l				Linane, mg/l	<10		
Mercury as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel as Ni, mg/l	20.8			Toxaphene, mg/l	<10		
Selenium as Se, mg/l	<0.07			Parathion, mg/l	<10		
Silver as Ag, mg/l	<0.20			2,4-D, mg/l			
Zinc as Zn, mg/l	1250.	3.40		2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<10		
				16.56	<10		
Barbitones, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED						

Form 114-83
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is made.

3559 PROFILE: NRP88611 01/11,
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-4-B5
 BASE SOLID/DC-4-B5

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casler

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Brown Opaque Low Visc. liq.
pH	6.0	w/ ~50% settled Brown Sol.
Flash Point °FCC	7200°	
Cyanide (±/-)	-	Solvent - D.O.K.
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Soluble
% Solids (Y/Y)		
% Chlorine		
% Sulfur		
PCB		Comments
		Does NOT
	Total	FPT
Aq		
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
PB		

DC-4-BS

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC
150 WEST 137TH ST
RIVERDALE, IL 60467
ATTN: TIM CASHEN / JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-4-BS
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - (2) 1 PINT CONTAINERS
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A-84611</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-10-84

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-10-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE DISPOSAL DECISION

3559 PROFILE: NRFA88611 01/11/84
NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA IC-4-B5
BASE SOLID/IC-4-B5

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY.
- INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
- SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
- ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
- AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY (IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. _____) AND/OR BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
- THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY, BECAUSE: _____

- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
- THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING When scheduled USING THE FOLLOWING METHOD(S): Landfill

ADDITIONAL CONDITIONS: Drum Condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
- NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
- FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/18/84 COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER

NAME: _____

SIGNATURE: [Signature]

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
- I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____

I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____ SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
- THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____ SIGNATURE: _____

GENERAL MANAGER - TRANSFER FACILITY

INERT SOLIDS/KMT-4181.

THIS FORM HAS BEEN DEVELOPED BY AND FOR THE USE OF CHEMICAL WASTE MANAGEMENT, INC. AND OTHER WASTE MANAGEMENT, INC COMPANIES

SALES

CODE

SALES CODE A 88612

WASTE PROFILE SHEET CODE



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers. If your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: NORTHERN ORDNANCE DIV OF FMC

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY): 4800 EAST RIVER RD MINNEAPOLIS, (FRIDLEY), MINNESOTA

3. COMPANY CONTACTS: GENERAL DOUG HILDRE TITLE FMC-ENVIR ENG PHONE 612/571-9201 TECHNICAL DEAN RAMSEY TITLE PROT. MGR PHONE 612/572-3715 JIM CASHEN TITLE CWM-TECH CENT PHONE 312/841-8260

4. WASTE NAME:

5. PROCESS GENERATING WASTE: HAZARDOUS WASTE SOLIDS D.O.S. REMEDIAL ACTION CLEAN-UP

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED [] MULTILAYERED [] NONE [x]

B. PHYSICAL STATE AT 70°F: SOLID [x] SEMI-SOLID [] LIQUID [] POWDER [] OTHER: []

C. SOLIDS: TOTAL (%): 81.45 TOTAL DISSOLVED (ppm or %): []

D. SPECIFIC WEIGHT (AS # PER UNIT): []

E. pH: 6.0 (Show the following as range of %)

AS: H2SO4 [] % H3PO4 [] % HCl [] % NaOH [] % HF [] % NH4OH [] % HNO3 [] % Ca(OH)2 [] % OTHER: [] %

F. FLASH POINT: > 200 °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): []

H. BTU PER #: 1884 ASH CONTENT 70.92% []

I. CHARACTERISTIC COLOR GREENISH BROWN DISTINCTIVE ODOR SLIGHT SOLVENT 2 DOR []

J. HALOGENATED? [] % SULFONATED? [] %

K. ALPHA RADIATION AS pCi/l: []

DC-2-IL

1180610
WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: TIM CASHEN / JACK KOLAPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-2-IL
* FROZEN SOLID - HARD TO SAMPLE * ONLY 1/2 QT.
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - ~~UNREPRESENTATIVE~~
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A 88613</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-10-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? _____ (SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) CORRECT SHIPPING DESCRIPTION: SEE HAZARD WASTE MATL. N.O.S.
- (2) HAZARD CLASS(ES): N/A
- (3) MATERIAL I.D. NO.(S) NA # 9129

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? _____ (SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:

N/A
SEE ATTACHED SHEETS

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? _____ (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

- (1) THE USEPA HAZARDOUS WASTE NUMBER(S): n/a
- (2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? _____ (SEE 40 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? _____ IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: _____

J. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 1-11-84

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? no IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: 26

GALLONS TONS CUBIC YARDS DRUMS OTHER

PER: DAY WEEK MONTH YEAR ONE TIME

TRANSPORTATION EQUIPMENT REQUIRED: _____

SERVICE/SCHEDULING REQUIREMENTS: _____

GENERATOR'S AUTHORIZED SIGNATORY: X TITLE _____ DATE _____

CONFIDENTIALITY AGREEMENT: _____ as consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By: X Name _____

Title _____

SPECIAL WASTE DISPOSAL DECISION

3562 PROFILE: NRPA8812 01/11/
NIRCP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-1-IS
INERT SOLID/DC-1-IS

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS.

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY.
 INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
 SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
 ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
 AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY. _____
(IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. _____) AND BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
 THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMP POLICY, BECAUSE: _____

- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE
 THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING When scheduled USING THE FOLLOWING METHOD: Landfill

ADDITIONAL CONDITIONS: Drum Condition and labels in accordance with DOT regulation

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
 NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
 FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/31/84

COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGR

NAME: _____

SIGNATURE: [Signature]

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
 I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____

I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____

SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT.

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
 THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____

SIGNATURE: _____

GENERAL MANAGER - TRANSFER FACILITY

3562 PROFILE: NRFA88612 01/11
 NIROP
 MINNEAPOLIS, MN
 SOURCE: END SITE: ALA DC-1-IS
 INERT SOLID/DC-1-IS

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Collier

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Greenish-brown granular so
pH	1/0 6.0	
Flash Point °F	NA	
Cyanide (±/-)	-	Slight solvent odor
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Soluble
% Solids (V/V)		
% Chlorine		
% Sulfur		
PCB		Comments
		Ignites with prolonged Exps. to flame
	Total	FPT
As		* Need individual samples to track PCB
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
Pb		
SE		

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

3582 PROFILE: NRP88011 01/17/88
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-1-IS
 INERT SOLID/DC-1-IS

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY. FOR WASTE OF THIS TYPE, ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casher

Test	As Received	HT Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	11/10	6.0					
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	81.45%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
11% 20% <u>4%</u> <u>0%</u>	20.0%						
Flash Point, F°	>200			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	70.9%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb	1854			Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub, %NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	1.49						
Barium, as Ba, mg/l	218	2.14					
Boron, as B, mg/l				Oil and Grease, mg/l	6.42%		
Calcium, as Ca, mg/l	4.90	0.03					
Chromium, Total as Cr, mg/l	533	0.16					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<10		
Copper, as Cu, mg/l	124			Chlordane, mg/l	<10		
Iron, Total as Fe, mg/l	21800			DDTs, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	354	<0.01		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	11.0203			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	33.1			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	<0.08			Parathion, mg/l	<10		
Silver, as Ag, mg/l	11.41			2,4-D, mg/l			
Zinc, as Zn, mg/l	1250	3.16		2,4,5-TP (Sihex), mg/l			
				PCB's, mg/l	65		
				C-56	<10		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l	<10						
Sulfides, as S, mg/l	DISSOLVED						

FORM WASTE (Rev. 11-4-83)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

DC-1-IS

A-80010
WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE TAKING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC.
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: TIM CASHEN / JACK KOLAPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-1-IS
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - (2-1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-10-84
PROFILE SHEET CODE: A-88612
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-10-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A COMPOSITE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC
150 WEST 137TH ST
RIVERDALE, IL 601627
ATTN: TIM CASHEN / JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-1-15
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: TOT - 6-1 PINT CONTAINERS
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM - NIROP - COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A-88612</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD TECHNICIAN
EMPLOYER: ENZAC
DATE: 1-10-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENZAC
DATE: 1-10-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

3562 PROFILE: NRPA88612 01/11/84
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-1-IS
 INERT SOLID/DC-1-IS

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Coker

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Greenish-Brown granular Solids
pH	no 6.0	
Flash Point °F	NA	
Cyanide (±/-)	=	Slight Solvent Odor
Sulfide (±/-)	=	
		Mix w/H2O
BTU/lb		Soluble
% Solids (Y/Y)		
% Chlorine		
% Sulfur		
PCB		Comments
		Ignites with Prolonged Exposure to flame
	Total	EPT
As		* Need individual samples to track PCB
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
Pb		
SE		

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

NIR0P
MINNEAPOLIS, MN

SOURCE: ENC SITE: ALA DC-1-IS
INERT SOLID/DC-1-IS

LABORATORY: _____ Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casher

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	1/10	6.0					
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	81.45%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Loss on Ignition @ 105°C	20.07%			Total Alkalinity (P), as CaCO ₃ , mg/l			
Fusion Point, F°	> 200			Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	70.92%			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb	1884			Calcium hardness, as CaCO ₃ , mg/l			
*Acid Scrub., gNaOH/g				Magnesium hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	1.49						
Barium, as Ba, mg/l	218	2.14		Oil and Grease, mg/l	6.92%		
Boron, as B, mg/l							
Calcium, as Ca, mg/l	4.90	0.03					
Chromium, Total as Cr, mg/l	533	0.16					
hexavalent Chromium @ Cr, mg/l				Align, mg/l	<10		
Copper, as Cu, mg/l	124			Chloride, mg/l	<10		
Iron, Total as Fe, mg/l	21800			DOT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dioxins, mg/l	<10		
Lead, as Pb, mg/l	354	<0.01		Enam, mg/l	<10		
Manganese, as Mn, mg/l				Hexachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Limans, mg/l	<10		
Mercury, as Hg, mg/l	0.0203			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	33.1			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	<0.08			Parathion, mg/l	<10		
Silver, as Ag, mg/l	1.46			2,4-D, mg/l			
Zinc, as Zn, mg/l	1250	3.16		2,4,5,7P (Silvex), mg/l			
				PCB's, mg/l	65		
				C-56	<10		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfate, as SO ₄ , mg/l	<10						
Sulfides, as S, mg/l	DISSOLVED						

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

Sample Prep. 1.62g +
2.59g CS₂

WT. % SOLVENTS

Trichlorofluoromethane _____
Methanol _____
1,1,2-Trichloro-1,2,2-Trifluoro
ethane _____
Ethanol _____
Acetone _____
Methylene Chloride _____
Isopropanol _____
Propanol _____
Ethyl Acetate _____
Methyl Ethyl Ketone _____
1,1,1-Trichloroethane _____
1,2-Dichloroethane _____
Trichloroethylene _____ 0.8
2-Methoxyethanol _____
Propyl Acetate _____
Butanol _____
2-Ethoxyethanol _____
Toluene _____ 0.08
Methyl Isobutyl Ketone _____
Tetrachloroethylene _____
Butyl Acetate _____
Methylbenzene _____ 0.2
Xylenes _____ 1
Styrene _____

2-Ethoxyethanol Acetate _____
2-Butoxyethanol _____
Hydrocarbons C₁₀₋₂₃ _____ 2
Naphthalene _____
Phenol _____
Cresols _____ 0.8
Dimethyl & Trimethyl Phenols _____

Other Solvents:

C₁ Benzenes _____ 0.03

Notes: _____

THIS FORM HAS BEEN DEVELOPED BY AND FOR THE USE OF CHEMICAL WASTE MANAGEMENT, INC. AND OTHER WASTE MANAGEMENT, INC. COMPANIES.

SALES

CODE

SALES CODE A 88614

WASTE PROFILE SHEET CODE



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary for our purposes and yours. Be complete in your answers: if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: NORTHERN ORDNANCE DIV OF FMC

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY):
4800 EAST RIVER RD
MINNEAPOLIS (FRIDLEY), MINNESOTA

3. COMPANY CONTACTS:
GENERAL DOUG HILDRE TITLE FMC-ENVIR. ENG PHONE 612/571-9201 ^{X21:}
TECHNICAL DEAN RAMSEY TITLE PROJ. MGR. PHONE 612/572-3715
TIM CASHEN TITLE CWM-TECH CENT PHONE 312/841-838

4. WASTE NAME: WASTE FLAMMABLE SOLIDS n.o.s.

5. PROCESS GENERATING WASTE: Remedial action Clean-up

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED NONE

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
POWDER OTHER: _____

C. SOLIDS: TOTAL (%): 46.12 TOTAL DISSOLVED (ppm or %): N/A

D. SPECIFIC WEIGHT (AS # PER UNIT): _____

E. pH: N/A (Show the following as range of %)

AS: H ₂ SO ₄	_____ %	H ₃ PO ₄	_____ %
HC1	<u>N/A</u> %	NaOH	<u>N/A</u> %
HF	<u>N/A</u> %	NH ₄ OH	_____ %
HNO ₃	_____ %	Ca(OH) ₂	_____ %
OTHER:	_____ %	_____	_____ %
	_____ %	_____	_____ %

F. FLASH POINT: IGNITES °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): _____

H. BTU PER #: 9430 ASH CONTENT 25.50%

I. CHARACTERISTIC COLOR: BLUE/GREEN DISTINCTIVE ODOR: TOLUENE ODR

J. HALOGENATED? N/A % SULFONATED? N/A %

K. ALPHA RADIATION AS pCi/l: N/A

7. WASTE COMPOSITION:

A. ORGANIC COMPONENTS (WITH RANGES - INDICATE WHETHER % OR ppm)

SEE ATTACHED SHEETS _____

OIL & GREASE _____ 54.4% _____
 (ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR ANY OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? _____ IF SO, PLEASE NOTE ABOVE.

B. HEAVY METALS (WITH ppm RANGES):

TOTAL	TOTAL LEACHABLE	TOTAL	TOTAL LEACHABLE
Ag <u>0.74</u>	_____	Hg <u><0.005</u>	_____
As <u><0.02</u>	_____	Ni <u>8.18</u>	_____
Ba <u>44.9</u>	_____	Pb <u>301</u>	<u><0.01</u>
Cd <u>2.89</u>	<u>0.01</u>	Se <u>0.16</u>	_____
Cr <u>1020</u>	<u>0.31</u>	Zn <u>32500</u>	<u>97.3</u>
Cu <u>24.5</u>	_____	Other (ATTACH ADDITIONAL PAGES)	

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" - AT 40 CFR, PART 261, APPENDIX II - SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE.)

C. INORGANIC COMPONENTS (WITH % RANGES):

TOTAL CYANIDE	FREE CYANIDE	SULFIDE AS:	BISULFITE AS:	SULFITE AS:	OTHER
<u><10</u> %	_____ %	<u><10</u> %	_____ %	_____ %	_____ %
_____ %	_____ %	_____ %	_____ %	_____ %	_____ %

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? _____ IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? _____ IF SO, INDICATE WHETHER IT CONTAINS:

- ORGANOPHOSPHATES - CONTAINING SULFUR YES NO
- CARBAMATES
- CHLORINATED HYDROCARBONS

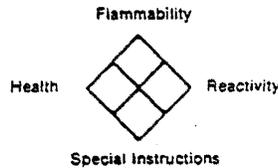
N/A
N/A

B. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

(1) TOXICITY RATING: INHALATION _____ DERMAL _____ ORAL _____

(2) HAZARD IDENTIFICATION SYSTEM:



B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED WITH HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE: _____

FOR DISPOSAL

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT?
(SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) CORRECT SHIPPING DESCRIPTION: WASTE FLAMMABLE SOLIDS n.i.s.
- (2) HAZARD CLASS(ES): D001
- (3) MATERIAL I.D. NO.(S) UN # 1325

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT?
(SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:
D001 IGNITABLE

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

- (1) THE USEPA HAZARDOUS WASTE NUMBER(S): D001 UN# 1325
- (2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? (SEE 40 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED:

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 1-11-84

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? no IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: 2

GALLONS TONS CUBIC YARDS DRUMS OTHER

PER: DAY WEEK MONTH YEAR ONE TIME

TRANSPORTATION EQUIPMENT REQUIRED:

SERVICE/SCHEDULING REQUIREMENTS:

GENERATOR'S AUTHORIZED SIGNATORY: TITLE DATE

CONFIDENTIALITY AGREEMENT:
as consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By:
Name

Title

SPECIAL WASTE DISPOSAL DECISION

3560 PROFILE: NRP08614 01/11/8
NIRCP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA IC-3-FS
FLAMM. SOLID/DCC-3-FS

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS.

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY.
 INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
 SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
 ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
 AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY (IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. D001) AND/OR
 BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
 THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY, BECAUSE:

- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
 THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING When permitted USING THE FOLLOWING METHOD(S)

ADDITIONAL CONDITIONS: Drum Condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
 NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
 FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

- THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE:

DATE: 1/15/84

COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER

NAME:

SIGNATURE: Cooper

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER.

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
 I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS:

- I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____

SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
 THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____

SIGNATURE: _____

GENERAL MANAGER - TRANSFER FACILITY

DC-3-PS

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT, INC.
150 WEST 137TH ST
RIVERDALE, ILL 60469
ATTN: TIM CASHEN / JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-10-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: DRUM COMPOSITE
DC-3-PS
3. EQUIPMENT AND SAMPLING METHOD USED: EACH SEPARATE CATEGORY
OF DRUMS WERE SAMPLED SO EACH COMPOSITE
IS REPRESENTATIVE OF THAT CATEGORY.
4. AMOUNT OF SAMPLE OBTAINED: LOT - 2-1 PINT COG (AINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIDOP-COE</u>
SAMPLE HOUR/DATE: <u>1-10-84</u>
PROFILE SHEET CODE: <u>A-88614</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: LARRY BELL

TITLE: CHEMIST

SIGNATURE: Larry Bell

EMPLOYER: ENRAC

DATE: 1-10-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

--- L10-01

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

3560 PROFILE: NRFAS8614 01/11/84
NIRCP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-3-FS
FLAMM SOLID/DCC-3-FS

Sample Prep. 1.28g +
2.47g CS₂

WT. % SOLVENTS

Trichlorofluoromethane _____
Methanol _____
1,1,2-Trichloro-1,2,2-Trifluoro
ethane _____
Ethanol _____
Acetone _____
Methylene Chloride _____
Isopropanol _____
Propanol _____
Ethyl Acetate _____
Methyl Ethyl Ketone _____
1,1,1-Trichloroethane _____
1,2-Dichloroethane _____
Trichloroethylene _____ 0.06
2-Methoxyethanol _____
Propyl Acetate _____
Butanol _____
2-Ethoxyethanol _____
Toluene _____ 2
Methyl Isobutyl Ketone _____
Tetrachloroethylene _____
Ethyl Acetate _____
Ethylbenzene _____ 12
Xylenes _____ 39
Styrene _____

2-Ethoxyethanol Acetate _____
2-Butoxyethanol _____
Hydrocarbons C₇₋₁₂ _____ 12
Naphthalene _____ 0.2
Phenol _____
Cresols _____
Dimethyl & Trimethyl Phenols _____

Other Solvents:

C₃ Benzenes _____ 2
C₄ Benzenes _____ 3
C₅ Benzenes _____ 2

Notes: _____

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: _____ Technical Center

NIRROP

MINNEAPOLIS, MN

SOURCE: ENC SITE: ALA DC-3-F5

FLAMM SOLID/DCC-3-F5

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casler

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	46.12%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
WATER 4.0% 8.0%							
Fish Point P				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	25.5%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb	4520			Total Hardness, as CaCO ₃ , mg/l			
"Acid Serv." pHOM/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	<0.05						
Barium, as Ba, mg/l	24.9						
Boron, as B, mg/l				Oil and Grease, mg/l	54.4%		
Calcium, as Ca, mg/l	7.87	19.01					
Chromium, Total as Cr, mg/l	1.020	0.31					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<10		
Copper, as Cu, mg/l	24.5			Chlordane, mg/l	<10		
Iron, Total as Fe, mg/l	16700			DDT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	30.1	<0.01		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.025			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	8.18			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	0.16			Permethrin, mg/l	<10		
Silver, as Ag, mg/l	0.74			2, 4, D, mg/l			
Zinc, as Zn, mg/l	3250	47.3		2, 4, 5, TP (Silver), mg/l			
				PCB's, mg/l	<10		
				U-Sin	<10		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED						

3560 PROFILE: NRFA88614 01/11/84
 NIDOP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-3-FS
 FLAMM SOLID/DCC-3-FS

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
 PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Caskey

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Blue-Green Jelly and Moist
pH	NA	Clumped Solids
Flash Point °F	NA	
Cyanide (±/-)	-	Toluene Odor
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		INSOLUBLE FLOIDS
% Solids (V/V)		
% Chlorine		
% Sulfur		
PCB		Comments
		Flakes immediately when exposed to flame
	Total	FPT
Aq		
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
Pb		

INERT LIQUID / 11/11-1/81

THIS FORM HAS BEEN DEVELOPED BY AND FOR THE USE OF CHEMICAL WASTE MANAGEMENT, INC. AND OTHER WASTE MANAGEMENT, INC. COMPANIES.

SALES

CODE

A 88613

WASTE PROFILE SHEET CODE



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary, for our purposes and yours. Be complete in your answers: if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: NORTHERN ORDNANCE DIV. OF FMC

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY):
4800 EAST RIVER RD
MINNEAPOLIS (FRIDLEY), MINNESOTA

3. COMPANY CONTACTS:
GENERAL DOUG HILDRE TITLE FMC - ENVIR. ENG. PHONE 612/571-9201^{x2}
TECHNICAL DEAN RAMSEY TITLE PROJ. MGR. PHONE 612/572-3715
TIM CASHEN TITLE CWM - TECH. CENT. PHONE 312/841-8700

4. WASTE NAME: HAZARDOUS WASTE LIQUID n.o.s.

5. PROCESS GENERATING WASTE: Remedial Action Clean-up

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED ~~NO~~

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
POWDER OTHER: SETTLED LAYER

C. SOLIDS: TOTAL (%): 9.1% TOTAL DISSOLVED (ppm or %): N/A

D. SPECIFIC WEIGHT (AS # PER UNIT): N/A

E. pH: 6.0 (Show the following as range of %)

AS: H ₂ SO ₄	<u>-</u> %	H ₃ PO ₄	<u>-</u> %
HC1	<u>N/A</u> %	NaOH	<u>N/A</u> %
HF	<u>N/A</u> %	NH ₄ OH	<u>-</u> %
HNO ₃	<u>-</u> %	Ca(OH) ₂	<u>-</u> %
OTHER:	<u>-</u> %		<u>-</u> %
	<u>-</u> %		<u>-</u> %

F. FLASH POINT: > 200° °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): -

H. BTU PER #: _____ ASH CONTENT 6.51%

I. CHARACTERISTIC COLOR BLUE DISTINCTIVE ODOR SOLVENT ODOR

J. HALOGENATED? N/A % SULFONATED? N/A

K. ALPHA RADIATION AS pCi/l: N/A

7. WASTE COMPOSITION:

A. ORGANIC COMPONENTS (WITH RANGES — INDICATE WHETHER % OR ppm)

SEE ATTACHED SHEETS

OIL & GREASE _____ 7.5%

(ATTACH ADDITIONAL PAGES IF NECESSARY)

DOES THIS WASTE CONTAIN ENDRIN, LINDANE, METHOXYCHLOR, TOXAPHENE, 2,4-D, 2,4,5-TP SILVEX, OR ANY OTHER ORGANIC COMPOUNDS LISTED BY USEPA AT 40 CFR 261.24? _____ IF SO, PLEASE NOTE ABOVE

B. HEAVY METALS (WITH ppm RANGES):

TOTAL	TOTAL LEACHABLE	TOTAL	TOTAL LEACHABLE
Ag _____	_____	Hg <u><0.005</u>	_____
As <u><0.07</u>	_____	Ni <u>6.84</u>	_____
Ba <u>5.78</u>	_____	Pb <u>18.9</u>	<u>204</u>
Cd <u>142</u>	<u>7.21</u>	Se <u>0.15</u>	_____
Cr <u>7430</u>	<u>2.12</u>	Zn <u>2560</u>	<u>959</u>
Cu <u>15.3</u>	_____	Other (ATTACH ADDITIONAL PAGES)	

(IF YOU HAVE DETERMINED TOTAL LEACHABLES USING USEPA'S "EP TOXICITY TEST PROCEDURE" — AT 40 CFR, PART 261, APPENDIX II — SO INDICATE BY MARKING "EP" AFTER THE RESULT SHOWN ABOVE.)

C. INORGANIC COMPONENTS (WITH % RANGES):

OTHER

TOTAL CYANIDE	<u><10</u> - %	_____	_____ %
FREE CYANIDE	_____ %	_____	_____ %
SULFIDE AS:	<u><10</u> - (DETERMINED)	_____	_____ %
BISULFITE AS:	_____ %	_____	_____ %
SULFITE AS:	_____ %	_____	_____ %

(ATTACH ADDITIONAL PAGES IF NECESSARY)

D. DOES THIS WASTE STREAM CONTAIN BIOLOGIC MATERIALS, PATHOGENS, OR ETIOLOGICAL AGENTS? _____ IF SO, ATTACH ADDITIONAL PAGES DESCRIBING SUCH MATERIALS.

E. IS THE WASTE A PESTICIDE OR PRODUCED BY A PESTICIDE MANUFACTURING PROCESS? _____ IF SO, INDICATE WHETHER IT CONTAINS:

- ORGANOPHOSPHATES — CONTAINING SULFUR YES NO
- CARBAMATES
- CHLORINATED HYDROCARBONS

B. HAZARDOUS COMPONENTS AND CHARACTERISTICS

A. HAZARDOUS PROPERTIES (INSERT NUMBER CODES PER INSTRUCTIONS ON LAST PAGE)

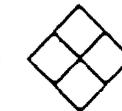
(1) TOXICITY RATING: INHALATION _____ DERMAL _____ ORAL _____

Flammability

(2) HAZARD IDENTIFICATION SYSTEM:

Health

Reactivity



Special Instructions

B. LIST ANY OTHER ACUTE OR CHRONIC HAZARDS ASSOCIATED WITH OR ALLEGED TO BE ASSOCIATED WITH HUMAN CONTACT WITH OR EXPOSURE TO THE WASTE:

FOR DISPOSAL

9. REGULATORY CLASSIFICATION OF WASTE

A. IS THIS WASTE A "HAZARDOUS MATERIAL" AS DEFINED BY REGULATIONS OF THE U.S. DEPARTMENT OF TRANSPORTATION PURSUANT TO THE HAZARDOUS MATERIALS TRANSPORTATION ACT? no

(SEE 49 CFR 172.101 AND 173 FOR "HAZARDOUS MATERIALS" LIST AND CHARACTERISTICS.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) CORRECT SHIPPING DESCRIPTION: HAZARDOUS WASTE LIQUID N.O.S.
- (2) HAZARD CLASS(ES): D006
- (3) MATERIAL I.D. NO.(S) NA # 9189

B. DOES THIS WASTE CONTAIN ANY "HAZARDOUS SUBSTANCE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT? yes

(SEE 40 CFR 117 FOR "HAZARDOUS SUBSTANCES" AND CATEGORIES.) IF SO, PLEASE ADVISE OF THE FOLLOWING:

- (1) THE NAMES OF EACH HAZARDOUS SUBSTANCE PRESENT IN THE WASTE, THE HAZARD CATEGORY (X, A, B, C OR D) AND THE APPROXIMATE CONCENTRATION OF THE SUBSTANCE BY WEIGHT IN THE WASTE:
D006 - CADMIUM 142 mg/l
7.21 mg/l EPT LEACHATE

(ATTACH ADDITIONAL PAGES IF NECESSARY)

C. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY REGULATIONS OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY PURSUANT TO SECTION 3001 OF THE RESOURCE CONSERVATION AND RECOVERY ACT? no (SEE 40 CFR, PART 261 FOR WHAT IS A "HAZARDOUS WASTE.") IF SO, STATE:

- (1) THE USEPA HAZARDOUS WASTE NUMBER(S): D006
- (2) DO YOU CLAIM TO BE A SMALL QUANTITY GENERATOR? no (SEE 40 CFR 261.5.)

D. IS THIS WASTE A "HAZARDOUS WASTE" AS DEFINED BY THE ENVIRONMENTAL REGULATORY AGENCY IN YOUR STATE? no IF SO, STATE WHY IT IS SO DEFINED AND ANY STATE HAZARDOUS WASTE CODE NUMBERS ASSIGNED: _____

10. IS THE INFORMATION PROVIDED IN SECTIONS 6-9 BASED UPON LABORATORY ANALYSIS OF THE WASTE MATERIAL? yes IF SO, PLEASE ADVISE OF THE DATE OF THE MOST RECENT ANALYSIS: 1-11-84

11. HAVE YOU OBTAINED TOXICITY STUDIES OF THIS WASTE STREAM? no IF SO, PLEASE ATTACH A COPY OF THE RESULTS.

12. QUANTITY/SHIPPING REQUIREMENTS:

ANTICIPATED VOLUME IS: 4

- GALLONS TONS CUBIC YARDS DRUMS OTHER
- PER: DAY WEEK MONTH YEAR ONE TIME

TRANSPORTATION EQUIPMENT REQUIRED: _____

SERVICE/SCHEDULING REQUIREMENTS: _____

GENERATOR'S AUTHORIZED SIGNATORY: _____ TITLE _____ DATE _____

CONFIDENTIALITY AGREEMENT: _____

In consideration for the Generator's release of the above information, and any other supplemental data provided, agrees to treat such information as confidential property and will not disclose such information to others except as is required by law, and in such circumstances only after first giving notice to the Generator.

By: _____
Name

Title

SPECIAL WASTE DISPOSAL DECISION

3561 PROFILE: NRPA88613 01/11/84
NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-2-IL
INERT LIQUID/DC-2-IL

ORIGINATOR REQUEST FOR DECISION.

PROPOSED TREATMENT/DISPOSAL FACILITY
CWM/ALABAMA

PROPOSED TRANSFER FACILITY (IF ANY)

PRELIMINARY FINDINGS

THE ABOVE PROFILE SHEET (OR WRITTEN DESCRIPTION) HAS BEEN REVIEWED. I FIND IT IS:

- COMPLETE AND CONTAINS SUFFICIENTLY CERTAIN WASTE DESCRIPTION TO ENABLE ITS PROPER CLASSIFICATION, SAFE HANDLING, AND SUBSEQUENT DETERMINATIONS OF CONFORMITY OR NON-CONFORMITY.
 INCOMPLETE OR INSUFFICIENT FOR THE REASONS NOTED ON THE PROFILE SHEET (OR WRITTEN DESCRIPTION).

A SPECIAL WASTE ANALYSIS REPORT HAS HAS NOT BEEN PREPARED. I HAVE DETERMINED:

- ADDITIONAL ANALYSES OR INFORMATION ARE NEEDED, AS NOTED ON THE REPORT FORM.
 SAMPLE DOES NOT CONFORM TO PROFILE SHEET DESCRIPTION, AS NOTED ON FORM.
 ANALYSIS IS SUFFICIENT, AND SAMPLE CONFORMS TO PROFILE SHEET DESCRIPTION.
 AN ANALYSIS IS NOT NECESSARY ACCORDING TO COMPANY POLICY. _____
(IDENTIFY POLICY EXCEPTION.)

ON THE BASIS OF THE PROFILE SHEET AND ANALYSIS REPORT (IF REQUIRED), I FIND: (CHECK ONE MAIN BOX)

- THE WASTE IS REGULATED AS HAZARDOUS BY USEPA (HAZARDOUS WASTE NO. 2006) AND/OR BY THE STATE IN WHICH THE TREATMENT/DISPOSAL FACILITY IS LOCATED.
 THE WASTE IS NOT REGULATED AS HAZARDOUS, BUT SHOULD BE SO TREATED FOR PURPOSES OF COMPANY POLICY. BECAUSE: _____

- THE WASTE IS NOT REGULATED BY THE DISPOSAL FACILITY STATE AS NON-HAZARDOUS SPECIAL WASTE.
 THE WASTE IS NOT REGULATED AS HAZARDOUS OR NON-HAZARDOUS SPECIAL WASTE.

DISPOSAL DECISION. BASED UPON MY EVALUATION OF THE WASTE AND THE FACILITY, I CONCLUDE:

- THE SPECIAL WASTE IS TECHNICALLY ACCEPTABLE FOR TREATMENT/DISPOSAL AT THE PROPOSED FACILITY BEGINNING When scheduled USING THE FOLLOWING METHOD (S):
Solidify - Landfill
ADDITIONAL CONDITIONS: Drum condition and labels in accordance with DOT regulations

- FACILITY IS ALREADY FULLY PERMITTED (OR AUTHORIZED) TO RECEIVE THE WASTE.
 NECESSARY PERMIT APPLICATIONS HAVE BEEN FILED. ALLOW _____ DAYS TO OBTAIN PERMIT.
 FACILITY IS NOT NOW PERMITTED. ORIGINATOR SHOULD PROVIDE ME WITH INSTRUCTIONS TO FILE NECESSARY APPLICATIONS AND ALLOW _____ DAYS TO OBTAIN PERMIT.

THE SPECIAL WASTE IS TECHNICALLY UNACCEPTABLE AT THE PROPOSED FACILITY BECAUSE: _____

DATE: 1/18/84 COMPLETED BY FACILITY TECHNICAL MGR. REGIONAL ENGINEER
NAME: _____
SIGNATURE: [Signature]

DISPOSAL DECISION APPROVAL OR REJECTION BY FACILITY GENERAL MANAGER

- I WILL ACCEPT THE SPECIAL WASTE DESCRIBED IN THE PROFILE SHEET, ON THE ABOVE CONDITIONS.
 I WILL ACCEPT THE WASTE, BUT ONLY ON THE FOLLOWING ADDITIONAL CONDITIONS: _____

I WILL NOT ACCEPT THE WASTE UNDER ANY CONDITIONS.

DATE: _____ SIGNATURE: _____

TRANSFER STATION DECISION. I HAVE REVIEWED THE PROFILE SHEET AND ANALYTICAL REPORT.

- THE WASTE MAY BE RECEIVED AT THE ABOVE TRANSFER FACILITY BEGINNING _____
 THE WASTE MAY NOT BE RECEIVED BECAUSE _____

DATE: _____ SIGNATURE: _____
GENERAL MANAGER - TRANSFER FACILITY

3561 PROFILE: NFA98813 01/11/84
NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: ALA DC-2-IL
INERT LIQUID/DC-2-IL

Sample Prep. as is

WT. % SOLVENTS

Trichlorofluoromethane _____

Methanol _____

1,1,2-Trichloro-1,2,2-Trifluoroethane _____

Ethanol _____

Acetone _____

Methylene Chloride _____

Isopropanol _____ 0.3

Propanol _____

Ethyl Acetate _____

Methyl Ethyl Ketone _____ 0.6

1,1,1-Trichloroethane _____

1,2-Dichloroethane _____

Trichloroethylene _____ 0.2

2-Methoxyethanol _____

Propyl Acetate _____

Butanol _____

2-Ethoxyethanol _____

Toluene _____

Methyl Isobutyl Ketone _____

Tetrachloroethylene _____

Amyl Acetate _____

Ethylbenzene _____ 0.02

Xylenes _____ 0.07

Styrene _____

2-Ethoxyethanol Acetate _____

2-Butoxyethanol _____

Hydrocarbons C₁₀₋₂₀ _____ 0.2

Naphthalene _____

Phenol _____

Cresols _____

Dimethyl & Trimethyl Phenols _____

Other Solvents:

Notes: _____

SPECIAL WASTE ANALYSIS REPORT

3561 PROFILE: NRPA88613 01/11/84
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-2-IL
 INERT LIQUID/DC-2-IL

LABORATORY: Chemical Waste Management
 PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: *Cooker*

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	9.10%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Loss on Ignition H ₂ O %	90.0%						
Fresh Point, F°	7200			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	6.51%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb	13,000,000 BTU/lb			Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gmsOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<0.07						
Barium, as Ba, mg/l	5.78						
Boron, as B, mg/l				Oil and Grease, mg/l	7.5%		
Cadmium, as Cd, mg/l	1.42	7.21					
Chromium, Total, as Cr, mg/l	7420	212					
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<10		
Copper, as Cu, mg/l	15.3			Chloroform, mg/l	<10		
Iron, Total, as Fe, mg/l	595			DDTs, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<10		
Lead, as Pb, mg/l	78.4	0.14		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	10.82			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	0.15			Parathion, mg/l	<10		
Silver, as Ag, mg/l				2, 4, D, mg/l			
Zinc, as Zn, mg/l	2560	45.7		2, 4, 5, TP (Sweet), mg/l			
				PCB's, mg/l	<10		
				U-516	<10		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	11,200,000						

FORM 114-02 (Rev. 11-4-83)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management .. No representation concerning sample validity or analytical accuracy or completeness

3561 PROFILE: NRP88&13 01/11/8
 NIROP
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: ALA DC-2-
 INERT LIQUID/DC-2-IL

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: *J. Caskey*

Test	Physical Description	
	(Odor, Color, Physical State, Phases, Viscosity)	
Specific Grav.		Blue opaque low visc. liq. w/
pH	6.0	settled DARK blueish-brown Solids
Flash Point °F	>200°	
Cyanide (±/-)	-	Solvent BOD
Sulfide (±/-)	-	
		Mix w/H2O
BTU/lb		Soluble
% Solids (Y/Y)		
% Chlorine		
% Sulfur		
PCB		Comments
		Does NOT ignite
	Total	FPT
As		
Ba		
Cd		
Cr		
Cu		
Hg		
Ni		
Pb		

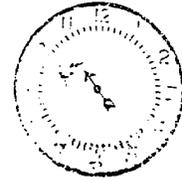
4. SOILS DATA FROM PIT/TRENCH EXCAVATIONS AT PIT
BOTTOM, 1-FOOT DEPTH AND 2-FOOT DEPTH



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN 19 '84 AM

RECEIVED



CONSTR. OPER. UNIT

JAN. 18, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

PROJECT OFFICE

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

Trench # 3 per Sample Source sheet attached.

Note: PCB CONTAMINATION

Very Truly Yours,
Dean Ramsey

cc. JACK COSTELLO
NIROP FILE - 2
DOC. FILE

Parameters: None

Priority Pollutants

IEPA

Other (specify)

SAMPLE SOURCES
CITY AND STATE

LANDFILL

To: CWM

Riverside, CA 92507

ATTN:

Tim Casher Jack Kolopanis

SAMPLE INVENTORY AND MASTER PACKING LIST

Pres.	Sample	SAMPLE LOG NUMBER												TOTAL
	X3-2-0													
	X3-2-12													
	X3-2-24													
	X3-3-0													
	X3-3-12													
	X3-3-24													
	X3-4-0													
	X3-4-12													
	X3-4-24													
	TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) *Mark Hunte* 1-6-84 1515

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ (OVER) Date and Time _____

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST.
RIVERDALE, IL 60427
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE (WASH & RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1415
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X3-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0, 15, 2, 9)
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (271g)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1415
PROFILE SHEET CODE: A 88619
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center

CERTIFICATE OF REP. SAMPLE RECEIVED: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

NUM IOP 10 01 / 84
 MINNEAPOLIS, MN
 SOURCE: ENC SITE: CD1
 SOIL SAMPLE/X3-1-0

REPRESENTATIVE SAMPLE RECEIVED ON: _____

SAMPLE TAKEN: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: W. Carter

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity % as				Phenols, mg/l	<5		
Alkalinity % as				Cyanides as CN, Total, mg/l	<10		
COD, mg/l				Cyanides as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	92.099			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, °F	212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	90.977			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. (pH 4.0)				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	<0.02		OK				
Boron, as B, mg/l	13.4		OK	Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	0.93		OK				
Chromium, Total as Cr, mg/l	8.49	<0.01	OK				
Hexavalent Chromium @ Cr, mg/l				Alumina, mg/l	<1.0		
Copper, as Cu, mg/l	33.6		?	Chlorides, mg/l	<1.0		
Iron, Total as Fe, mg/l	4290		?	DOT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<1.0		
Lead, as Pb, mg/l	13.1	0.04	OK	Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linacrin, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005		OK	Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	10.7		?	Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.02		OK	Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.23		✓	2,4-D, mg/l			
Zinc, as Zn, mg/l	10.7		✓	2,4,5-TP (Sims), mg/l			
				PCB's, mg/l	0.8		
				P-56	<1.0		
				Solventes	<1.0%		
Boronates, as BCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2					

AP/MS-02 Rev. 11-4-83
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management ... No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

REC 19 JAN 84

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLEPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1415
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X3-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 2-3 SAMPLES WERE TAKEN (10", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1415
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

- ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

N
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-1-12

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. C. Fisher

Test	As Received	EP Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<10		
COD, mg/l				Cyanides, as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	85.01%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	83.13%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Loss on Volat. BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Solub." pH=0M/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	<0.07		✓				
Barium, as Ba, mg/l	46.9		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.39	<0.01	✓				
Chromium, Total as Cr, mg/l	10.9	<0.01	✓				
hexavalent Chromium @ Cr, mg/l				Alumina, mg/l	<1.0		
Copper, as Cu, mg/l	6.55		✓	Chlorides, mg/l	<1.0		
Iron, Total as Fe, mg/l	7032			DOT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxins, mg/l	<1.0		
Lead, as Pb, mg/l	19.9	0.05	✓	Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linens, mg/l	<1.0		
Mercury, as Hg, mg/l	20.005		✓	Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	17.1		✓	Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	20.07		✓	Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.71		✓	2,4-D, mg/l			
Zinc, as Zn, mg/l	12.4		✓	2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	0.9		
				P-516	<1.0		
				Solvents	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED						

AW-100-02 (Rev. 11-4-88)
CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1415
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X3-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84 1415
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
 I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-1-24

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	EPT Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% Solution	9.2						
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<10		
COD, mg/l				Cyanides, as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 102°C	92.77%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	92.29%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gms/H ₂ O/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Aluminum, as Al, mg/l	0.08		✓				
Barium, as Ba, mg/l	7.22		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.95	<0.01	✓				
Chromium, Total, as Cr, mg/l	9.24	<0.01	✓				
Hexavalent Chromium, as Cr, mg/l				Arsenic, mg/l	<1.0		
Copper, as Cu, mg/l	125		?	Chloroform, mg/l	<1.0		
Iron, Total, as Fe, mg/l	4000		?	DOT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<1.0		
Lead, as Pb, mg/l	230	0.05	✓	Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.005		✓	Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	18.3		?	Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.45		✓	Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.71		✓	2, 4, D, mg/l			
Zinc, as Zn, mg/l	11.2		✓	2, 4, 5, TP (Silver), mg/l			
				PCE's, mg/l	<1.0		
				C-56	<1.0		
Bicarbonates, as HCO ₃ , mg/l				Solvents	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED						

Ref: 11-4-88
CHEMICAL WASTE MANAGEMENT, INC.

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST.
RIVERDALE, IL 60427
ATTN: JACK KLOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1425
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X3-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1425
PROFILE SHEET CODE: A 88619
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-2-0

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10.7 SOLUTION	9.1					
Acidity % as							
Alkalinity % as				Phenols, mg/l	4.5		
COD, mg/l				Cyanides as CN, Total, mg/l	4.0		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	85.53%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	83.94%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scar," gH ₂ O/lb				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Vanic, as AS, mg/l	1.58						
Barium, as Ba, mg/l	48.8						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.43	50.01					
Chromium, Total as Cr, mg/l	20.8	50.01					
Hexavalent Chromium @ Cr, mg/l				Arsen, mg/l	2.0		
Copper, as Cu, mg/l	266.			Chloride, mg/l	4.0		
Iron, Total as Fe, mg/l	87630.			DOT's, mg/l	4.0		
Iron, dissolved, as Fe, mg/l				Dissolv, mg/l	4.0		
Lead, as Pb, mg/l	44.2	0.09		Endrin, mg/l	4.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	4.0		
Magnesium, as Mg, mg/l				Linane, mg/l	4.0		
Mercury, as Hg, mg/l	50.005			Methoxychlor, mg/l	4.0		
Molybdenum, as Mo, mg/l	13.9			Toxaphene, mg/l	4.0		
Selenium, as Se, mg/l	0.06			Permethrin, mg/l	4.0		
Silver, as Ag, mg/l	0.76			2,4, D, mg/l			
Zinc, as Zn, mg/l	54.2			2,4,5, TP (Silver), mg/l			
				PCB's, mg/l	0.3		
				C-56	4.0		
				SOLVENTS	2.02		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	2					

Form 11-4-88
CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KURPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1425
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X3-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS. WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2 - 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1425
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE-NOTED.

WITNESS: MARK HILL
 SIGNATURE: Mark Hill
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KOLEPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEAN AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1425
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X3-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POUL HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1425
PROFILE SHEET CODE: A 88619
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

FILE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-2-24

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: REPRESENTATIVE SAMPLE RECEIVED ON:

CERTIFICATE OF REP. SAMPLE RECEIVED: SAMPLE TAKEN:

PROPOSED TREATMENT/DISPOSAL FACILITY:

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

T. Casher

DATE OF ANALYSIS: LAB MANAGER:

Test	As Received	Leechate	Analyst Initials	Test	As Received	Leechate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
C O D, mg/l				Cyanides, as CN, Total, mg/l	210		
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	97.12%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	96.73%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Aranic, as AS, mg/l	0.19						
Barium, as Ba, mg/l	10.8						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.90	<0.01					
Chromium, Total as Cr, mg/l	8.62	<0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	334			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	5260			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	46.6	0.04		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	15.8			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.25			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.80			2, 4, D, mg/l			
Zinc, as Zn, mg/l	15.9			2, 4, 5, TP (Silver), mg/l			
				PCB's, mg/l	<1.0		
				C-76	<1.0		
				Solvents	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l DISSOLVED	<2						

M/W-02 (Rev. 11-4-88)
CHEMICAL WASTE MANAGEMENT, INC.

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60429
ATTN: JACK KALOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1435
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X3-3-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 1/2 2-1-PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84 1435
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARY HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

MINNEAPOLIS, MN
 SOURCE: ENC SITE: CD1
 SOIL SAMPLE/X3-3-0

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% Solution	9.1						
Acidity % as				Phenol, mg/l	<5		
Alkalinity % as				Cyanide, as CN, Total, mg/l	<10		
COD, mg/l				Cyanide, as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	84.99%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	84.09%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub, gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Aluminum, as Al, mg/l	0.13						
Boron, as B, mg/l	20.8			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	1.19	<0.01					
Chromium, Total as Cr, mg/l	13.2	0.01		Arsenic, mg/l	<1.0		
Hexavalent Chromium @ Cr, mg/l				Chloride, mg/l	<1.0		
Copper, as Cu, mg/l	7.70			DOT's, mg/l	<1.0		
Iron, Total as Fe, mg/l		5850		Dioxin, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	<1.0		
Lead, as Pb, mg/l	21.5	0.04		Heptachlor, mg/l	<1.0		
Manganese, as Mn, mg/l				Linear, mg/l	<1.0		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Toxaphene, mg/l	<5.0		
Nickel, as Ni, mg/l	11.3			Parathion, mg/l	<1.0		
Selenium, as Se, mg/l	<0.07			2,4-D, mg/l			
Silver, as Ag, mg/l	0.47			2,4,5,TP (Silver), mg/l			
Zinc, as Zn, mg/l	164.0			PCB's, mg/l	<1.0		
				C-56	<1.0		
				Solvents	<1.0%		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	<2					

ATW-42 (Rev. 11-4-88)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation is made concerning sample validity or analytical accuracy or completeness. No warranty is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLING

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEAN AFTER EACH USE (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1435
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X 3-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1435
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

MINNEAPOLIS, MN

SOURCE: ENC SITE: CD1

SOIL SAMPLE/X3.-3-12

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

Cashen

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	97.49%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Filtrate Point, P ¹	7.212			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	43.85%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub., gH ₂ O/m ³ g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.07						
Barium, as Ba, mg/l	5.01						
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	1.18	<0.01					
Chromium, Total, as Cr, mg/l	8.85	<0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	0.91			Chlordane, mg/l	<1.0		
Iron, Total, as Fe, mg/l	6500			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	16.4	0.05		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	10.7			Toxaphene, mg/l	<5.0		
Barium, as Ba, mg/l	<0.107			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.04			2, 4, D, mg/l			
Zinc, as Zn, mg/l	11.5			2, 4, 5, TP (Bases), mg/l			
				PCB's, mg/l	<1.0		
				C-56	<1.0		
				PAH's	<1.0%		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2						

Form 100-2 (Rev. 11-4-88)
CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KLOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1435
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X2-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2-3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84 1435
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: *Mark Henke*

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: *Mark Hill*

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-3-24

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. Caskey

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 9.2						
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l	95.68%			Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, P°	>212						
Ash Content, on ignition	95.14%			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
*Acid Scrub., gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Aluminum, as Al, mg/l	0.20						
Barium, as Ba, mg/l	10.7						
Boron, as B, mg/l				Ox and Gross, mg/l			
Cadmium, as Cd, mg/l	1.66	<0.01					
Chromium, Total as Cr, mg/l	0.93	<0.01					
Hexavalent Chromium @ Cr, mg/l				Alum, mg/l	<1.0		
Copper, as Cu, mg/l	9.92			Chloroform, mg/l	<1.0		
Iron, Total as Fe, mg/l	7590			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<1.0		
Lead, as Pb, mg/l	21.7	0.04		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linoleic, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	17.2			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.14			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.73			2,4-D, mg/l			
Zinc, as Zn, mg/l	12.8			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<1.0		
				C-76	<1.0		
				Solvents	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED <2						

817-01 Rev. 11-4-88
CWM WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X3-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84 1445
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-4-0

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Casper

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	78.13%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	76.85%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gmsOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	2.50						
Barium, as Ba, mg/l	83.8						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	2.00	<0.01					
Chromium, Total, as Cr, mg/l	48.7	0.02					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	64.9			Chlordane, mg/l	<1.0		
Iron, Total, as Fe, mg/l	11700			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	48.3	0.08		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linear, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0363			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	15.0			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.06			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.85			2,4-D, mg/l			
Zinc, as Zn, mg/l	1081			2,4,5-TP (Sibers), mg/l			
				PCB's, mg/l	0.5		
				C-56	<1.0		
Bismuth, as Bi, mg/l				SOVENTS	<1.0%		
Carbon, as C, mg/l							
Chlorine, as Cl, mg/l							
Fluorine, as F, mg/l							
Mercury, as Hg, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	<2					

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X3-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 0-1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: BAGS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1445
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-4-12

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<10		
COD, mg/l				Cyanides, as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	91.22%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	41.82%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. (pH 4.0) mg				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	0.19						
Boron, as B, mg/l	22.0						
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	0.86						
Chromium, Total, as Cr, mg/l	10.82	<0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	4.09			Chlordane, mg/l	<1.0		
Iron, Total, as Fe, mg/l	4790			DDE's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	13.0	0.05		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nitrate, as NO ₃ , mg/l	11.5			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.07			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.30			2,4-D, mg/l			
Zinc, as Zn, mg/l	12.8			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<1.0		
				C-56	<1.0		
Boronates, as HCO ₃ , mg/l				SOLVENTS	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2					

NIROP-2 Rev. 11-4-88
CHEMICAL WASTE MANAGEMENT, INC.

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KILBANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X3-4-84
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2 - 1PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1445
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-4-24
PROFILE SHEET CODE

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.3						
Acidity, % ac							
Alkalinity, % ac				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	93.21%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, °F	7.212						
Ash Content, on ignition	93.01%			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." @NaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	1.60						
Barium, as Ba, mg/l	6.24						
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	1.01	<0.01					
Chromium, Total as Cr, mg/l	13.1	<0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	10.6			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	4570.			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	14.8	0.04		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0057			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	12.3			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.016			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.42			2,4-D, mg/l			
Zinc, as Zn, mg/l	28.4			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	<1.0		
				C-576	<1.0		
				Solvents	<1.0%		
Barium, as Ba, mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<0					

3817-10-02 Rev. 11-4-88
CHEMICAL WASTE MANAGEMENT, INC.

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.

150 W. 137th ST

RIVERDALE, IL 60427

ATTN: JACK KALOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
NO DRUMS WERE FOUND
X-3-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTR
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1500
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

NAME: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-5-0

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

J. Chalkley

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity, % as				Phenols, mg/l	25		
Alkalinity, % as				Chlorides as Cl, Total, mg/l	210		
COD, mg/l				Chlorides as Cl, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	79.83%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	>210			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	77.34%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Soluble, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. gHCO ₃ /g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	0.51						
Barium, as Ba, mg/l	50.7			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	2.06	<0.01					
Chromium, Total as Cr, mg/l	25.3	0.01					
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<1.0		
Cobalt, as Co, mg/l	16.7			Chloroform, mg/l	<1.0		
Iron, Total as Fe, mg/l	9150.			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	44.7	0.07		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Linear, mg/l	<1.0		
Mercury, as Hg, mg/l	0.014			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	15.3			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.28			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	1.36			2,4-D, mg/l			
Zinc, as Zn, mg/l	103.			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	2.5		
				C-56	<1.0		
				Solvents	<1.0%		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2					

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-6-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X 3-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT 2 - 1 PT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1500
 PROFILE SHEET CODE: A 88619
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

NIROP
MINNEAPOLIS, MN
SOURCE: ENC SITE: CD1
SOIL SAMPLE/X3-5-12

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	9.2						
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	9178%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	90.61%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." (pH/CM/g)				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Aluminum, as Al, mg/l	<0.07						
Barium, as Ba, mg/l	21.2			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	0.95						
Chromium, Total, as Cr, mg/l	6.88	<0.01					
Hexavalent Chromium @ Cr, mg/l				Arsenic, mg/l	<1.0		
Copper, as Cu, mg/l	5.67			Chloroform, mg/l	<1.0		
Iron, Total, as Fe, mg/l	3690			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	12.4	0.03		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	9.20			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.07			Permethrin, mg/l	<10.0		
Silver, as Ag, mg/l	0.31			2,4-D, mg/l			
Zinc, as Zn, mg/l	10.2			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	8.2		
				C-56	<1.0		
				Solvents	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2					

Form 42 Rev. 11-4-83
CWWM Waste Management, Inc.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

10-0-24

WASTE PROFILE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLEPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE).

- HOUR AND DATE OF SAMPLING: 1-6-84 1500
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #8
NO DRUMS WERE FOUND
X.3-5-24
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 2-3 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT 2-1P.
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84 1500
PROFILE SHEET CODE: A 88610
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-6-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

TEST	As Received	GC/Leachate	ANALYST INITIALS	TEST	As Received	Leachate	ANALYST INITIALS
Specific Gravity							
pH 10% SOLUTION	9.1						
Acidity, % as							
Alkalinity, % as				Phenol, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	84.54%						
Total Dissolved Solids, mg/l				Nitrogen Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen as N, mg/l			
Flash Point, °F	>212						
Ash Content, on ignition	88.09%			Total Alkalinity (P) as CaCO ₃ , mg/l			
Insoluble Voids, BTU/lb				Total Alkalinity (M) as CaCO ₃ , mg/l			
*Acid Soluble, gms/cm ³				Total Hardness as CaCO ₃ , mg/l			
				Calcium Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness as CaCO ₃ , mg/l			
Barium as Br, mg/l	0.29						
Barium as Br, mg/l	26.8			Oil and Grease, mg/l			
Calcium as Ca, mg/l	1.46	<0.01					
Chromium, Total as Cr, mg/l	10.3	<0.01					
Hexavalent Chromium @ Cr, mg/l				Alumina, mg/l	<10		
Copper as Cu, mg/l	12.8			Chlorides, mg/l	<10		
Iron, Total as Fe, mg/l	5810			DDTs, mg/l	<10		
Iron, dissolved as Fe, mg/l				Dioxin, mg/l	<10		
Lead as Pb, mg/l	36.0	0.06		Endrin, mg/l	<10		
Manganese as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium as Mg, mg/l				Linear, mg/l	<10		
Mercury as Hg, mg/l	0.0101			Methoxychlor, mg/l	<10		
Nickel as Ni, mg/l	12.6			Toxaphene, mg/l	<10		
Selenium as Se, mg/l	<0.06			Permethrin, mg/l	<10		
Silver as Ag, mg/l	0.55			2,4-D, mg/l			
Zinc as Zn, mg/l	19.2			2,4,5-TP (Saves), mg/l			
				PCB's, mg/l	2A		
				C-56	<10		
				Silver...	<10%		
Boronness as HCO ₃ , mg/l							
Carbonness as CO ₂ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED						

W-700-02 (Rev. 11-0-85)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

	A 88611
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WASTE PROFILE SHEET CODE



GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary for our purposes and yours. Be complete in your answers; if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: _____

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY): _____

3. COMPANY CONTACTS:

GENERAL _____	TITLE _____	PHONE _____
_____	TITLE _____	PHONE _____
TECHNICAL _____	TITLE _____	PHONE _____
_____	TITLE _____	PHONE _____

4. WASTE NAME: _____

5. PROCESS GENERATING WASTE: _____

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED NONE

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
POWDER OTHER: _____

C. SOLIDS: TOTAL (%): _____ TOTAL DISSOLVED (ppm or %): _____

D. SPECIFIC WEIGHT (AS # PER UNIT): _____

E. pH: _____ (Show the following as range of %)

AS: H ₂ SO ₄ _____ %	H ₃ PO ₄ _____ %
HCl _____ %	NaOH _____ %
HF _____ %	NH ₄ OH _____ %
HNO ₃ _____ %	Ca(OH) ₂ _____ %
OTHER: _____ %	_____ %
_____ %	_____ %

F. FLASH POINT: _____ °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): _____

H. BTU PER #: _____ ASH CONTENT _____ %

I. CHARACTERISTIC COLOR _____ DISTINCTIVE ODOR _____

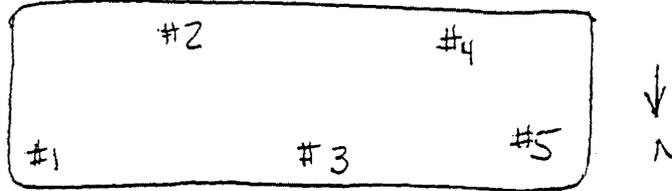
J. HALOGENATED? _____ % SULFONATED? _____ %

K. ALPHA RADIATION AS pCi/l: _____

1-6-84

Drums were found in T-#3 and contaminated dirt stockpiled separately from the overburden. On 1-6-84 COE rep Mark Koenig gave approval to conduct the 5 pt-15 sample procedure since it was felt that virgin soil had been reached.

Key:



Samples sent to Tech Center - via Fed X on 1-6-84

X3-1-0		Sand
X3-1-12	1415	Sand
X3-1-24		Sand w/ much gravel - rock
X3-2-0		Sand w/ much gravel
X3-2-12	1425	Sand
X3-2-24		Sand
X3-3-0		Sand
X3-3-12	1435	Sand
X3-3-24		Gravel
X3-4-0		Sand & Gravel
X3-4-12	1445	Sand
X3-4-24		Sand
X3-5-0		Sand
X3-5-12	1500	Sand
X3-5-24		Sand w/ clay



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W 137th Street
Riverdale Illinois 60627
312/841-8600

JAN. 17, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
-------------------	--------------------	-------------

TRENCH # 5 per sample sources. DOCUMENT

Very Truly Yours,
Dean Ramsey

cc. JACUCCOSTELLO w/o attach
NIROP FILE w attach
TRC FILE w attach

As PER PROPOSAL

Parameters: RCRA _____

Priority Pollutants _____

IEPA _____

Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

DEWELL

CHEMICAL WASTE MGMT

157 WILSON 13744 ST

RIVERSIDE IL (666:27)

ATTN:

JACK KALODANIS - LAB

SAMPLE INVENTORY AND MASTER PACKING LIST

EX	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL		
			X	5	-	1	-	0									
			X	5	-	1	-	12									
			X	5	-	1	-	24									
			X	5	-	2	-	0									
			X	5	-	2	-	12									
			X	5	-	2	-	24									
			X	5	-	3	-	0									
			X	5	-	3	-	12									
			X	5	-	3	-	24									
		TOTALS															

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark [Signature] 1-4-84 0930

Signature X [Signature] Date and Time 1-4-84 0935

Signature _____ (OVER) Date and Time _____

SALES	CODE
	A 88607

WASTE PROFILE SHEET CODE



Trench #5
(Ex #5)
GENERATOR'S WASTE MATERIAL PROFILE SHEET

GENERAL DIRECTIONS: In order for us to determine whether we can lawfully, safely and environmentally transport, store, treat or dispose of your waste stream, we must ask certain information about your waste. All of the information we seek is necessary for our purposes and yours. Be complete in your answers; if your response is "none," so indicate. Answers must be in ink or typewritten. Information you provide will be maintained in strictest confidence. Please make a copy of this form for your records, returning the original to the location indicated below.

THIS FORM AND ANY SUPPLEMENTAL INFORMATION SHOULD BE RETURNED TO:

1. GENERATOR NAME: _____

2. GENERATING FACILITY NAME/ADDRESS/USEPA FACILITY I.D. NUMBER (IF ANY): _____

3. COMPANY CONTACTS:

GENERAL _____	TITLE _____	PHONE _____
_____	TITLE _____	PHONE _____
TECHNICAL _____	TITLE _____	PHONE _____
_____	TITLE _____	PHONE _____

4. WASTE NAME: _____

5. PROCESS GENERATING WASTE: _____

6. WASTE CHARACTERISTICS:

A. PHASES/LAYERS: BILAYERED MULTILAYERED NONE

B. PHYSICAL STATE AT 70°F: SOLID SEMI-SOLID LIQUID
 POWDER OTHER: _____

C. SOLIDS: TOTAL (%): _____ TOTAL DISSOLVED (ppm or %): _____

D. SPECIFIC WEIGHT (AS # PER UNIT): _____

E. pH: _____ (Show the following as range of %)

AS: H ₂ SO ₄ _____ %	H ₃ PO ₄ _____ %
HCl _____ %	NaOH _____ %
HF _____ %	NH ₄ OH _____ %
HNO ₃ _____ %	Ca(OH) ₂ _____ %
OTHER: _____ %	_____ %
_____ %	_____ %

F. FLASH POINT: _____ °F (CLOSED CUP TEST ONLY)

G. VAPOR PRESSURE (in mm of Hg at 25°C): _____

BTU PER #: _____ ASH CONTENT _____

I. CHARACTERISTIC COLOR _____ DISTINCTIVE ODOR _____

J. HALOGENATED? _____ % SULFONATED? _____

K. ALPHA RADIATION AS pCi/l: _____

X5-1-0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WASH USE (DON'T WASHY GEAR, WASH RINSE, ACTONIC RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-4-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-4-84 1000</u>
PROFILE SHEET CODE: <u>A 88607</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-4-84

WITNESS: LARRY BELL
SIGNATURE: Larry Bell
TITLE: FIELD AIR TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON.

3304 PROFILE: NRFAS8607 01/05/8
 NIRDOP
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRF
 SOIL SAMPLE/X5-1-0

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Carlson

Test	As Received	LABORATORY	Analyst Initials	Test	As Received	LABORATORY	Analyst Initials
Specific Gravity							
on 10% SOLUTION	8.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides, as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	81.47%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	79.59%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Mercuric, as CaCO ₃ , mg/l			
"Acid Scrub," pH/cm/s				Calcium Mercuric, as CaCO ₃ , mg/l			
				Magnesium Mercuric, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4.54		✓				
Barium, as Ba, mg/l	51.4		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	267	< 0.01	✓				
Chromium, Total as Cr, mg/l	14.16	< 0.01	✓				
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 1.0		
Copper, as Cu, mg/l	14.16		✓	Chlordane, mg/l	< 1.0		
Iron, Total as Fe, mg/l	4920			DDTs, mg/l	< 1.0		
Iron, dissolved, as Fe, mg/l				Dibrom, mg/l	< 1.0		
Lead, as Pb, mg/l	47.1	0.03	✓	Endrin, mg/l	< 1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 1.0		
Mercury, as Hg, mg/l	0.0157		✓	Methoxychlor, mg/l	< 1.0		
Nickel, as Ni, mg/l	19.2		✓	Toxaphene, mg/l	< 5.0		
Selenium, as Se, mg/l	0.06			Parathion, mg/l	< 1.0		
Silver, as Ag, mg/l	0.80			2,4-D, mg/l	=		
Zinc, as Zn, mg/l	24.0		✓	2,4,5-TP (Sorex), mg/l	=		
				PCE's, mg/l	< 1.0		
				M-EL	< 1.0		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				SOLVENTS	< 1.0%		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	< 2.0					

Form 10-86 (Rev. 11-4-85)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is made.

17-11-86

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-4-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DROMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED). AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0 17" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - FMC
 SAMPLE HOUR/DATE: 1-4-84 1000
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Jessie Bell

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE

1. HOUR AND DATE OF SAMPLING: 1-4-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 Liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-4-84 1000</u>
PROFILE SHEET CODE: <u>A 88607</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Harvey Dele

EMPLOYER: ENRAL

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAL

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> UNSPECIFIC FOR THE BEYOND NOTED REASON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

NIROP
BROOKLYN CENTER, MN
SOURCE: ENO SITE: NRP
SOIL SAMPLE/X5-1-24

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Carlson

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
PH <u>10% SOLUTION</u>	<u>4.3</u>						
Acidity, % as				Phenol, mg/l	<u><5</u>		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<u><10</u>		
COD, mg/l				Cyanides, as CN, Free, mg/l			
BOD, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Solids @ 102°C	<u>84.26%</u>			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°	<u>>212</u>			Total Hardness, as CaCO ₃ , mg/l			
Ash Content, on ignition	<u>83.70%</u>			Calcium Hardness, as CaCO ₃ , mg/l			
Moisture, % PTU/6				Magnesium Hardness, as CaCO ₃ , mg/l			
Oil Subst. gms/100g							
Arsenic, as AS, mg/l	<u>0.14</u>						
Barium, as Ba, mg/l	<u>20.3</u>			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<u>1.18</u>	<u><0.01</u>					
Chromium, Total as Cr, mg/l	<u>12.8</u>	<u><0.01</u>					
Hexavalent Chromium @ Cr, mg/l				Alumina, mg/l	<u><1.0</u>		
Copper, as Cu, mg/l	<u>8.57</u>			Chlorides, mg/l	<u><1.0</u>		
Iron, Total as Fe, mg/l	<u>643.0</u>			DOT's, mg/l	<u><1.0</u>		
Iron, dissolved, as Fe, mg/l				Dioxins, mg/l	<u><1.0</u>		
Lead, as Pb, mg/l	<u>20.5</u>	<u>0.03</u>		Endrin, mg/l	<u><1.0</u>		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<u><1.0</u>		
Magnesium, as Mg, mg/l				Lindane, mg/l	<u><1.0</u>		
Mercury, as Hg, mg/l	<u><0.05</u>			Methoxychlor, mg/l	<u><1.0</u>		
Nickel, as Ni, mg/l	<u>10.6</u>			Toxaphene, mg/l	<u><5.0</u>		
Selenium, as Se, mg/l	<u>0.14</u>			Permethrin, mg/l	<u><1.0</u>		
Silver, as Ag, mg/l	<u>0.72</u>			2, 4, D, mg/l	<u>-</u>		
Zinc, as Zn, mg/l	<u>17.4</u>			2, 4, 5, TP (Silver), mg/l	<u>-</u>		
				PCB's, mg/l	<u><1.0</u>		
				4-56	<u><1.0</u>		
				SOLVENTS	<u><1.0%</u>		
Boronates, as BO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	<u>DISSOLVED</u>	<u><2.0</u>					

This report has been prepared for the exclusive use and of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

X5-2-0

A 88607

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE

1. HOUR AND DATE OF SAMPLING: 1-4-84 1015
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 Liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROB, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-4-84 1015</u>
PROFILE SHEET CODE: <u>A 88607</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-4-84

WITNESS: _____
SIGNATURE: Garry Lee
TITLE: FIELD AIR TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

3300 PROFILE: NRFA28607 01/05/84
 NIRCIF
 BROOKLYN CENTER, MN
 SOURCE: END SITE: NRP
 SOIL SAMPLE/X5-2-0

DATE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
OR <u>10% SOLUTION</u>	<u>5.1</u>						
Acidity, % HCl							
Alkalinity, % NaOH				Phenols, mg/l	<u><5</u>		
COD, mg/l				Cyanides as CN, Total, mg/l	<u><10</u>		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	<u>93.30%</u>						
Total Dissolved Solids, mg/l				Nitrogen Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen as N, mg/l			
Flash Point, F°	<u>3212</u>			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	<u>81.73%</u>			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness as CaCO ₃ , mg/l			
Cl ⁻ Scrub. % NaOH/g				Calcium Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness as CaCO ₃ , mg/l			
Arsenic as AS, mg/l	<u>27.7</u>	<u><0.01</u>					
Barium as Ba, mg/l	<u>59.4</u>						
Boron as B, mg/l				Oil and Grease, mg/l			
Cadmium as Cd, mg/l	<u>2.91</u>	<u><0.01</u>					
Chromium, Total as Cr, mg/l	<u>16.4</u>	<u><0.01</u>					
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<u><1.0</u>		
Cobalt as Co, mg/l	<u>12.0</u>			Chloroform, mg/l	<u><1.0</u>		
Iron, Total as Fe, mg/l	<u>4230</u>			DDE's, mg/l	<u><1.0</u>		
Iron, dissolved as Fe, mg/l				Dioxin, mg/l	<u><1.0</u>		
Lead as Pb, mg/l	<u>46.3</u>	<u>0.02</u>		Endrin, mg/l	<u><1.0</u>		
Manganese as Mn, mg/l				Heptachlor, mg/l	<u><1.0</u>		
Magnesium as Mg, mg/l				Lindane, mg/l	<u><1.0</u>		
Mercury as Hg, mg/l	<u>0.0202</u>			Methoxychlor, mg/l	<u><1.0</u>		
Nickel as Ni, mg/l	<u>18.5</u>			Toxaphene, mg/l	<u><5.0</u>		
Selenium as Se, mg/l	<u><0.06</u>			Parathion, mg/l	<u><1.0</u>		
Silver as Ag, mg/l	<u>1.25</u>			2,4-D, mg/l	<u>-</u>		
Zinc as Zn, mg/l	<u>27.6</u>			2,4,5-TP (Silvex), mg/l	<u>-</u>		
				PCB's, mg/l	<u><1.0</u>		
				<u>1.516</u>	<u><1.0</u>		
Bicarbonates as HCO ₃ , mg/l				<u>Solvents</u>	<u><1.0%</u>		
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrates as NO ₃ , mg/l							
Nitrites as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Sulfides as S, mg/l DISSOLVED	<u><2.0</u>						

FORM 100-82 (Rev. 11-4-82)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Rinse 1 section waste, water rinse.

1. HOUR AND DATE OF SAMPLING: 1-4-84 1015
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 1" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-4-84 1015
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Jenny Bell

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

3301 PROFILE. NRF A98607 01/13/84
 NIROP
 BROOKLYN CENTER, MN
 SOURCE: END SITE: NRF
 SOIL SAMPLE/X5-2-12

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Carlson

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10.76 SOLUTION	8.6					
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<1.0		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	85.67%			Nitrogen, Ammonia as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fish Point, P ¹	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	44.91%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Volung Value, BTU/lb				Total Hardness, as CaCO ₃ , VI			
acid Scrub. gms/CH ₂				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	2.57						
Barium, as BA, mg/l	78.2						
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	1.63	<0.01					
Chromium, Total as Cr, mg/l	16.2	<0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	8.24			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	18200			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	25.4	0.02		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.05			Methoxychlor, mg/l	<1.0		
MOX, as Mo, mg/l	10.9			Toxaphene, mg/l	<1.0		
Selenium, as Se, mg/l	0.15			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.128			2,4-D, mg/l	~		
Zinc, as Zn, mg/l	17.9			2,4,5-TP (Silvex), mg/l	~		
				PCB's, mg/l	<1.0		
				0.56	<1.0		
				5.1101%	<1.0%		
Bicarbonates as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfates as S, mg/l	DISSOLVED	42.0					

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

X5-2-24
CERTIFICATION OF REPRESENTATIVE SAMPLE

WASTE PROFILE SHEET CODE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE

1. HOUR AND DATE OF SAMPLING: 1-4-84 1015
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-4-84 1015
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: James Bell

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

3295 PROFILE: NRP/A88607 01/05/84
 NROF
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRP
 SOIL SAMPLE/X5-2-24

PI FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Carlin

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 9.1						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
C.O.D., mg/l				Cyanides as CN, Total, mg/l	<1.0		
B.O.D., mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	26.912			Nitrogen, Ammonia as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	221.2			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	80.278			Total Alk: ty (M), as CaCO ₃ , mg/l			
10mg Vials, BTU/lb				Total Me: Δ, as CaCO ₃ , mg/l			
mg Scrub, gmsOH/g				Calcium hardness, as CaCO ₃ , mg/l			
				Magnesium hardness, as CaCO ₃ , mg/l			
Arsenic as AS, mg/l	<0.06						
Barium as Ba, mg/l	14.7			Oil and Grease, mg/l			
Boron as B, mg/l							
Calcium as Ca, mg/l	1.10	<0.01					
Chromium, Total as Cr, mg/l	10.5	<0.01					
hexavalent Chromium @ Cr, mg/l				Alone, mg/l	<1.0		
Copper as Cu, mg/l	7.22			Chlorides, mg/l	<1.0		
Iron, Total as Fe, mg/l	5.77			DDT, mg/l	<1.0		
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead as Pb, mg/l	19.9	0.03		Endrin, mg/l	<1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel as Ni, mg/l	10.1			Toxaphene, mg/l	<5.0		
Selenium as Se, mg/l	0.23			Permethrin, mg/l	<1.0		
Silver as Ag, mg/l	0.59			2,4-D, mg/l	=		
Zinc as Zn, mg/l	15.6			2,4,5-TP (Sawee), mg/l	=		
				PCB's, mg/l	<1.0		
				C-56	<1.0		
Bicarbonates as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				Solvents	<1.0%		
Chlorides as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED < 2.0						

10-2-0
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-4-84 10:30
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 1-4-84 1030
PROFILE SHEET CODE: A 88607
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS:

TITLE: CHEMIST

SIGNATURE: Thomas Lee

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FICLA AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cooper

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 9.0						
Acidity % as							
Alkalinity % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 1.0		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	88.64%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	87.97%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness as CaCO ₃ , mg/l			
Acid Solub. (pH 4.0)/%				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic as As, mg/l	0.58						
Barium as Ba, mg/l	50.2						
Boron as B, mg/l				Oil and Grease, mg/l			
Calcium as Ca, mg/l	0.96						
Chromium, Total as Cr, mg/l	13.1	< 0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 1.0		
Copper as Cu, mg/l	8.21			Chlordane, mg/l	< 1.0		
Iron, Total as Fe, mg/l	7488			DDT's, mg/l	< 1.0		
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	< 1.0		
Lead as Pb, mg/l	19.2	0.02		Endrin, mg/l	< 1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium as Mg, mg/l				Linear, mg/l	< 1.0		
Mercury as Hg, mg/l	< 0.005			Methoxychlor, mg/l	< 1.0		
Nickel as Ni, mg/l	8.06			Toxaphene, mg/l	< 5.0		
Selenium as Se, mg/l	< 0.06			Parathion, mg/l	< 1.0		
Silver as Ag, mg/l	0.52			2,4-D, mg/l	-		
Zinc as Zn, mg/l	16.6			2,4,5-TP (Silver), mg/l	-		
				PCB's, mg/l	< 1.0		
				C-56	< 1.0		
				SOLUTION	< 1.0%		
Bicarbonates as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chloride as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED < 2.1						

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-4-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED). AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-4-84 1030
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Harry Bell

EMPLOYER: ENRAL

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN
 EMPLOYER: ENRAL
 DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSPECIFIED FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

NRROP
 BROOKLYN CENTER, MN
 SOURCE: END SITE: NRP
 SOIL SAMPLE/X5-3-12

PROF. PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cooper

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	5.6						
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
CDE, mg/l				Cyanides as CN, Total, mg/l	<10		
BOD ₅ , mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	24.7%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Fish Point P ¹	>2/2			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	83.7%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
10 Solub. pH=OH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	0.81						
Barium, as Ba, mg/l	245						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.61	<0.01					
Chromium, Total, as Cr, mg/l	14.7	<0.01					
Hexavalent Chromium @ Cr, mg/l				Alion, mg/l	<1.0		
Cobalt, as Co, mg/l	4.51			Chloride, mg/l	<1.0		
Iron, Total, as Fe, mg/l	10400			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	29.8	0.02		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	11.2			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.25			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	1.02			2,4-D, mg/l			
Zinc, as Zn, mg/l	2112			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<1.0		
Boronates, as HCO ₃ , mg/l				Solvents	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Urea, as SC ₂ , mg/l							
Sulfate, as S, mg/l	DISSOLVED	<2.0					

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

X5-3-24

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLONIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Rinse, Acetone Rinse, Water Rinse

1. HOUR AND DATE OF SAMPLING: 1-4-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 1-4-84 1030
PROFILE SHEET CODE: A 88607
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: _____
SIGNATURE: Henry Bell
TITLE: FIELD AIR TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-4-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS: ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

BROOKLYN CENTER, MN
 SOURCE: END SITE: NRF
 SOIL SAMPLE/X5-3-24

LABORATORY: _____

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Caskey

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 8.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<1.0		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	40.16%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	89.64%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Harding Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* Seebach, pH/DM				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	1.18						
Barium, as Ba, mg/l	15.5			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	1.56						
Chromium, Total as Cr, mg/l	14.7						
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	9.15			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	6560			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	24.9	0.02		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	11.8			Toxaphene, mg/l	<1.0		
Selenium, as Se, mg/l	0.24			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.42			2,4-D, mg/l			
Zinc, as Zn, mg/l	17.4			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	<1.0		
				p-56	<1.0		
Boronates, as BCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				SOLVENTS	<1.0%		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Urea, as SC ₂ , mg/l							
Urea, as S, mg/l	DISSOLVED <1.0						

X5-4-0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE, ACETONE R. E, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-4-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TA : (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-4-84 1045</u>
PROFILE SHEET CODE: <u>A 8860.7</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Gary Bell

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

NIROF
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRP
 SOIL SAMPLE/X5-4-0

LABORATORY: Chemical Waste Management

PF FILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Carlson

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10.40 SOLUTION	8.5					
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
C.O.D., mg/l				Cyanides, as CN, Total, mg/l	<1.0		
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	810.45%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fish Pot. #1	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	86.45%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
acid Solub. % gHClO ₄ /g				Calcium hardness, as CaCO ₃ , mg/l			
				Magnesium hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	6.20						
Barium, as Ba, mg/l	549			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	1.24	<0.01					
Chromium, Total, as Cr, mg/l	12.5	<0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	15.6			Chlordane, mg/l	<1.0		
Iron, Total, as Fe, mg/l	4120			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	21.1	0.05		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	9.83			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.07			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.77			2,4-D, mg/l	-		
Zinc, as Zn, mg/l	21.1			2,4,5-TP (Silver), mg/l	-		
				PCB's, mg/l	<1.0		
				C-510	<1.0		
				SOLVENTS	<1.0%		
Boronates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2.7					

Form 100-4 (Rev. 11-4-88)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Rinse, Acetone Rinse, Water Rinse.

1. HOUR AND DATE OF SAMPLING: 1-4-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - FMC
 SAMPLE HOUR/DATE: 1-4-84 1045
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Tommy Bell

EMPLOYER: ENRAC

TITLE: FIELD AIR TECHNICIAN

DATE: 1-4-84

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

3294 PROFILE: NRPAB8607 01/05/84
 NIROF
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRP
 SOIL SAMPLE: X5-4-12

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cashen

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH 10% SOLUTION	8.8						
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides as CN, Total, mg/l	<10		
C.O.D., mg/l				Cyanides as CN, Free, mg/l			
B.O.D., mg/l				Nitrogen, Ammonia as N, mg/l			
Total Solids @ 105°C	81.35%			Nitrogen, Organic as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, °F	>212			Total Hardness as CaCO ₃ , mg/l			
Ash Content, on ignition	86.5%			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gNaOH/g				Oil and Grease, mg/l			
Arsenic as As, mg/l	0.12			Align, mg/l	<1.0		
Barium as Ba, mg/l	21.7			Chlorane, mg/l	<1.0		
Boron as B, mg/l				DDTs, mg/l	<1.0		
Calcium as Ca, mg/l	1.18	<0.01		Dieldrin, mg/l	<1.0		
Chromium, Total as Cr, mg/l	12.0	<0.01		Endrin, mg/l	<1.0		
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<1.0		
Copper as Cu, mg/l	7.69			Lindane, mg/l	<1.0		
Iron, Total as Fe, mg/l	1420			Methoxychlor, mg/l	<1.0		
Iron, Dissolved as Fe, mg/l				Toxaphene, mg/l	<5.0		
Lead as Pb, mg/l	20.8	0.04		Permethrin, mg/l	<1.0		
Manganese as Mn, mg/l				2,4-D, mg/l	-		
Magnesium as Mg, mg/l				2,4,5-TP (Sisox), mg/l	-		
Mercury as Hg, mg/l	<0.005			PCBs, mg/l	<1.0		
Nickel as Ni, mg/l	10.1			0-Sis	<1.0		
Selenium as Se, mg/l	0.12			SOLVENTS	<1.0%		
Silver as Ag, mg/l	0.74						
Zinc as Zn, mg/l	18.1						
Bicarbonates as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrates as NO ₃ , mg/l							
Nitrites as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Sulfides as S, mg/l	DISSOLVED	<2.0					

This report has been prepared for the exclusive use and of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is made by the person receiving this report.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

3290 PROFILE: NRPA89607 01/05/89
 NIROP
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRF
 SOIL SAMPLE/X5-4-24

FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Walker

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 8.4						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	89.14%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, °F	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	58.54%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Soluble, %				Total Hardness as CaCO ₃ , mg/l			
Acid Solub. %				Calcium Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness as CaCO ₃ , mg/l			
Arsenic as AS, mg/l	0.77						
Barium as Ba, mg/l	8.28			Oil and Grease, mg/l			
Boron as B, mg/l							
Cadmium, as Cd, mg/l	0.90						
Chromium, Total as Cr, mg/l	10.5	< 0.01					
Hexavalent Chromium as Cr, mg/l				Alom, mg/l	< 1.0		
Copper, as Cu, mg/l	12.57			Chloroform, mg/l	< 1.0		
Iron, Total as Fe, mg/l	4710			DDT's, mg/l	< 1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	< 1.0		
Lead, as Pb, mg/l	14.3	0.03		Endrin, mg/l	< 1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Linear, mg/l	< 1.0		
Mercury, as Hg, mg/l	0.0121			Methoxychlor, mg/l	< 1.0		
Nickel as Ni, mg/l	8.43			Toxaphene, mg/l	< 5.0		
Selenium, as Se, mg/l	0.10			Parathion, mg/l	< 1.0		
Silver, as Ag, mg/l	0.44			2,4-D, mg/l	—		
Zinc as Zn, mg/l	13.4			2,4,5-TP (Silent), mg/l	—		
				PCB's, mg/l	< 1.0		
				11-56	< 1.0		
Boronates as BCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				SOLVENTS	< 1.0%		
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrates as NO ₃ , mg/l							
Nitrites as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Sulfides as S, mg/l	DISSOLVED	< 2.0					

This report has been prepared for the exclusive use and bene of Chemical Waste Management. No representati concerning sample validity or analytical accuracy or completent

10721

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-4-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

RINSE, ACETONE RINSE, WATER RINSE

GENERATOR: NIROP, CWM - FMC
SAMPLE HOUR/DATE: 1-4-84 1045
PROFILE SHEET CODE: A 88607
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE RE: Mary Bell

EMPLOYER: ENRAC

DATE: 1-4-84

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

3290 PROFILE: NRP/AB8607 01/05/84
 NIROP
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRP
 SOIL SAMPLE/X5-4-24

FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. Carlson

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 8.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
C O D, mg/l				Cyanides, as CN, Total, mg/l	<1.0		
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	89.14%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fish Point, P1	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	88.54%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Hardness Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. @ 180°C				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	0.77						
Barium, as Ba, mg/l	8.2X						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	0.90						
Chromium, Total as Cr, mg/l	10.5	<0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	12.57			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	4710			DDT, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	14.3	0.03		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0121			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	8.42			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	12.10			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.44			2,4-D, mg/l	-		
Zinc, as Zn, mg/l	13.4			2,4,5-TP (Silver), mg/l	-		
				PCB's, mg/l	<1.0		
				11-516	<1.0		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Sulfonamido	<1.0%		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrites, as NO ₂ , mg/l							
Nitrates, as NO ₃ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2.0					

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Waste, Accidents, Spills, Water, Air, Noise

1. HOUR AND DATE OF SAMPLING: 1-4-84 1100
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED). AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0" 12" 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 L
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - FMC
 SAMPLE HOUR/DATE: 1-4-84 1100
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Nancy Bell

EMPLOYER: ENRAL

TITLE: FIELD AIR TECHNICIAN

DATE: 1-4-84

EMPLOYER: ENRAL

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

NIROF
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRF
 SOIL SAMPLE/X5-5-12

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: J. Caskey

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10.0 SOLUTION	9.0					
Acidity, % ss							
Alkalinity, % ss				Phenols, mg/l	<5		
C.O.D., mg/l				Cyanides, as CN, Total, mg/l	<10		
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	85.40%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	84.50%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Phos. as CaCO ₃ , mg/l			
d Scrub. gNaOH/g				Calc. Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.06						
Barium, as Ba, mg/l	21.5						
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	0.97						
Chromium, Total as Cr, mg/l	9.94	<0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	8.44			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	6290			DDTs, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	18.5	0.02		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	7.98			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	0.13			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	11.72			2, 4, D, mg/l	—		
Zinc, as Zn, mg/l	162.3			2, 4, D, TP (Silver), mg/l	—		
				PCB's, mg/l	<1.0		
				11-56	<1.0		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Solvents	<1.0%		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<0.0					

FORM WMS-82 (Rev. 11-4-88)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

RINSE! ACETONE RINSE, WATER RINSE!

1. HOUR AND DATE OF SAMPLING: 1-4-84 1100
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LIT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-4-84 1100
 PROFILE SHEET CODE: A 88607
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Harry Bell

EMPLOYER: ENRAC

TITLE: FIELD AIR TECHNICIAN

DATE: 1-4-84

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON # 30 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-1-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	7.1						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C O D, mg/l				Cyanides, as CN, Free, mg/l	1159		
B O D, mg/l				Nitrogen, Ammonia, as N, mg/l			
X Total Solids @ 105°C	46.6			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
X Ash Content, on ignition	46.2			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Oil and Grease, mg/l			
<i>Asbestos multiply direct</i>							
Arsenic, as As, mg/l	24.0		OK	Alorin, mg/l	<2		OK
Barium, as Ba, mg/l				Chlordane, mg/l	24		OK
Boron, as B, mg/l				DDT's, mg/l	2.4		OK
Cadmium, as Cd, mg/l	<0.4		OK	Dieldrin, mg/l	<2		OK
Chromium, Total as Cr, mg/l				Endrin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<2		OK
Copper, as Cu, mg/l	2.8			Lindane, mg/l	<2		
Iron, Total as Fe, mg/l				Methoxychlor, mg/l	<10		OK
Iron, dissolved as Fe, mg/l				Toxaphene, mg/l	<50		OK
Lead, as Pb, mg/l	<10		OK	Parathion, mg/l	<50		
Manganese, as Mn, mg/l				2, 4, D, mg/l			
Magnesium, as Mg, mg/l				2, 4, 5, TP (Silvex), mg/l			
Mercury, as Hg, mg/l	<0.1		OK	PCB's, mg/l	77	X	OK
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l	<2						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	61.4						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				Industrial Solvents	20.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
X Sulfides, as S, mg/l	100						

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #15
NO DRUMS WERE FOUND.
X15-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (A 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH.

EMPLOYER: ENRAC

DATE: 1-9-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON # 80 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-2-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	NRG		
* Total Solids @ 105°C	83.4						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	79.1			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* "Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metalic molybdenum</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	24.4		OK				
Barium as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	22		OK
Copper, as Cu, mg/l	27			Chlordane, mg/l	220		OK
Iron, Total as Fe, mg/l				DDT's, mg/l	120		?
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	22		
Lead, as Pb, mg/l	20		OK	Endrin, mg/l	22		OK
Manganese, as Mn, mg/l				Heptachlor, mg/l	22		OK
Magnesium, as Mg, mg/l				Lindane, mg/l	22		
Mercury, as Hg, mg/l	<0.2		OK	Methoxychlor, mg/l	<10		OK
Nickel, as Ni, mg/l				Toxaphene, mg/l	<50		OK
Selenium, as Se, mg/l	<2			Parathion, mg/l	<50		
Silver, as Ag, mg/l	<1			2,4-D, mg/l	—		
Zinc, as Zn, mg/l	20			2,4,5-TP (Silvex), mg/l	—		
				PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>Industrial Solvents</i>	25.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NRG						

X15-2-12 INTER POLE - 82

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERSIDE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
No DRUMS WERE FOUND
X15-2-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOPES, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

1/16" (1/2" MAX) WAS CLEANED BY SOAP & WATER RINSE! ACETONE RINSE, WATER RINSE!

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

SIGNATURE: Mark Hill

TITLE: FIELD TECH
EMPLOYER: ENRAC
1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

X15-2 -24 | " 83^E |

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERSIDE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

MARK HILL WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-2-24
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0" 12" 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

X 15-3-0 " 84 "

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0, 12, 24").
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WAS CLEANED BY SOAP & WATER
RINSE, ACETON RINSE, WATER
RINSE.

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 824 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-30

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	8.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	145		
X Total Solids @ 105°C	87.0						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	88.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metal, mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	24.5		OK				
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<2		OK
Copper, as Cu, mg/l	5.8			Chlordane, mg/l	<20		OK
Iron, Total as Fe, mg/l				DDT's, mg/l	9.0		OK
Iron, Dissolved as Fe, mg/l				Dieldrin, mg/l	<2		OK
Lead, as Pb, mg/l	<10		OK	Endrin, mg/l	<2		OK
Manganese, as Mn, mg/l				Heptachlor, mg/l	<2		OK
Magnesium, as Mg, mg/l				Lindane, mg/l	<2		
Mercury, as Hg, mg/l	<0.4		OK	Methoxychlor, mg/l	<10		OK
Nickel, as Ni, mg/l				Toxaphene, mg/l	<50		OK
Selenium, as Se, mg/l	<2			Parathion, mg/l	<50		
Silver, as Ag, mg/l	<1			2,4, D, mg/l			
Zinc, as Zn, mg/l	18			2,4,5, TP (Silver), mg/l			
				PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>Inductorium Solvent</i>	2.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
X Sulfides, as S, mg/l	14.3						

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 601627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WIPER EACH SAMPLING THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #15
NO DRUMS WERE FOUND.
X15-3-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (6" 12" 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2-1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSUITS FOR THE REASONS NOTED BELOW.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 95 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-3-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	8.1						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
B.O.D., mg/l							
* Total Solids @ 105°C	91.5			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	90.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>196 to 5 mg/kg chrysol</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	< 3.8		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	< 0.4		OK	Aldrin, mg/l	22		OK
Chromium, Total as Cr, mg/l				Chlordane, mg/l	22		OK
Hexavalent Chromium @ Cr, mg/l				DDT's, mg/l	7.7		OK
Copper, as Cu, mg/l	3.8			Dieldrin, mg/l	22		OK
Iron, Total as Fe, mg/l				Endrin, mg/l	22		OK
Iron, dissolved as Fe, mg/l				Heptachlor, mg/l	22		OK
Lead, as Pb, mg/l	< 10		OK	Lindane, mg/l	22		
Manganese, as Mn, mg/l				Methoxychlor, mg/l	220		OK
Magnesium, as Mg, mg/l				Toxaphene, mg/l	250		OK
Mercury, as Hg, mg/l	< 0.2		OK	Parathion, mg/l	250		
Nickel, as Ni, mg/l				2, 4, D, mg/l			
Spicium, as Se, mg/l	< 2			2, 4, 5, TP (Silvex), mg/l			
Silver, as Ag, mg/l	< 1			PCB's, mg/l	< 20		OK
Zinc, as Zn, mg/l	13						
Bicarbonates, as HCO ₃ , mg/l				<i>chloro</i>			
Carbonates, as CO ₃ , mg/l				Industrial Solvents	20-1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NEG						

X15-3-24 86

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE...

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED & SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

- 1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHORL... POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELE... (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0, 2, 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

15-4-0 | 89

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WIPER EACH SAMPLE THE 150 W. 137TH ST. WAS CLEANED BY SOAP & WATER RINSE! ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0', 12', 24')
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

115-4-12

88

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERSIDE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE WASH, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH.
EMPLOYER: ENRAC
DATE: 1-9-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #88 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X 15-4-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
PH	7.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l	Neg		
Total Solids @ 105°C	86.8						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	86.0			Total Alkalinity (M), as CaCO ₃ , mg/l			
Huating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Mic 4 mg/kg dross</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	< 4.9		OK				
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	< 0.5		OK				
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<i>110/1kg</i>	22	OK
Copper, as Cu, mg/l	6.1			Chlordane, mg/l		22	OK
Iron Total as Fe, mg/l				DDT's, mg/l		33	OK
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l		22	
Lead, as Pb, mg/l	< 10		OK	Endrin, mg/l		22	OK
Manganese, as Mn, mg/l				Heptachlor, mg/l		22	OK
Magnesium, as Mg, mg/l				Lindane, mg/l		22	
Mercury, as Hg, mg/l	< 0.5		OK	Methoxychlor, mg/l		< 20	OK
Nickel, as Ni, mg/l				Toxaphene, mg/l		< 50	OK
Selenium, as Se, mg/l	< 2			Parathion, mg/l		< 50	
Silver, as Ag, mg/l	< 1			2, 4, D, mg/l			
Zinc, as Zn, mg/l	13			2, 4, 5, TP (Silvex), mg/l			
				PCB's, mg/l		< 20	OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>Inclusion of Silicates</i>		20.1	
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-4-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH.
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 889 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-4-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	7.8						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	10		
X Total Solids @ 105°C	80.3						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
X Ash Content, on ignition	79.1			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
Metals <i>metallic dry wt</i>				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<3.2		OK	Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	<0.5		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	10			DDT's, mg/l	97		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<2		
Iron, Dissolved as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	15		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	<2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.5		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<2			2,4-D, mg/l			
Silver, as Ag, mg/l	<1			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	11			PCB's, mg/l	41		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Industrial Solvents	<1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Phosphates, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0022-42

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:
TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERSIDE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACID RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-9-84</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH.
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 4 9 0 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-5-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	8.0						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C. O. D., mg/l				* Cyanides, as CN, Free, mg/l	None		
B. O. D., mg/l							
* Total Solids @ 105°C	85.2			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	83.6			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dwt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	24.2		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l				Alorin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	8.2			DDT's, mg/l	38		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	4.7		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	<10		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	<2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	20.3		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<2			2, 4, D, mg/l			
Silver, as Ag, mg/l	<2			2, 4, 5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	18			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
* Sulfides, as S, mg/l	None						

CRK WMI-52 (Rev. 11-5-80)
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0022-43

X15-5-12

9291

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT

150 W. 137TH ST.

RIVERDALE, IL 60627

ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #15
NO DRUMS WERE FOUND.
X15-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTE
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (6", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE

SAMPLE HOUR/DATE: 1-9-84

PROFILE SHEET CODE: _____

SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

X 15 - 2 - 24 | 9892

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #15
NO DRUMS WERE FOUND.
X15-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 2", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-9-84

TITLE: FIELD TECH

LABORATORY REVIEW OF SAMPLING PROTOCOL

EMPLOYER: ENRAC

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

DATE: 1-9-84

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

--	--

WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 92 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-5-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	NCI		
Total Solids @ 105°C	75.4			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	77.2			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." % NaOH/lp				Magnesium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Oil and Grease, mg/l			
Arsenic, as AS, mg/l	6.1		OK				
Barium, as Ba, mg/l							
Boron, as Bi, mg/l							
Calcium, as Ca, mg/l	<0.6		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	8.5			DDT's, mg/l	27		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<2		OK
Iron, dissolved as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	<10		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	<2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.4		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<3			2, 4, D, mg/l			
Silver, as Ag, mg/l	<2			2, 4, 5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	21			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

786-6020

[Handwritten initials]

SAMPLE SOURCES
 CITY AND STATE

LANDFILL

INTERPOLE LAR

SAMPLE INVENTORY AND MASTER PACKING LIST

Box no.	Pres.	Sample	SAMPLE LOG NUMBER										TOTAL				
			WPS # AKA A-88611														
		33	X	1	7	-	1	-	0								
		34	X	1	7	-	1	-	12								
		35	X	1	7	-	1	-	24								
		36	X	1	7	-	2	-	0								
		37	X	1	7	-	2	-	12								
		38	X	1	7	-	2	-	24								
		39	X	1	7	-	3	-	0								
		40	X	1	7	-	3	-	12								
		41	X	1	7	-	3	-	24								
		TOTALS															

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S)

[Handwritten Signature]

1-6-84 1245

Signature

Date and Time

FIELD CUSTODIAN

Signature

(OVER)

Date and Time

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

To: INTERPOLE LAB

SAMPLE INVENTORY AND MASTER PACKING LIST

Box No.	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL	
		42	X	1	7	-	4	-	0							
		43	X	1	7	-	4	-	12							
		44	X	1	7	-	4	-	24							
		45	X	1	7	-	5	-	0							
		46	X	1	7	-	5	-	12							
		47	X	1	7	-	5	-	24							
		TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S)

Mark Drake

1-6-84 1245

Signature

Date and Time

FIELD
CUSTODIAN

Signature

(OVER)

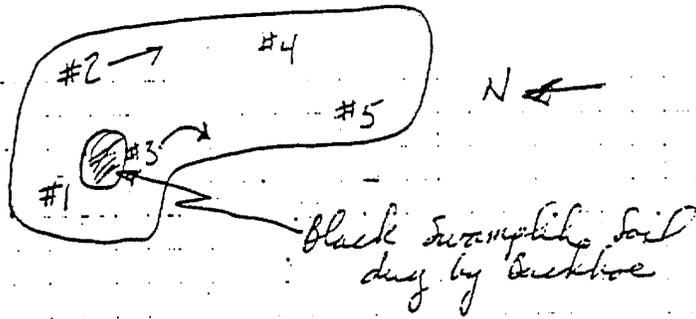
Date and Time

1-6-84

No Drums were found in Trench #17 so only the 5 pt 6.5 sample procedure will be followed.

Weather: Temp @ 30-40°F.

Key



Interpol#

ACE:GWT

X	31	X17-1-0		Brack dirt	
X	34	-12	1000	Clay	
X	35	-24		Clay	
X	36	X17-2-0		Mud	
X	37	-12	1025	Black Moss	water filling in hole
X	38	-24		"	"
X	39	X17-3-0		Black Moss	
X	40	-12	1045	"	
X	41	-24		"	
X	42	X17-4-0		Sand	
X	43	-12	1105	Sand	water filling in hole
X	44	-24		Sand	
X	45	X17-5-0		Sand	
X	46	-12	1125	Sand	
X	47	-24		Sand/black mess	

Sent to Interpol 1-5-84

X11-1-0 33

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL... IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF... WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS... IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN &
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2-3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAIN: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84 1000
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-6-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASON(S) NOTED BELOW

X17-1-12 34

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIFIC INFORMATION IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KOLPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS CLEANED AFTER EACH USE, (WASH & RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP CWM COE</u>
SAMPLE HOUR/DATE: <u>1-6-84 1000</u>
PROFILE SHEET CODE: <u>A 88611</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

INADEQUATE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
 CLEANED AFTER EACH USE,
 (WASH & RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84 1000
 PROFILE SHEET CODE: A 88611
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

X17-2-0 36

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, AT TONE, RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1025
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CNM COE
SAMPLE HOUR/DATE: 1-6-84 1025
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-6-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Y17-2-0

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 36 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				* Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	78.1						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	76.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	43						
Barium, as Ba, mg/l	43						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.3						
Chromium, Total as Cr, mg/l	5.6						
Hexavalent Chromium @ Cr, mg/l				<i>500 mg/kg</i>			
Copper, as Cu, mg/l	7.2			Arsenic, mg/l	ND		
Iron, Total as Fe, mg/l				Barium, mg/l	ND		
Iron, dissolved as Fe, mg/l				DDT's, mg/l	92		
Lead, as Pb, mg/l	12			Dieldrin, mg/l	ND		
Manganese, as Mn, mg/l	290			Endrin, mg/l	ND		
Magnesium, as Mg, mg/l				Heptachlor, mg/l	ND		
Mercury, as Hg, mg/l	2.05			Lindane, mg/l	ND		
Nickel, as Ni, mg/l	10			Methoxychlor, mg/l	ND		
Selenium, as Se, mg/l	20.7			Toxaphene, mg/l	ND		
Silver, as Ag, mg/l	61			Parathion, mg/l	ND		
Zinc, as Zn, mg/l	17			TP (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

0018-04

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL... IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF... WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS... IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING... SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF... YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE... SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1025
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 Q
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1025
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-6-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREIN

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-2-12

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: ≅ 37 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	75.4						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	72.7			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* "Acid Scrub," %NaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
<i>malldry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	26		✓				
Barium, as Ba, mg/l	22		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	40.6		✓				
Chromium, Total as Cr, mg/l	3.0		✓				
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	1		✓				
Iron, Total as Fe, mg/l			✓				
Iron, dissolved, as Fe, mg/l	4		✓				
Lead, as Pb, mg/l	23		✓				
Manganese, as Mn, mg/l	120		✓				
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l	2.04		✓				
Nickel, as Ni, mg/l	8.0		✓				
Selenium, as Se, mg/l	21		✓				
Silver, as Ag, mg/l	21		✓				
Zinc, as Zn, mg/l	5.2		✓				
				PCB's, mg/l	45		(.045 ppm)
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0018-05

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60629
ATTN: JACK KULPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

All Sampling Equipment was
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE, RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1025
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1025
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-2-24

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 38 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	60.6						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
* Ash Content, on ignition	52.1			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." pH/QH/g				Total Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	46		✓	Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	41		✓				
Boron, as B, mg/l			✓	Oil and Grease, mg/l			
Calcium, as Ca, mg/l	40.6		✓				
Chromium, Total as Cr, mg/l	2.9		✓	Solids, mg/l			
Hexavalent Chromium @ Cr, mg/l			✓				
Copper, as Cu, mg/l	3.2		✓				
Iron, Total as Fe, mg/l			✓	DDT's, mg/l	ND		✓
Iron, dissolved as Fe, mg/l			✓		4.0	✓	✓
Lead, as Pb, mg/l	13		✓	Dieldrin, mg/l	ND		✓
Manganese, as Mn, mg/l	170		✓	Endrin, mg/l	ND		✓
Magnesium, as Mg, mg/l			✓	Heptachlor, mg/l	ND		✓
Mercury, as Hg, mg/l	2.4		✓	Lindane, mg/l	ND		✓
Nickel, as Ni, mg/l	7.6		✓	Methoxychlor, mg/l	ND		✓
Selenium, as Se, mg/l	22		✓	Toxaphene, mg/l	ND		✓
Silver, as Ag, mg/l	2		✓	Parathion, mg/l	ND		✓
Zinc, as Zn, mg/l	67		✓				
			✓				
			✓	TP (Silvex), mg/l			
			✓	PCB's, mg/l	ND		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

0018-00

111-3-0 31

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WAS... IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE... WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-3-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH END
2.3 SAMPLES WERE TAKEN (0" 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CNM COE
SAMPLE HOUR/DATE: 1-6-84 1045
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

111-3-10 40

WASTE



CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KALOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1045
 PROFILE SHEET CODE: A 88611
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

111-3-04 11

WASTE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE... IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE... WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60429
ATTN: JACK KALOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH PPT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE CONTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1045
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL REPORT

LABORATORY: _____

X17-3-24

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 4/1

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____

SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____

LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.8						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
B.O.D., mg/l							
* Total Solids @ 105°C	6610			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	57.9			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Chloride, as Cl, mg/l	25		✓	Oil and Grease, mg/l			
Sulfide, as S, mg/l	57		✓				
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	20.5		✓				
Chromium, Total as Cr, mg/l	2.6		✓				
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	2.6		✓				
Iron, Total as Fe, mg/l							
Iron, dissolved, as Fe, mg/l							
Lead, as Pb, mg/l	1.2		✓				
Manganese, as Mn, mg/l	0.25		✓				
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l	2.5		✓				
Nickel, as Ni, mg/l	15		✓				
Selenium, as Se, mg/l	27		✓				
Silver, as Ag, mg/l	22		✓				
Zinc, as Zn, mg/l	6.2		✓				
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0018-0

11-070-70

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE YOU WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
 CLEANED AFTER EACH USE,
 (WASH & RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1105
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: Plastic
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1105
 PROFILE SHEET CODE: A 88611
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-6-84

WITNESS: MARK HILL
 SIGNATURE: Mark Hill
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED BELOW

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-40

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 42 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.3						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D. mg/l				Cyanides, as CN, Total, mg/l			
B. O. D. mg/l				Cyanides, as CN, Free, mg/l	Nej		
* Total Solids @ 105°C	7818			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	77.6			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	43		✓				
Barium, as Ba, mg/l	71		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	40.3		✓				
Chromium, Total as Cr, mg/l	26		✓	Soil by kg			
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	26		✓				
Iron, Total as Fe, mg/l							
Iron, dissolved as Fe, mg/l				DDT's, mg/l	4.6		
Lead, as Pb, mg/l	370	✓	✓	Dieldrin, mg/l	15		
Manganese, as Mn, mg/l	610		OK	Endrin, mg/l	52		
Magnesium, as Mg, mg/l				Heptachlor, mg/l	ND		
Mercury, as Hg, mg/l	0.2		✓	Lindane, mg/l	ND		
Nickel, as Ni, mg/l	12		✓	Methoxychlor, mg/l	ND		
Selenium, as Se, mg/l	27		✓	Toxaphene, mg/l	ND		
Silver, as Ag, mg/l	21		✓	Parathion, mg/l	ND		
Zinc, as Zn, mg/l	19		✓				
				PCB's, mg/l	1000		1ppm
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Nej						

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0018

111-4-12 42

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE... IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE... WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE W. MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED. THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1105
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH END
2.3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1105
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL...
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY...
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-4-12

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 42 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	Neg		
Total Solids @ 105°C	77.2						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	76.9			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub, % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	25		✓				
Barium, as Ba, mg/l	26		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	20.5		✓				
Chromium, Total as Cr, mg/l	13		✓	<i>Soil analysis</i>			
Hexavalent Chromium @ Cr, mg/l				DDT , mg/l	ND		✓
Copper, as Cu, mg/l	2		✓	Chloroform , mg/l	ND		✓
Iron, Total as Fe, mg/l				DDT's, mg/l	5.3		✓
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	ND		✓
Lead, as Pb, mg/l	22		✓	Endrin, mg/l	ND		✓
Manganese, as Mn, mg/l	160		✓	Heptachlor, mg/l	ND		✓
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		✓
Mercury, as Hg, mg/l	103		✓	Methoxychlor, mg/l	ND		✓
Nickel, as Ni, mg/l	7.2		✓	Toxaphene, mg/l	ND		✓
Selenium, as Se, mg/l	20.9		✓	Parathion, mg/l	ND		✓
Silver, as Ag, mg/l	22		✓	DDT			
Zinc, as Zn, mg/l	6.2		✓	2,4-D, B.E.C. (400) mg/l			
				PCB's, mg/l	ND		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	<i>Neg</i>						

0018-11

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
 CLEANED AFT. EACH USE,
 (WASH & RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1105
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-4-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH PT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84 1105
 PROFILE SHEET CODE: A 88611
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREIN

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-4-24

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 44 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	5.8						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	76.1			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	75.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Husting Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/p				ium Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				gnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4.4		/				
Barium, as Ba, mg/l	25		/				
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.4		/				
Chromium, Total as Cr, mg/l	20		/				
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	3.7		/	Aldrin, mg/l	ND		/
Iron, Total as Fe, mg/l			/	Chlordane, mg/l	ND		/
Iron, dissolved as Fe, mg/l			/	DDT's, mg/l	7.4		/
Lead, as Pb, mg/l	2.2		/	Dieldrin, mg/l	ND		/
Manganese, as Mn, mg/l	130		/	Endrin, mg/l	ND		/
Magnesium, as Mg, mg/l			/	Heptachlor, mg/l	ND		/
Mercury, as Hg, mg/l	2.04		/	Lindane, mg/l	ND		/
Nickel, as Ni, mg/l	6.6		/	Methoxychlor, mg/l	ND		/
Selenium, as Se, mg/l	2.1		/	Toxaphene, mg/l	ND		/
Silver, as Ag, mg/l	2.1		/	Parathion, mg/l	ND		/
Zinc, as Zn, mg/l	9.0		/				
				PCB's, mg/l	ND		/
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

X17-5-0 45

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIFIC INFORMATION ON THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED AND ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS VERY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KLOPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1125
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POUL HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POU
2.3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: BT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP CUM COE</u>
SAMPLE HOUR/DATE: <u>1-6-84 1125</u>
PROFILE SHEET CODE: <u>A 88611</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-6-84

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-5-0

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON # 45 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	5.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	ND		
X Total Solids @ 105°C	74.8						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
X Ash Content, on ignition	74.1			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub.", gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt							
Arsenic, as AS, mg/l	<5		✓				
Barium, as Ba, mg/l	32		✓	Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	40.5		✓				
Chromium, Total as Cr, mg/l	130		✓				
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	ND		
Copper, as Cu, mg/l	6.0		✓	Chlordane, mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	6.7		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	37		✓	Endrin, mg/l	ND		
Manganese, as Mn, mg/l	470		✓	Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	4.04		✓	Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	34		✓	Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<1		✓	Parathion, mg/l	ND		
Silver, as Ag, mg/l	<2		✓				
Zinc, as Zn, mg/l	18		✓	PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	ND						

0018-13

X17-5-12 46

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIFICATION IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE PRESENT AT THE TIME THE SAMPLE IS TAKEN. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W 137th ST
RIVERDALE, IL 60427
ATTN: JACK KALPANS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFTER EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1025
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
X17-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAM: 2 OBTAIN : 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84 1025
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET
I CONCLUDE THAT THE ABOVE METHOD IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS: _____

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X19-5-12

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: ≅ 46 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	5.1						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C O D, mg/l				Cyanides, as CN, Free mg/l	Neg		
B O D, mg/l							
* Total Solids @ 105°C	80.9			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	80.7			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	23		✓				
Barium, as Ba, mg/l	27		✓				
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	40.3		✓				
Chromium, Total as Cr, mg/l	22		✓				
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	ND		✓
Copper, as Cu, mg/l	6.4		✓	Chlordane, mg/l	ND		✓
Iron, Total as Fe, mg/l				DDT's, mg/l	43.5		✓
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	ND		✓
Lead, as Pb, mg/l	12		✓	Endrin, mg/l	ND		✓
Manganese, as Mn, mg/l	100		✓	Heptachlor, mg/l	ND		✓
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		✓
Mercury, as Hg, mg/l	2.04		✓	Methoxychlor, mg/l	ND		✓
Nickel, as Ni, mg/l	70		✓	Toxaphene, mg/l	ND		✓
Selenium, as Se, mg/l	21		✓	Parathion, mg/l	ND		✓
Silver, as Ag, mg/l	21		✓				
Zinc, as Zn, mg/l	8.0		✓				
				PCB's, mg/l	ND		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE MATERIAL IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL. IT IS IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL OBTAIN THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO PREVENT TAMPERING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST.
RIVERDALE, IL 60629
ATTN: JACK KALPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL SAMPLING EQUIPMENT WAS
CLEANED AFT-R EACH USE,
(WASH & RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-6-84 1125
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
NO DRUMS WERE FOUND
Y12-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SHovel
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT
2.3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84 1125
PROFILE SHEET CODE: A 88611
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-6-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-6-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED BELOW

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X17-5-24

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 47 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	5.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	None		
* Total Solids @ 105°C	49.8						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	38.3			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/l				Calcium Hardness, as CaCO ₃ , mg/l			
<i>marked wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	46		✓				
Barium, as Ba, mg/l	49		✓				
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	20.6		✓				
Chromium, Total as Cr, mg/l	32		✓	<i>solid waste mg</i>			
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	ND		✓
Copper, as Cu, mg/l	3.6		✓	Chlordane, mg/l	ND		✓
Iron, Total as Fe, mg/l				DDT's, mg/l	7.5		✓
Iron, Dissolved as Fe, mg/l				Dieldrin, mg/l	ND		✓
Lead, as Pb, mg/l	13		✓	Endrin, mg/l	ND		✓
Manganese, as Mn, mg/l	560		OK	Heptachlor, mg/l	ND		✓
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		✓
Mercury, as Hg, mg/l	4.5		✓	Methoxychlor, mg/l	ND		✓
Nickel, as Ni, mg/l	26		✓	Toxaphene, mg/l	ND		✓
Selenium, as Se, mg/l	22		✓	Parathion, mg/l	ND		✓
Silver, as Ag, mg/l	22		✓	PCB's, mg/l			
Zinc, as Zn, mg/l	12		✓	PCB's, mg/l	ND		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

0018-1

48

X18-1-0

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE REFERENCED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE OBTAIN THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60429
ATTN: JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WATER RINSE (KEURNE RINSE)
WATER RINSE

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-1-0
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 2.3 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
 SAMPLE HOUR/DATE: 1-6-84
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

MY SIGNATURE AND VERIFICATION. I WAS PERSONALLY PRESENT AT THE TIME OF SAMPLING DESCRIBED; I DIRECTED THE SAMPLING; I DIRECTED THE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

NAME: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

FIELD TECH: _____
 EMPLOYER: ENRAC
 DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 418 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: 1/10/84

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-1-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	None		
Total Solids @ 105°C	81.8			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	79.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
mg CaCO ₃ mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	< 3.7						
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	0.4						
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	39			Aldrin, mg/l	< 2		
Iron, Total as Fe, mg/l				Chlordane, mg/l	< 20		
Iron, Dissolved as Fe, mg/l				DDT's, mg/l	< 2		
Lead, as Pb, mg/l	19			Dieldrin, mg/l	< 2		
Manganese, as Mn, mg/l				Endrin, mg/l	< 2		
Magnesium, as Mg, mg/l				Heptachlor, mg/l	< 2		
Mercury, as Hg, mg/l	< 0.1			Lindane, mg/l	< 2		
Nickel, as Ni, mg/l				Methoxychlor, mg/l	< 10		
Selenium, as Se, mg/l	< 2			Toxaphene, mg/l	< 50		
Silver, as Ag, mg/l	27			Parathion, mg/l	< 50		
Zinc, as Zn, mg/l	36						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Free Sulfate, as SO ₄ , mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

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X18-1-12

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60429
ATTN: JACK KOLEPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH BINT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-1-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

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X18-1-24

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KOLEPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH BINT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES _____

WASTE PROFILE SHEET CODE _____

LABORATORY: _____

PROFILE SHEET RECEIVED ON: 4/50 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-1-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	6.0						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C O D, mg/l				Cyanides as CN, Free, mg/l	1/06		
B O D, mg/l				Nitrogen, Ammonia, as N, mg/l			
X Total Solids @ 105°C	28.1			Nitrogen Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F*				Total Hardness, as CaCO ₃ , mg/l			
X Ash Content, on ignition	8.84			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g							
Metals, mg/kg solvent							
Arsenic, as As, mg/l	214		OK	Oil and Grease, mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<1		OK	Aldrin, mg/l	<2		OK
Chromium, Total as Cr, mg/l				Chlordane, mg/l	<20		OK
Hexavalent Chromium @ Cr, mg/l				DDT's, mg/l	<2		OK
Copper, as Cu, mg/l	7.7			Dieldrin, mg/l	<2		
Iron, Total as Fe, mg/l				Endrin, mg/l	<2		OK
Iron, Dissolved as Fe, mg/l				Heptachlor, mg/l	<2		OK
Lead, as Pb, mg/l	<40		OK	Lindene, mg/l	<2		
Manganese, as Mn, mg/l				Methoxychlor, mg/l	<10		OK
Magnesium, as Mg, mg/l				Toxaphene, mg/l	<50		OK
Mercury, as Hg, mg/l	20.9		OK	Parathion, mg/l	<50		
Nickel, as Ni, mg/l				2,4 D, mg/l			
Selenium, as Se, mg/l	<6			2,4,5, TP (Silvex), mg/l			
Silver, as Ag, mg/l	<4			PCB's, mg/l	<20		OK
Zinc, as Zn, mg/l	1.2						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Included Solvent	40 wt	20.1	
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	1/06						

0022-03

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
 AFTER EACH BINT (SOAP WASH,
 WATER RINSE, ACETONE RINSE,
 WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-2-0
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 QT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CNM COE
 SAMPLE HOUR/DATE: 1-6-84
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES _____ CODE _____

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: # 51 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-2-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.2						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
G.O.D., mg/l				Cyanides, as CN, Free, mg/l	145		
B.O.D., mg/l							
* Total Solids @ 105°C	75.7			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	72.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	25.7		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.5		OK	Aldrin, mg/l	2.8		OK
Chromium, Total as Cr, mg/l				Chlordane, mg/l	<20		OK
Hexavalent Chromium @ Cr, mg/l				DDTs, mg/l	<2		OK
Copper, as Cu, mg/l	11			Dieldrin, mg/l	<2.5		
Iron, Total as Fe, mg/l				Endrin, mg/l	<2		OK
Iron, dissolved as Fe, mg/l				Heptachlor, mg/l	<2		OK
Lead, as Pb, mg/l	<10		OK	Lindane, mg/l	<2		
Manganese, as Mn, mg/l				Methoxychlor, mg/l	<10		OK
Magnesium, as Mg, mg/l				Toxaphene, mg/l	<50		OK
Mercury, as Hg, mg/l	0.1		OK	Parathion, mg/l	<50		
Nickel, as Ni, mg/l				2,4-D, mg/l			
Selenium, as Se, mg/l	<2			2,4,5-TP (Silvex), mg/l			
Silver, as Ag, mg/l	<2			PCB's, mg/l	<20		OK
Zinc, as Zn, mg/l	29						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Isobutyl Alcohol Solvents	40.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NS						

0022-04

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT IS CLEANED AFTER EACH PINT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
3. EQUIPMENT AND SAMPLING METHOD USED: X18-2-12
STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 52 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-2-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	6.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	None		
X Total Solids @ 105°C	36.5			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	18.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub.", gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metal residue dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	< 0.3		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l	< 0.3		OK	Aldrin, mg/l	None		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	< 2		OK
Copper, as Cu, mg/l	16			DDT's, mg/l	< 2		OK
Iron, Total as Fe, mg/l				Dieldrin, mg/l	< 2		OK
Iron, dissolved as Fe, mg/l				Endrin, mg/l	< 2		OK
Lead, as Pb, mg/l	< 20		OK	Heptachlor, mg/l	3.2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	2.8		OK
Magnesium, as Mg, mg/l				Melthoxychlor, mg/l	< 10		OK
Mercury, as Hg, mg/l	1.0		OK	Toxaphene, mg/l	240		?
Nickel, as Ni, mg/l				Parathion, mg/l	< 50		
Selenium, as Se, mg/l	< 4			2,4-D, mg/l			
Silver, as Ag, mg/l	< 2			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	77			PCB's, mg/l	< 20		OK
Bicarbonates, as HCO ₃ , mg/l				Industrial Solvents	< 1		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

53

X18-2-24

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH BINT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2.3 GAL WBS WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 53 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-2-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.0						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
COD, mg/l				Cyanides, as CN, Free, mg/l	None		
BOD ₅ , mg/l				Nitrogen, Ammonia, as N, mg/l			
* Total Solids @ 105°C	28.2			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
* Ash Content, on ignition	9.74			Calcium Hardness, as CaCO ₃ , mg/l			
Huoting Valve, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Oil and Grease, mg/l			
<i>Metals as Hydroxide</i>				Aldrin, mg/l	ug/kg		OK
Arsenic, as AS, mg/l	<12		OK	Chlordane, mg/l	<20		OK
Barium, as Ba, mg/l				DDT's, mg/l	<2		D/L
Boron, as B, mg/l				Dieldrin, mg/l	<2		
Cadmium, as Cd, mg/l	<1		OK	Endrin, mg/l	<2		OK
Chromium, Total as Cr, mg/l				Heptachlor, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Lindane, mg/l	<2		
Copper, as Cu, mg/l	8.7			Methoxychlor, mg/l	<10		OK
Iron, Total as Fe, mg/l				Toxaphene, mg/l	<50		OK
Iron, dissolved as Fe, mg/l				Parathion, mg/l	<50		
Lead, as Pb, mg/l	<30		OK	2,4-D, mg/l			
Manganese, as Mn, mg/l				2,4,5,TP (Silver), mg/l			
Magnesium, as Mg, mg/l				PCB's, mg/l	<20		OK
Mercury, as Hg, mg/l	2		OK				
Nickel, as Ni, mg/l				<i>Industrial Solvents</i>	<0.1		
Selenium, as Se, mg/l	<6						
Silver, as Ag, mg/l	<3						
Zinc, as Zn, mg/l	8.1						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

54 X18-3-0

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH BUNT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-3-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 2-3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 G (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES _____ CODE _____
 WASTE PROFILE SHEET CODE _____

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 54 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-3-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	5.6						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	None		
B.O.D., mg/l							
* Total Solids @ 105°C	35.5			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	19.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	211		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<1		OK	Aldrin, mg/l	<2		OK
Chromium, Total as Cr, mg/l				Chlorane, mg/l	<20		OK
Hexavalent Chromium @ Cr, mg/l				DDT's, mg/l	8.2		OK
Copper, as Cu, mg/l	28			Dieldrin, mg/l	<2		OK
Iron, Total as Fe, mg/l				Endrin, mg/l	<2		OK
Iron, dissolved as Fe, mg/l				Heptachlor, mg/l	<2		OK
Lead, as Pb, mg/l	230		OK	Lindane, mg/l	<2		
Manganese, as Mn, mg/l				Methoxychlor, mg/l	<10		OK
Magnesium, as Mg, mg/l				Toxaphene, mg/l	120		?
Mercury, as Hg, mg/l	<10		OK	Parathion, mg/l	<80		
Nickel, as Ni, mg/l				2,4-D, mg/l			
Selenium, as Se, mg/l	<6			2,4,5-TP (Silvex), mg/l			
Silver, as Ag, mg/l	<3			PCB's, mg/l	<20		OK
Zinc, as Zn, mg/l	35						
Bicarbonates, as HCO ₃ , mg/l				<i>Industrial Solvents</i>	20.1		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
* Sulfides, as S, mg/l	None						

0022-07

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED BY THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH RINSE (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-3-1C
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT 3 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
 SAMPLE HOUR/DATE: 1-6-84
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-9-84

WITNESS: MARK HILL
 SIGNATURE: Mark Hill
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 ADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

SALES

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 55 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-3-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	5.8						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l	1.46g		
Total Solids @ 105°C	31.6						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition	72.2			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
Metals mg/kg sample				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	212		OK	Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Chromium, as Cr, mg/l	<1		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	12			DDT's, mg/l	9.6		OK
Iron Total as Fe, mg/l				Dieldrin, mg/l	2		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	<35		OK	Heptachlor, mg/l	2.6		OK
Manganese, as Mn, mg/l				Lindane, mg/l	<2	*	
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<1.3		OK	Toxaphene, mg/l	130		?
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<6			2,4, D, mg/l			
Silver, as Ag, mg/l	<4			2,4,5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	11			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				Industrial Solvents	<0.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	1.46g						

0022-08

56

X18-3-24

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KALOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH POINT (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER; 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

57

X18-4-0

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
AFTER EACH BINT (SOAP WASH,
WATER RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2 SAMPLES WERE TAKEN (0", 17" - 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

- ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
- UNSUCCESSFUL FOR THE REASON(S) NOTED BELOW.

SPECIAL WASTE ANALYSIS REPORT

SALES _____ CR _____

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 57 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-4-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	5.8						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD ₅ , mg/l				Cyanides, as CN, Free, mg/l	None		
X Total Solids @ 105°C	89.5			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	58.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals method dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	< 3.3		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	< 0.3		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	None		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	< 20		OK
Copper, as Cu, mg/l	6.4			DDT's, mg/l	< 2		OK
Iron, Total as Fe, mg/l				Dieldrin, mg/l	< 2		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	< 2		OK
Lead, as Pb, mg/l	< 8		OK	Heptachlor, mg/l	2.4		?
Manganese, as Mn, mg/l				Lindane, mg/l	< 2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	< 10	*	OK
Mercury, as Hg, mg/l	< 0.1		OK	Toxaphene, mg/l	< 50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	< 50		
Selenium, as Se, mg/l	< 2			2,4-D, mg/l			
Silver, as Ag, mg/l	< 1			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	18			PCB's, mg/l	< 20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>Industrial Solvents</i>	< 0.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

0022-10

58

X18-4-12

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60429
ATTN: JACK KOLOPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
AFTER EACH BINT (SOAP WASH,
WATER RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOP?
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2.3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLING OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

59

X18-2-24

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60627
ATTN: JACK KALPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
AFTER EACH RUN (SOAP WASH,
WATER RINSE, ACETONE RINSE,
WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-2-24
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (= 1 PT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM, WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CUM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON # 59 REPRESENTATIVE SAMPLE RECEIVED ON _____

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER _____

X18-4-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	<i>5.2</i>						
Acidity % as							
Alkalinity % as				Phenols mg/l			
C.O.D. mg/l				Cyanides as CN, Total mg/l			
B.O.D. mg/l				Cyanides as CN Free mg/l	<i>None</i>		
Total Solids @ 105°C	<i>29.8</i>			Nitrogen Ammonia as N mg/l			
Total Dissolved Solids mg/l				Nitrogen Organic as N mg/l			
Total Suspended Solids mg/l				Total Kjeldahl Nitrogen as N mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P) as CaCO ₃ mg/l			
Flash Point, F°				Total Alkalinity (M) as CaCO ₃ mg/l			
Ash Content on ignition	<i>12.4</i>			Total Hardness as CaCO ₃ mg/l			
Melting Valve BTU/lb				Calcium Hardness as CaCO ₃ mg/l			
Acid Scrub % NaOH/g				Magnesium Hardness as CaCO ₃ mg/l			
<i>Metal in the digest</i>				Oil and Grease mg/l			
Arsenic as AS mg/l	<i><13</i>		<i>OK</i>				
Barium as Ba mg/l							
Boron as B mg/l							
Cadmium as Cd mg/l	<i><1</i>		<i>OK</i>				
Chromium, Total as Cr mg/l							
Multivalent Chromium @ Cr mg/l							
Copper as Cu mg/l	<i>7.0</i>			Aldrin mg/l	<i>None</i>		<i>OK</i>
Iron Total as Fe mg/l				Chlordane mg/l	<i>None</i>		<i>OK</i>
Iron dissolved as Fe mg/l				DDT's mg/l	<i>None</i>		<i>OK</i>
Lead as Pb mg/l	<i>2.30</i>		<i>OK</i>	Dieldrin mg/l	<i>None</i>		
Manganese as Mn mg/l				Endrin mg/l	<i>None</i>		<i>OK</i>
Magnesium as Mg mg/l				Heptachlor mg/l	<i>None</i>		<i>OK</i>
Mercury as Hg mg/l	<i><1.3</i>		<i>OK</i>	Lindane mg/l	<i>None</i>		
Nickel as Ni mg/l				Methoxychlor mg/l	<i>None</i>		<i>OK</i>
Selenium as Se mg/l	<i><5</i>			Toxaphene mg/l	<i>None</i>		
Silver as Ag mg/l	<i><4</i>			Parathion mg/l	<i>None</i>		
Zinc as Zn mg/l	<i>3.1</i>			2,4-D mg/l	<i>None</i>		
				2,4,5-TP (Silver) mg/l	<i>None</i>		
				PCB's mg/l	<i>None</i>		<i>OK</i>
Bicarbonates as HCO ₃ mg/l							
Carbonates as CO ₃ mg/l							
Chlorides as Cl mg/l							
Cyanides as F mg/l							
Nitrite as NO ₂ mg/l							
Nitrate as NO ₃ mg/l							
Fluoride as F mg/l							
Sulfate as SO ₄ mg/l							
Sulfides as S mg/l	<i>None</i>						

10/11/81 WMI-52 (Rev. 11-5-80)
 WASTE MANAGEMENT, INC.

0022-12

60

X18-5-0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC.
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
AFTER EACH RINSE (SOAP WASH,
WATER RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
2-3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

EMPLOYER: ENRAC

DATE: 1-9-84

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60427
ATTN: JACK KOLEPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED AFTER EACH RINSE (SOAP WASH, WATER RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN - EQUALLY SPACED - IN EACH TRENCH AT EACH POINT
23 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: Q1 (1 PT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CNM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 11-6-1 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-5-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
Total Solids @ 105°C	55.0			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	43.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mul/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	24.3		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.1		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	2.2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	14			DDT's, mg/l	<2		OK
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<2		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	86		?
Lead, as Pb, mg/l	17		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	2.2	*	
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	0.7		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	23			2,4, D, mg/l			
Silver, as Ag, mg/l	22			2,4,5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	14			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>40.0*</i>			
Chlorides, as Cl, mg/l				<i>Industrial Solvents</i>	0.1		
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NEG						

6C X18-5-24

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT, INC
150 W. 137th ST
RIVERDALE, IL 60629
ATTN: JACK KOLPANIS

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT WAS CLEANED
AFTER EACH BINT (SOAP WASH,
WATER RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
NO DRUMS WERE FOUND
X18-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
SHOVEL, POLE HOLE DIGGER: 5 PTS WERE CHOSEN -
EQUALLY SPACED - IN EACH TRENCH. AT EACH POINT
3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1/2 LIT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP CWM COE
SAMPLE HOUR/DATE: 1-6-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 62 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X18-5-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	5.9						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
COD, mg/l				Cyanides, as CN, Free mg/l	None		
BOD, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Solids @ 105°C	26.2			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
Ash Content, on ignition	5.91			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
Acid Scrub, gNaOH/g							
Metals mg/l by dry wt							
Arsenic, as AS, mg/l	<14		OK	Oil and Grease, mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<1		OK	Aldrin, mg/l	<2		OK
Chromium, Total as Cr, mg/l				Chlordane, mg/l	<20		OK
Hexavalent Chromium @ Cr, mg/l				DDT's, mg/l	15		?
Copper, as Cu, mg/l	12			Dieldrin, mg/l	<2		
Iron, Total as Fe, mg/l				Endrin, mg/l	<2		OK
Iron, Dissolved as Fe, mg/l				Heptachlor, mg/l	<2		OK
Lead, as Pb, mg/l	<40		OK	Lindane, mg/l	<2		
Manganese, as Mn, mg/l				Methoxychlor, mg/l	<10		OK
Magnesium, as Mg, mg/l				Toxaphene, mg/l	<50		OK
Mercury, as Hg, mg/l	<0.9		OK	Parathion, mg/l	<50		
Nickel, as Ni, mg/l				2, 4, D, mg/l	0-		
Selenium, as Se, mg/l	<6			2, 4, 5, TP (Silver), mg/l	-		
Silver, as Ag, mg/l	<4			PCB's, mg/l	<20		OK
Zinc, as Zn, mg/l	14						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				Industrial Silicates	60.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

0022-15

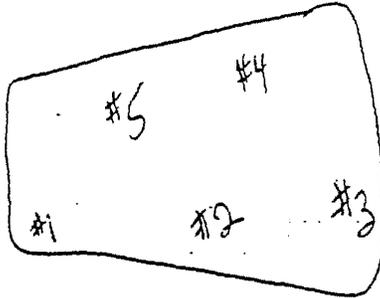
1-9-84

T# 19

No drums were found in T# 19 & only the
5PT - 15 sample procedure was completed.
Samples sent to Porters Lab

Key

N ←



Location #

63 X19-1-0
64 X19-1-12
65 X19-1-24

66 X19-2-0
67 X19-2-12
68 X19-2-24

69 X19-3-0
70 X19-3-12
71 X19-3-24

72 X19-4-0
73 X19-4-12
74 X19-4-24

75 X19-5-0
76 X19-5-12
77 X19-5-24

Sampled Monday AM 1100-1200.

X19-1-0 | 63

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND
X19-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED,
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
PT. - (6", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WAS CLEANED BY SOAP & WATER
RINSE, ACETON RINSE, WATER
RINSE.

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: X19-1-0
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 63 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-1-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	6.4						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
G.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
B.O.D., mg/l							
X Total Solids @ 105°C	21.5			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	59.9			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	7.1		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.2		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	1.8		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	7.1			DDT's, mg/l	18		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	4.1		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	8.9		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	<2		OK
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.1		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<2			2, 4, D, mg/l			
Silver, as Ag, mg/l	<0.6			2, 4, 5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	2.2			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>Inert Solvents</i>	20.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NEG						

X19-1-12 " 64"

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-1-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTE
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
FT (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 11/6/84 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-1-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.5						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	1789		
B.O.D., mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Solids @ 105°C	43.6			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
Ash Content, on ignition	42.8			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
Acid Scrub., % NaOH/g							
<i>Metalic mg/kg dry wt</i>							
Arsenic, as AS, mg/l	2.7		OK	Oil and Grease, mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l				Aldrin, mg/l	<2		OK
Cadmium, as Cd, mg/l	20.3		OK	Chlordane, mg/l	mg/kg	<20	OK
Chromium, Total as Cr, mg/l				DDT's, mg/l	19		?
Hexavalent Chromium @ Cr, mg/l				Dieldrin, mg/l	<2		
Copper, as Cu, mg/l	8.4			Endrin, mg/l	<2		OK
Iron, Total as Fe, mg/l				Heptachlor, mg/l	<2		OK
Iron, dissolved as Fe, mg/l				Lindane, mg/l	<2		
Lead, as Pb, mg/l	8.2		OK	Methoxychlor, mg/l	<10	*	OK
Manganese, as Mn, mg/l				Toxaphene, mg/l	<50	*	OK
Magnesium, as Mg, mg/l				Parathion, mg/l	<50		OK
Mercury, as Hg, mg/l	<0.1		OK	2,4-D, mg/l	—		
Nickel, as Ni, mg/l				2,4,5-TP (Silvex), mg/l	—		
Selenium, as Se, mg/l	<2			PCB's, mg/l	<20		OK
Silver, as Ag, mg/l	<0.5						
Zinc, as Zn, mg/l	16						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>4000</i>			
Chlorides, as Cl, mg/l				<i>Industrial Solvents</i>	<0.1		
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	10.5						

111-1-44 65

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERSIDE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WIPER EACH SAMPLE WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND
X19-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIDOP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

SIGNATURE: Mark Hill

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 65 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-1-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	<u>7.0</u>						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	<u>NEG</u>		
X Total Solids @ 105°C	<u>83.1</u>						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	<u>87.3</u>			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals on Hydrolysis</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<u>3.4</u>		<u>OK</u>				
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	<u><0.4</u>		<u>OK</u>				
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<u><2</u>		<u>OK</u>
Copper, as Cu, mg/l	<u>10</u>			Chlordane, mg/l	<u><20</u>		<u>OK</u>
Iron, Total as Fe, mg/l				DDT's, mg/l	<u>30</u>		<u>?</u>
Iron, Dissolved as Fe, mg/l				Dieldrin, mg/l	<u>22</u>		
Lead, as Pb, mg/l	<u>4.8</u>		<u>OK</u>	Endrin, mg/l	<u>3.7</u>		<u>OK</u>
Manganese, as Mn, mg/l				Heptachlor, mg/l	<u><2</u>		<u>OK</u>
Magnesium, as Mg, mg/l				Lindane, mg/l	<u><2</u>		<u>*</u>
Mercury, as Hg, mg/l	<u><0.2</u>		<u>OK</u>	Methoxychlor, mg/l	<u><10</u>		<u>OK</u>
Nickel, as Ni, mg/l				Toxaphene, mg/l	<u><50</u>		<u>OK</u>
Selenium, as Se, mg/l	<u><2</u>			Parathion, mg/l	<u><50</u>		
Silver, as Ag, mg/l	<u><1</u>			2,4-D, mg/l	<u>-</u>		
Zinc, as Zn, mg/l	<u>23</u>			2,4,5-TP (Silvex), mg/l	<u>-</u>		
				PCB's, mg/l	<u>0.47</u>		<u>OK</u>
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>Industrial Solvents</i>	<u><0.1</u>		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	<u>NEG</u>						

X19-2-0

66

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERSIDE IL 601627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (12", 18", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

AFTER EACH SAMPLE WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

117-2-12

67

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT

150 W. 137TH ST.

RIVERDALE, IL 60627

ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X 19-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED,
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WAS OBTAINED BY USE OF WATER RINSE! ACETONE RINSE, WATER RINSE.

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-9-84</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-9-84

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 67 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-2-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	<u>7.0</u>						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	<u>1/veg</u>		
B.O.D., mg/l							
* Total Solids @ 105°C	<u>42.6</u>			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	<u>91.3</u>			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<u>Metals mg/Kg dry wt</u>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<u>24.2</u>		<u>OK</u>				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	<u><0.4</u>		<u>OK</u>				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<u><2</u>		<u>OK</u>
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<u><20</u>		<u>OK</u>
Copper, as Cu, mg/l	<u>8.7</u>			DDT's, mg/l	<u>9.6</u>		<u>OK</u>
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<u><2</u>		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	<u><2</u>		<u>OK</u>
Lead, as Pb, mg/l	<u>11</u>		<u>OK</u>	Heptachlor, mg/l	<u><2</u>		<u>OK</u>
Manganese, as Mn, mg/l				Lindane, mg/l	<u><2</u>		<u>OK</u>
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<u><10</u>		<u>OK</u>
Mercury, as Hg, mg/l	<u><0.1</u>		<u>OK</u>	Toxaphene, mg/l	<u><50</u>		<u>OK</u>
Nickel, as Ni, mg/l				Parathion, mg/l	<u><50</u>		
Selenium, as Se, mg/l	<u><2</u>			2, 4, D, mg/l	<u>---</u>		
Silver, as Ag, mg/l	<u><1</u>			2, 4, 5, TP (Silvex), mg/l	<u>---</u>		
Zinc, as Zn, mg/l	<u>2.3</u>			PCB's, mg/l	<u><20</u>		<u>OK</u>
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	<u>1/veg</u>						

0022-20

X11 2 21 68

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERSIDE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WITNESS MARK HILL WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND
X19-3-0
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 1", 24").
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2-1/2 LIT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH.

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 69 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-3-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.0						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	146		
B.O.D., mg/l				Nitrogen, Ammonia, as N, mg/l			
* Total Solids @ 105°C	43.3			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
* Ash Content, on ignition	42.0			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Oil and Grease, mg/l			
Metals mg/kg dry wt				Aldrin, mg/l	22		OK
Arsenic, as AS, mg/l	4.3		OK	Chlordane, mg/l	220		OK
Barium, as Ba, mg/l				DDT's, mg/l	33		?
Boron, as B, mg/l				Dieldrin, mg/l	6.0		
Cadmium, as Cd, mg/l	20.4		OK	Endrin, mg/l	7.1		OK
Chromium, Total as Cr, mg/l				Heptachlor, mg/l	22		OK
Hexavalent Chromium @ Cr, mg/l				Lindane, mg/l	22		
Copper, as Cu, mg/l	4.4			Methoxychlor, mg/l	110		OK
Iron, Total as Fe, mg/l				Toxaphene, mg/l	250		OK
Iron, dissolved as Fe, mg/l				Parathion, mg/l	250		
Lead, as Pb, mg/l	11		OK	2, 4, D, mg/l	2		
Manganese, as Mn, mg/l				2, 4, 5, TP (Silvex), mg/l	2		
Magnesium, as Mg, mg/l				PCB's, mg/l	29		OK
Mercury, as Hg, mg/l	0.1		OK				
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l	22						
Silver, as Ag, mg/l	21						
Zinc, as Zn, mg/l	27						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0022-22

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: 11-70 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-3-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	6.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
G.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides as CN, Free, mg/l	1400		
Total Solids @ 105°C	372.0						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	91.3			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	24.5		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	20.9		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	42		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	28		DK
Copper, as Cu, mg/l	9.1			DDT's, mg/l	42		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	42		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	42		DK
Lead, as Pb, mg/l	2.10		OK	Hepchlor, mg/l	42		DK
Manganese, as Mn, mg/l				Lindane, mg/l	42		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	40		OK
Mercury, as Hg, mg/l	4.1		OK	Toxaphene, mg/l	450		OK
Nickel, as Ni, mg/l				Parathion, mg/l	450		
Spicium, as Se, mg/l	4.2			2, 4, D, mg/l			
Silver, as Ag, mg/l	2.1			2, 4, 5, TP (Silver), mg/l			
Zinc, as Zn, mg/l	2.1			PCB's, mg/l	43		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>Industrial Solvents</i>	20.1		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	100						

X19-3-24 71

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERSIDE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

W/PER LUNCH WASTE WAS CLEANED BY SOAP & WATER RINSE, ACCIDENTAL RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND.
X19-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (6", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC
DATE: 1-9-84

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

X19-4-0 " 72^F

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY WIPING WITH WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND.
X19-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTE
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH.
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 72 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-4-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.9						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	1 Neg		
B.O.D., mg/l							
* Total Solids @ 105°C	91.2			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	40.0			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/Kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	3.2		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	20.7		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	220		OK
Copper, as Cu, mg/l	9.5			DDT's, mg/l	39		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	22		OK
Iron, dissolved as Fe, mg/l				Endrin, mg/l	22		OK
Lead, as Pb, mg/l	28		OK	Heptachlor, mg/l	22		OK
Manganese, as Mn, mg/l				Lindane, mg/l	22		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	210		OK
Mercury, as Hg, mg/l	0.1		OK	Toxaphene, mg/l	250		OK
Nickel, as Ni, mg/l				Parathion, mg/l	250		
Selenium, as Se, mg/l	22			2, 4, D, mg/l			
Silver, as Ag, mg/l	21			2, 4, 5, TP (Silver), mg/l			
Zinc, as Zn, mg/l	23			PCB's, mg/l	220		OK
Bicarbonates, as HCO ₃ , mg/l				<i>Industrial Silicates</i>	20-1		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	1 Neg						

X19-4-K 73

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND
X19-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOPES, SHOVEL POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (1 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC
DATE: 1-9-84

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 73 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-4-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l	None		
* Total Solids @ 105°C	84.6						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	58.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	11		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.3		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<i>mg/kg</i> 22		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	22		OK
Copper, as Cu, mg/l	14			DDT, mg/l	35		?
Iron, Total as Fe, mg/l				Dieldrin, mg/l	7.1		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	22		OK
Lead, as Pb, mg/l	14		OK	Heptachlor, mg/l	22		OK
Manganese, as Mn, mg/l				Lindane, mg/l	22		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.1		OK	Toxaphene, mg/l	250		OK
Nickel, as Ni, mg/l				Parathion, mg/l	250		
Selenium, as Se, mg/l	22			2,4-D, mg/l			
Silver, as Ag, mg/l	<0.9			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	29			PCBs, mg/l	53		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>mg/kg</i>			
Chlorides, as Cl, mg/l				Includes mg/l Silvex	20.1		
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

X19-4-24 | 74

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT

150 W. 137TH ST.

RIVERSIDE IL 60627

ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-4-24
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0', 2', 24").
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WIPER EACH DAY
WAS CLEANED BY SOAP & WATER
RINSE! ACETONE RINSE, WATER
RINSE!

GENERATOR: CWM-NIROP-COE

SAMPLE HOUR/DATE: 1-9-84

PROFILE SHEET CODE: _____

SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-9-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 74 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-4-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	80.1			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
* Ash Content, on ignition	83.0			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg dry wt</i>				Oil and Grease, mg/l			
Arsenic, as AS, mg/l	8.6		OK				
Barium as Ba, mg/l							
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<i>mg/kg</i> 22		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	220		OK
Copper, as Cu, mg/l	11			DDT's, mg/l	13		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	22		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	22		OK
Lead, as Pb, mg/l	13		OK	Heptachlor, mg/l	22		OK
Manganese, as Mn, mg/l				Lindane, mg/l	22		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.2		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Strontium, as Sr, mg/l	<2			2, 4, D, mg/l			
Silver, as Ag, mg/l	<1			2, 4, 5, TP (Silvex), mg/l			
Zinc, as Zn, mg/l	26			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>4 wt</i>			
Chlorides, as Cl, mg/l				<i>Industrial Solvents</i>	<0.1		
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	149						

FORM WMI-52 (Rev. 11-5-60)
 1980 WASTE MANAGEMENT, INC

0022-27

X11-3-0

75

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 601627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE! ACETONE RINSE, WATER RINSE!

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND
X19-5-C
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL, POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED (EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

SIGNATURE: Mark Hill

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 75 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-5-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	6.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD ₅ , mg/l				Cyanides, as CN, Free, mg/l	NEY		
X Total Solids @ 105°C	88.3						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Fresh Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	86.9			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metals mucky dev. at</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	23.7		OK				
Barium, as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	42		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	220		OK
Copper, as Cu, mg/l	14			DDT's, mg/l	23		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	2.7		
Iron, Dissolved as Fe, mg/l				Endrin, mg/l	2.1		OK
Lead, as Pb, mg/l	11		OK	Heptachlor, mg/l	22		OK
Manganese, as Mn, mg/l				Lindane, mg/l	22		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	20.2		OK	Toxaphene, mg/l	56		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	22			2,4-D, mg/l			
Silver, as Ag, mg/l	<1			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	36			PCB's, mg/l	<20		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				<i>4000</i>			
Chlorides, as Cl, mg/l				<i>Industrial Solutions</i>	241		
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

X19-5-12 " 76 "

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERDALE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 1-9-84
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
NO DRUMS WERE FOUND.
X19-5-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24").
- AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WIPK EACH JAR
WAS CLEANED BY SOAP & WATER
RINSE! ACETONE RINSE,
RINSE.

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-89-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

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Proceedings (1961)

Vol. 87 pages 171-195

Hantush, M. S.

Aquifer test on partially penetrated wells.

308
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Paper No. 3304
(Vol. 127, 1962, Part I)

AQUIFER TESTS ON PARTIALLY PENETRATING WELLS

By Mahdi S. Hantush¹

SYNOPSIS

The theory of nonsteady flow toward artesian wells partially penetrating infinite nonleaky aquifers is used to outline methods for the determination of the formation coefficients as well as the thickness of the water-bearing formation. Applications of these methods are illustrated by analyzing data from ground-water basins in New Mexico.

INTRODUCTION

In analyzing nonsteady flow problems of partial penetration, the practice is to make use of complete penetration formulas with or without adjustments, depending on the nature of the flow system considered.² These adjustments, if used, are based on the steady-state solutions of partial penetration. Such procedures may give fair results if the aquifer penetrated is of small and known thickness, provided that the assumptions made in each case are obtained. However, in the case of thick aquifers or aquifers of unknown thicknesses, such procedures are inapplicable.

Methods for determining the hydraulic properties, as well as the thickness, of a water-bearing formation by using aquifer test data obtained from wells

Note.—Published essentially as printed here, in September, 1961, in the Journal of the Hydraulics Division, as Proceedings Paper 2943. Positions and titles given are those in effect when the paper was approved for publication in Transactions.

¹ Senior Hydrologist and Prof. of Hydrol., New Mexico Inst. of Mining and Tech., Socorro, N. Mex.; on leave from the College of Engrg., Univ. of Baghdad, Baghdad, Iraq.

² "Engineering Hydrology," by S. S. Butler, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1957.

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that partially penetrate the formation are outlined herein. The procedures are based on the theory developed by the writer³ for the nonsteady flow toward a steadily discharging well that penetrates an artesian aquifer of infinite areal extent.

Notation.—The letter symbols adopted for use in this paper are defined where they first appear, in the illustrations or in the text, and are arranged alphabetically, for convenience of reference, in the Appendix.

DRAWDOWN EQUATIONS

The equations that provide the drawdown distribution in and near partially penetrating artesian wells and that are useful in analyzing data from aquifer tests, will be presented. Details of other equations are available.³

Drawdown in Piezometers.—Piezometers are small-diameter pipes driven into an aquifer, so that entrance of water into the pipes is solely from the bot-

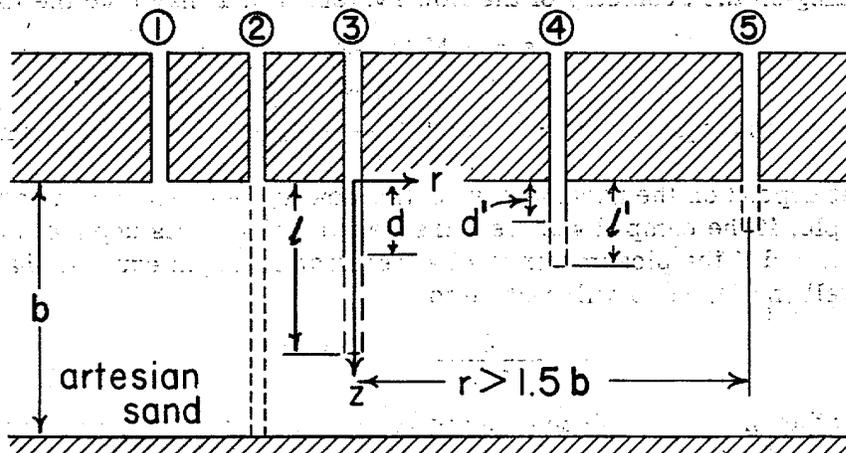


FIG. 1.—DIAGRAMMATIC REPRESENTATION OF PARTIALLY PENETRATING WELLS IN ARTESIAN AQUIFER

tom. The drawdown s in a piezometer having a depth of penetration z and being a distance r from the center of a pumped well that is screen between the depths d and l ; and whose discharge Q is constant, is, for the case of a homogeneous, isotropic, and nonleaky elastic aquifer, infinite in areal extent and of uniform thickness b , as given below, and is valid only during the period of time specified. (See Fig. 1 for the coordinate system.)

For a relatively short period of pumping, the equation of drawdown for $t < \frac{(2b - l - z)^2 S_s}{20K}$ is

$$s = \frac{Q}{8 \pi K (l - d)} E \left(u, \frac{l}{r}, \frac{d}{r}, \frac{z}{r} \right) \quad (1)$$

³ "Drawdown Around a Partially Penetrating Well," by M. S. Hantush, *Proceedings, ASCE*, Vol. 87, No. HY 4, July, 1961.

in which

$$E = M \left[u, \frac{(1+z)}{r} \right] - M \left[u, \frac{(d+z)}{r} \right] + M \left[u, \frac{(1-z)}{r} \right] - M \left[u, \frac{(d-z)}{r} \right] \dots \dots \dots (2)$$

and

$$u = \left(\frac{r^2 S_s}{4 K t} \right) \dots \dots \dots (3)$$

t is the time since pumping started, S_s and K are the specific storage (volume of water released from storage in a unit volume of the aquifer under a unit head decline, of dimension L⁻¹) and the hydraulic conductivity of the aquifer, respectively, and M (u, β) denotes an infinite integral (see list of symbols), sufficient values of which have been tabulated³ for a practical range of the parameters involved. A more detailed table of this function is available.⁴

Depending on the geometry of the flow system, Eq. 1 may take the form

$$s = c M (u, \beta) \dots \dots \dots (4)$$

in which case the equation is valid for $t < \left[\frac{(2b - r\beta)^2 S_s}{2 OK} \right]$, c and β being constants that depend on the parameters of the flow system under consideration.

For example, if the pumped well is screened throughout its depth of penetration (d = 0), and if the piezometer is of a penetration depth equal to that of the pumped well (z = l), Eq. 1 will reduce to

$$s = \frac{Q}{8 \pi K l} M \left(u, \frac{2l}{r} \right) \dots \dots \dots (5a)$$

If, on the other hand, the piezometer is of zero penetration (z = 0), the draw-down equation becomes

$$s = \frac{Q}{4 \pi K l} M \left(u, \frac{l}{r} \right) \dots \dots \dots (5b)$$

Another example is that of a flow system in which l = 3d and z = d, in which case the equation of drawdown is

$$s = \frac{3 Q}{16 \pi K l} M \left(u, \frac{4 l}{3 r} \right) \dots \dots \dots (5c)$$

For relatively long periods of pumping, the equation of drawdown for $t > \frac{(b^2 S_s)}{2K}$ has been shown to⁵ be

$$s = \frac{Q}{4 \pi K b} \left\{ W (u) + f_s \left(\frac{r}{b}, \frac{l}{b}, \frac{d}{b}, \frac{z}{b} \right) \right\} \dots \dots \dots (6)$$

⁴ Professional Paper 102, Research Div., New Mexico Inst. of Mining and Tech., Socorro, N. Mex.

⁵ "Nonsteady Flow to a Well Partially Penetrating an Infinite Leaky Aquifer," by M. S. Hantush, Proceedings, Iraqi Scientific Soc., 1957, p. 10; also reprinted by New Mexico Inst. of Mining and Tech., Socorro, N. Mex.

in which

$$f_s = \frac{4b}{\pi(1-d)} \sum_{n=1}^{\infty} \left(\frac{1}{n}\right) K_0\left(\frac{n\pi r}{b}\right) \cos\left(\frac{n\pi z}{b}\right) \left[\sin\left(\frac{n\pi l}{b}\right) - \sin\left(\frac{n\pi d}{b}\right) \right] \dots\dots\dots (7)$$

K_0 is the zero-order modified Bessel function of the second kind, and $W(u)$ is the well function for nonleaky aquifers, or what in the mathematical literature is known as the negative exponential integral of $(-u)$. The function is available in tabular form.⁶

Drawdown in Observation Wells.—Unlike a piezometer that registers the drawdown at a point in the aquifer, an observation well screened in the aquifer will reflect the average drawdown in the aquifer profile that is in contact with the well screen (or perforated casing). For an observation well that is screened between the depths d' and l' the required equations are as follows:

An approximate equation of average drawdown for $t < \frac{\left[2b - \left(\frac{1}{2}\right)(2l + l' + d')\right]^2 S_s}{20 K}$

that gives results sufficiently accurate for practical application, provided that $(l'/l) < 2$ is

$$\bar{s} \approx \frac{Q}{8\pi K(1-d)} \bar{E}\left(u, \frac{l}{r}, \frac{d}{r}, \frac{l'}{r}, \frac{d'}{r}\right) \dots\dots\dots (8)$$

in which \bar{s} is the average drawdown in the observation well and \bar{E} is the value of the function E of Eq. 1, in which the value of z is replaced by $(l' + d')/2$. An exact solution is available.³

If $(r/l) > 1$ and $(l'/l) < 1$, the average drawdown in the observation well can, for all practical purposes, be taken as that given by Eq. 1, with the value of z arbitrarily chosen between l' and zero. The choice is generally made so as to simplify the equation which, in certain cases, may take the form of Eq. 4 and which is valid in the same time interval as that of the latter. The simplified equation would have the form

$$\bar{s} \approx c M(u, \beta) \dots\dots\dots (9)$$

For example, if $l = 3d$, a choice of $z = d$ will reduce Eq. 1 to Eq. 5c. Also, if $d = 0$, a choice of $z = 0$ will result in Eq. 5b, whereas a choice of $z = l$ gives Eq. 5a. All these equations are of the type of Eq. 9.

For a relatively long period of pumping, the equation of average drawdown for $t > \left(\frac{b^2 S_s}{2K}\right)$ is

$$\bar{s} = \frac{Q}{4\pi K b} \left\{ W(u) + \bar{f}_s \left(\frac{r}{b}, \frac{l}{b}, \frac{d}{b}, \frac{l'}{b}, \frac{d'}{b}\right) \right\} \dots\dots\dots (10)$$

⁶ "Methods for Determining Permeability of Water-Bearing Materials," by L. K. Wenzel, U. S. Geol. Survey, Water-Supply Paper No. 887, 1942, p. 88; also "Hydrology," by C. O. Wisler and E. F. Brater, John Wiley and Sons, New York, N. Y., 1951.

in which

$$\bar{f}_s = \frac{4 b^2}{\pi^2 (1 - d) (1' - d')} \sum_{n=1}^{\infty} \left(\frac{1}{n^2} \right) K_0 \left(\frac{n \pi r}{b} \right) \left[\sin \left(\frac{n \pi l}{b} \right) - \sin \left(\frac{n \pi d}{b} \right) \right] \left[\sin \left(\frac{n \pi l'}{b} \right) - \sin \left(\frac{n \pi d'}{b} \right) \right] \dots (11)$$

Eq. 11, as well as Eq. 6, shows that in this range of time, the rate of change of drawdown is the same as though the pumped well completely penetrated the

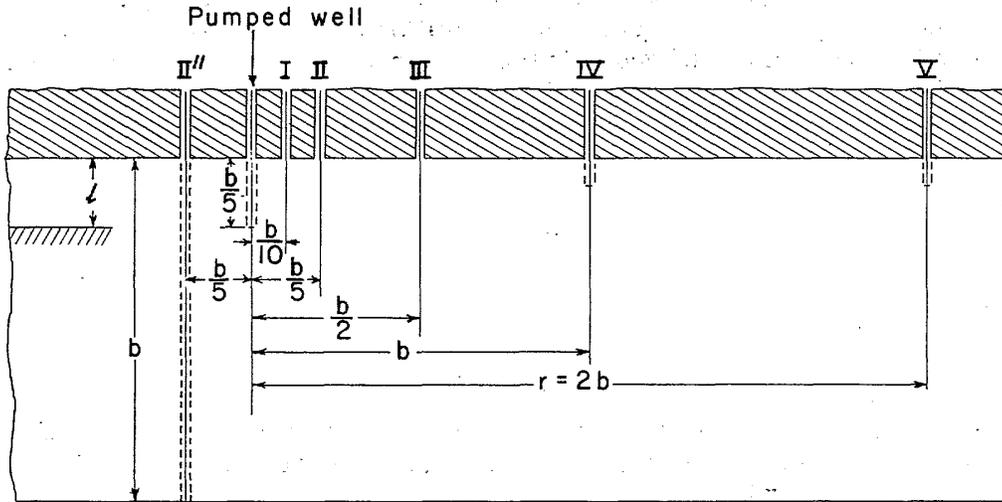


FIG. 2.—DIAGRAMMATIC REPRESENTATION OF PARTIALLY PENETRATING WELLS

aquifer. In other words, the effect of partial penetration on the drawdown has attained its maximum value.

Drawdown in Piezometers or Wells for (r/b) > 1.5.—For relatively large distances, that is (r/b) > 1.5, the equation of drawdown has been shown⁷ to be

$$s = \frac{Q}{4 \pi K b} W(u) \dots (12)$$

In fact, Eq. 12 gives results sufficiently accurate for practical purposes even for (r/b) as small as one, provided $u < 0.1 (r/b)^2$. The equation is the same as it would be if the pumped well completely penetrated the aquifer (Theis formula).⁸

⁷ "Nonsteady Flow to a Well Partially Penetrating an Infinite Leaky Aquifer," by M. S. Hantush, *Proceedings, Iraqi Scientific Soc.*, 1957, p. 10; also reprinted by New Mexico Inst. of Mining and Tech., Socorro, N. Mex.

⁸ "Groundwater Hydrology," by David K. Todd, John Wiley and Sons, Inc., New York, 1959, p. 90; also "Arid Zone Hydrology Recent Developments" by H. Schoeller, UNESCO, Paris, France, 1959, p. 37.

Drawdown in the Pumping Well.—The equations of drawdown that have been presented in the previous sections are derived on the assumption that the flux entering the pumped well is uniformly distributed along the water entry face of the well. Theoretically speaking the hydraulic head, rather than the flux, along the face just outside of the pumped well screen should be uniform. This uniform head distribution can be achieved by a lengthy process involving the distribution of varying flux elements along the well axis. The drawdown at points not in the immediate vicinity of the pumped well, obtained by the simpler equations that are based on a uniform flux across the well screen, does not deviate appreciably from that obtained by the assumedly more exact, but lengthy process. In the actual problem neither a uniform flux nor a uniform head is really conceived along the face of the well, due to several involved field and operational conditions. The drawdown, in this case, will have a value between the two theoretical extremes. Thus, each of the two theoretical expressions can be used to very closely represent the actual case. The simpler equations are, of course, more appealing.

The theoretical drawdown equations, derived on the assumption of uniform flux along the well screen, will obviously give a variable head distribution along the face of the pumped well. It has been shown,⁹ however, that the maximum drawdown (least hydraulic head) at the face of the well that these equations give, is very closely equal to that which obtains if the hydraulic head along the face of the well is maintained uniform. The point along the face of the well at which the least hydraulic head occurs depends on the space position of the well screen. If the well is screened throughout its depth of penetration, the least head takes place at the top of the aquifer ($z = 0$). If, on the other hand, the well completely penetrates the aquifer and only its lower part is screened, the least head occurs at the bottom of the aquifer ($z = b$). But if the well is screened between the depths d and l , the least head develops at a depth somewhere between l and d , being closer to d if most of the well screen is in the upper half of the aquifer, and closer to l if the reverse is true. Computation in the drawdown equation shows, however, that the value of maximum drawdown does not differ appreciably from that obtained for $z = (1/2)(l + d)$. Consequently, if so-called well losses are excluded, the water level in a pumping well can be calculated from the equations of drawdown in piezometers (presented in the previous sections) by substituting therein r_w for r , and the value of z at which the least hydraulic head takes place, r_w being the effective radius of the well.

PROPERTIES OF DRAWDOWN EQUATIONS

Some characteristic features of the drawdown equations that are of importance in graphical computations for the formation coefficients will be given.

Equations for Special Cases.—Equations of drawdown in piezometers or observation wells that, during relatively short periods of pumping ($t < [(2b - r\beta)^2 S_s / 20K]$), are of the type of Eq. 4 or Eq. 9, are here called "equations for special cases." Fig. 3 gives theoretical graphs of drawdown versus the

⁹ "The Flow of Homogeneous Fluids Through Porous Media," by M. Muskat, McGraw-Hill Book Co., Inc., New York, N. Y., 1937; or J. W. Edwards, Inc., Ann Arbor, Mich., 1946.

logarithm of-time for such equations. These graphs have the following properties:

1. In the period $t < \left[\frac{(r \beta)^2 S_s}{20K} \right]$, the drawdown is given by

$$s = c W(u) \dots \dots \dots (13)$$

This follows from the value of the function $M(u, \beta)$ for large values of u ; that is, small values of time [the approximation of $M(u, \beta)$ has been presented by the writer³].

Eq. 13 indicates that in the initial period of pumping, the flow behaves as though the aquifer ended at the bottom of the pumping well. This is shown by the dashed curves of Fig. 3 (I' and II'), that give the time-drawdown variation for wells I and II, respectively, if the aquifer is assumed to end at the bottom of the pumped well. Except for the pair of curves I and I', in the example of Fig. 3 (prepared for assumed values of the parameters), the other pairs (II and

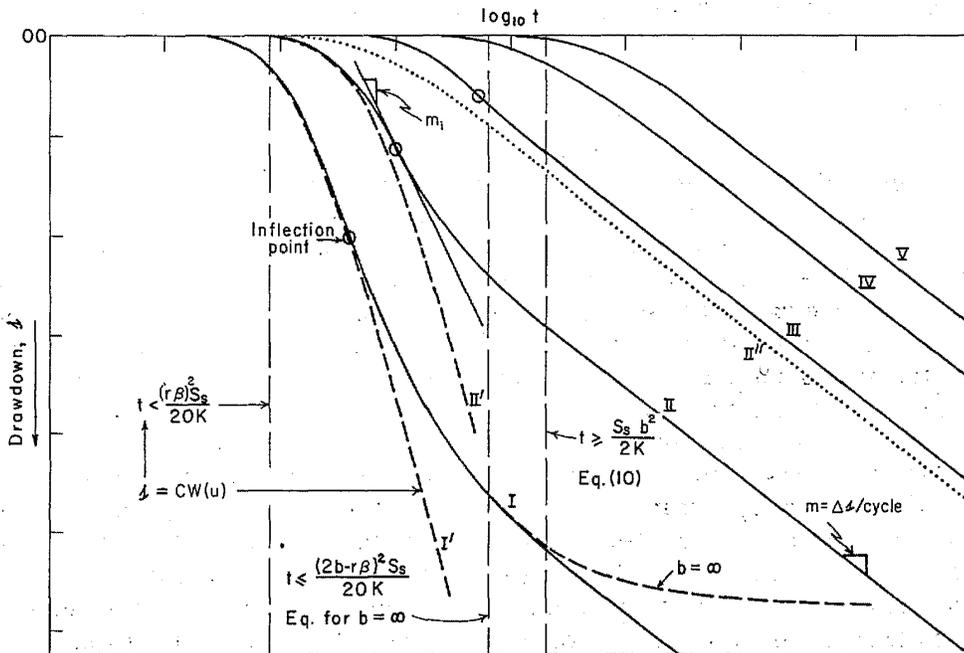


FIG. 3.—TIME-DRAWDOWN VARIATION DUE TO A STEADY WELL PARTIALLY PENETRATING AN ARTESIAN AQUIFER

II', and others not shown) fall outside the period mentioned above for any measurable drawdown. The curves of each pair deviate from each other, although the general trend of variation prior to the formation of the inflection point appears to be the same, the deviation being greater for larger distances from the pumped well.

2. In general, the curves have an inflection point that develops within the period $t < \left[\frac{(2b - r \beta)^2 S_s}{20K} \right]$. This point is located by the relation

$$\frac{\beta^2}{\sqrt{\pi}} = f(x) \dots \dots \dots (14)$$

$$= x e^{x^2} \operatorname{erf}(x) \dots \dots \dots (14)$$

TABLE 1.—VALUES OF THE FUNCTION erf(x) & f(x) = xe^{x²} erf(x)

x	erf(x)	f(x)	x	erf(x)	f(x)	x	erf(x)	f(x)	x	erf(x)	f(x)	x	erf(x)	f(x)	x	erf(x)	f(x)
0.005	0.0056	282(-7)	0.505	0.5249	0.34207	1.005	0.8448	2.3078	1.505	0.9667	14.012	2.005	0.9954	111.17	2.505	0.9996	1330.0
0.010	0.0113	113(-6)	0.510	0.5292	0.35007	1.010	0.8468	2.3721	1.510	0.9673	14.282	2.010	0.9955	113.72	2.510	0.9996	1366.5
0.015	0.0169	254(-6)	0.515	0.5336	0.35825	1.015	0.8488	2.4138	1.515	0.9679	14.554	2.015	0.9956	116.33	2.515	0.9996	1404.0
0.020	0.0226	451(-6)	0.520	0.5379	0.36656	1.020	0.8508	2.4811	1.520	0.9684	14.835	2.020	0.9957	119.01	2.520	0.9996	1442.7
0.025	0.0282	705(-6)	0.525	0.5422	0.37497	1.025	0.8528	2.4995	1.525	0.9690	15.121	2.025	0.9958	121.75	2.525	0.9996	1482.5
0.030	0.0338	0.00102	0.530	0.5465	0.38357	1.030	0.8548	2.5435	1.530	0.9695	15.414	2.030	0.9959	124.57	2.530	0.9997	1523.5
0.035	0.0395	0.00138	0.535	0.5507	0.39227	1.035	0.8567	2.5882	1.535	0.9701	15.711	2.035	0.9960	127.45	2.535	0.9997	1565.7
0.040	0.0451	0.00181	0.540	0.5549	0.40114	1.040	0.8587	2.6338	1.540	0.9706	16.015	2.040	0.9961	130.40	2.540	0.9997	1609.1
0.045	0.0507	0.00204	0.545	0.5591	0.41011	1.045	0.8606	2.6800	1.545	0.9712	16.326	2.045	0.9962	133.43	2.545	0.9997	1653.8
0.050	0.0564	0.00283	0.550	0.5633	0.41929	1.050	0.8624	2.7264	1.550	0.9716	16.642	2.050	0.9963	136.54	2.550	0.9997	1699.8
0.055	0.0620	0.00342	0.555	0.5675	0.42859	1.055	0.8643	2.7752	1.555	0.9721	16.965	2.055	0.9963	139.72	2.555	0.9997	1747.2
0.060	0.0676	0.00407	0.560	0.5716	0.43801	1.060	0.8661	2.8240	1.560	0.9726	17.297	2.060	0.9964	142.98	2.560	0.9997	1796.0
0.065	0.0732	0.00478	0.565	0.5757	0.44763	1.065	0.8680	2.8737	1.565	0.9731	17.634	2.065	0.9965	146.32	2.565	0.9997	1846.2
0.070	0.0789	0.00558	0.570	0.5798	0.45738	1.070	0.8698	2.9242	1.570	0.9736	17.979	2.070	0.9966	149.76	2.570	0.9997	1897.9
0.075	0.0845	0.00637	0.575	0.5839	0.46727	1.075	0.8716	2.9756	1.575	0.9741	18.330	2.075	0.9967	153.27	2.575	0.9997	1951.2
0.080	0.0901	0.00725	0.580	0.5879	0.47735	1.080	0.8733	3.0280	1.580	0.9746	18.691	2.080	0.9967	156.88	2.580	0.9997	2006.0
0.085	0.0957	0.00819	0.585	0.5919	0.48760	1.085	0.8751	3.0813	1.585	0.9750	19.058	2.085	0.9968	160.58	2.585	0.9998	2062.5
0.090	0.1013	0.00919	0.590	0.5959	0.49797	1.090	0.8768	3.1355	1.590	0.9755	19.433	2.090	0.9969	164.37	2.590	0.9998	2120.7
0.095	0.1069	0.01024	0.595	0.5999	0.50858	1.095	0.8785	3.1907	1.595	0.9759	19.815	2.095	0.9970	168.26	2.595	0.9998	2180.6
0.100	0.1125	0.01136	0.600	0.6039	0.51931	1.100	0.8802	3.2470	1.600	0.9764	20.208	2.100	0.9970	172.25	2.600	0.9998	2242.3
0.105	0.1181	0.01253	0.605	0.6078	0.53023	1.105	0.8819	3.3041	1.605	0.9768	20.606	2.105	0.9971	176.34	2.605	0.9998	2305.9
0.110	0.1236	0.01384	0.610	0.6117	0.54132	1.110	0.8835	3.3623	1.610	0.9772	21.015	2.110	0.9972	180.54	2.610	0.9998	2371.4
0.115	0.1292	0.01520	0.615	0.6156	0.55260	1.115	0.8852	3.4215	1.615	0.9776	21.433	2.115	0.9972	184.84	2.615	0.9998	2438.8
0.120	0.1348	0.01660	0.620	0.6194	0.56402	1.120	0.8868	3.4819	1.620	0.9780	21.860	2.120	0.9973	189.25	2.620	0.9998	2508.3
0.125	0.1403	0.01802	0.625	0.6232	0.57558	1.125	0.8884	3.5432	1.625	0.9784	22.293	2.125	0.9973	193.78	2.625	0.9998	2579.9
0.130	0.1459	0.01928	0.630	0.6271	0.58754	1.130	0.8900	3.6058	1.630	0.9788	22.739	2.130	0.9974	198.43	2.630	0.9998	2653.6
0.135	0.1514	0.02082	0.635	0.6308	0.59950	1.135	0.8915	3.6693	1.635	0.9792	23.193	2.135	0.9975	203.17	2.635	0.9998	2713.8
0.140	0.1570	0.02241	0.640	0.6346	0.61173	1.140	0.8931	3.7342	1.640	0.9796	23.658	2.140	0.9975	208.08	2.640	0.9998	2807.8
0.145	0.1625	0.02405	0.645	0.6383	0.62412	1.145	0.8946	3.8002	1.645	0.9800	24.132	2.145	0.9976	213.09	2.645	0.9998	2888.5
0.150	0.1680	0.02577	0.650	0.6420	0.63675	1.150	0.8961	3.8674	1.650	0.9804	24.618	2.150	0.9976	218.24	2.650	0.9998	2971.6
0.155	0.1735	0.02755	0.655	0.6457	0.64952	1.155	0.8976	3.9357	1.655	0.9808	25.113	2.155	0.9977	223.52	2.655	0.9998	3057.3
0.160	0.1790	0.02938	0.660	0.6494	0.66256	1.160	0.8991	4.0051	1.660	0.9811	25.619	2.160	0.9978	228.94	2.660	0.9998	3145.5
0.165	0.1845	0.03128	0.665	0.6530	0.67574	1.165	0.9006	4.0763	1.665	0.9815	26.137	2.165	0.9978	234.49	2.665	0.9998	3236.5
0.170	0.1900	0.03325	0.670	0.6566	0.68921	1.170	0.9020	4.1485	1.670	0.9818	26.666	2.170	0.9979	240.20	2.670	0.9998	3330.2
0.175	0.1955	0.03527	0.675	0.6602	0.70288	1.175	0.9034	4.2220	1.675	0.9822	27.205	2.175	0.9979	246.05	2.675	0.9999	3426.9
0.180	0.2009	0.03736	0.680	0.6638	0.71669	1.180	0.9048	4.2970	1.680	0.9825	27.758	2.180	0.9980	252.06	2.680	0.9999	3526.5
0.185	0.2064	0.03951	0.685	0.6673	0.73079	1.185	0.9062	4.3732	1.685	0.9828	28.322	2.185	0.9980	258.22	2.685	0.9999	3629.1
0.190	0.2118	0.04171	0.690	0.6708	0.74514	1.190	0.9076	4.4509	1.690	0.9832	29.000	2.190	0.9981	264.55	2.690	0.9999	3734.9
0.195	0.2173	0.04401	0.695	0.6743	0.75956	1.195	0.9090	4.5300	1.695	0.9835	29.489	2.195	0.9981	271.04	2.695	0.9999	3844.0
0.200	0.2227	0.04636	0.700	0.6778	0.77446	1.200	0.9103	4.6106	1.700	0.9838	30.092	2.200	0.9981	277.71	2.700	0.9999	3956.5
0.205	0.2281	0.04877	0.705	0.6813	0.78949	1.205	0.9116	4.6925	1.705	0.9841	30.709	2.205	0.9982	284.55	2.705	0.9999	4072.4
0.210	0.2335	0.05125	0.710	0.6847	0.80477	1.210	0.9127	4.7748	1.710	0.9844	31.340	2.210	0.9982	291.58	2.710	0.9999	4191.9
0.215	0.2389	0.05380	0.715	0.6881	0.82025	1.215	0.9143	4.8611	1.715	0.9847	31.987	2.215	0.9983	298.78	2.715	0.9999	4315.1
0.220	0.2443	0.05642	0.720	0.6914	0.83606	1.220	0.9155	4.9481	1.720	0.9850	32.642	2.220	0.9983	306.19	2.720	0.9999	4442.2
0.225	0.2497	0.05909	0.725	0.6948	0.85203	1.225	0.9168	5.0365	1.725	0.9853	33.315	2.225	0.9984	313.78	2.725	0.9999	4573.2
0.230	0.2550	0.06183	0.730	0.6981	0.86827	1.230	0.9181	5.1261	1.730	0.9856	34.004	2.230	0.9984	321.59	2.730	0.9999	4708.3
0.235	0.2604	0.06466	0.735	0.7014	0.88480	1.235	0.9193	5.2180	1.735	0.9859	34.707	2.235	0.9984	330.12	2.735	0.9999	4847.6
0.240	0.2657	0.06755	0.740	0.7047	0.90166	1.240	0.9205	5.3115	1.740	0.9861	35.429	2.240	0.9985	337.82	2.740	0.9999	4991.2
0.245	0.2710	0.07050	0.745	0.7079	0.91869	1.245	0.9217	5.4060	1.745	0.9864	36.164	2.245	0.9985	346.28	2.745	0.9999	5139.4
0.250	0.2763	0.07354	0.750	0.7112	0.93612	1.250	0.9229	5.5033	1.750	0.9867	36.918	2.250	0.9985	354.94	2.750	0.9999	5292.2
0.255	0.2816	0.07665	0.755	0.7144	0.95392	1.255	0.9241	5.6036	1.755	0.9870	37.688	2.255	0.9986	363.85			
0.260	0.2869	0.07981	0.760	0.7175	0.97211	1.260	0.9252	5.7051	1.760	0.9873	38.475	2.260	0.9986	373.51			
0.265	0.2922	0.08305	0.765	0.7207	0.99085	1.265	0.9264	5.8085	1.765	0.9874	39.279	2.265	0.9986	382.38			
0.270	0.2974	0.08637	0.770	0.7238	1.00831	1.270	0.9275	5.9133	1.770	0.9877	40.105	2.270	0.9987	392.03			
0.275	0.3027	0.08977	0.775	0.7269	1.0271	1.275	0.9286	6.0199	1.775	0.9879	40.946	2.275	0.9987	401.94			
0.280	0.3078	0.09324	0.780	0.7300	1.0464	1.280	0.9297	6.1282	1.780	0.9882	41.809	2.280	0.9987	412.12			
0.285	0.3131	0.09678	0.785	0.7331	1.0657	1.285	0.9308	6.2353	1.785	0.9884	42.689	2.285	0.9988	422.57			
0.290	0.3183	0.10039	0.790	0.7361	1.0855	1.290	0.9319	6.3481	1.790	0.9886	43.593	2.290	0.9988	433.30			
0.295	0.3235	0.10409	0.795	0.7391	1.1055	1.295	0.9330	6.4626	1.795	0.9889	44.514	2.295	0.9988	444.33			
0.300	0.3286	0.10788	0.800	0.7421	1.1259	1.300	0.9340	6.5798	1.800	0.9891	45.460	2.300	0.9989	455.66			
0.305	0.3338	0.11173	0.805	0.7451	1.1466	1.305	0.9350	6.6991	1.805	0.9893	46.423	2.305	0.9989	467.31			
0.310	0.3389	0.11566	0.810	0.7480	1.1677	1.310	0.9361	6.8211	1.810	0.9895	47.413	2.310	0.9989	479.26			

in which

$$x = \beta \sqrt{u_i}, u_i = \left(\frac{r^2 S_s}{4 K t_i} \right) \dots \dots \dots (15)$$

and t_i is the value of t at the inflection point. The function $f(x)$ is given in Table 1 for a wide range of x .

The drawdown s_i at the inflection point is given by

$$s_i = cM(u_i, \beta) \dots \dots \dots (16)$$

and the slope m_i of the curve at that point is

$$m_i = \frac{\Delta s}{\text{cycle}} = 2.3 c e^{-u_i} \text{erf}(x) \dots \dots \dots (17)$$

Eq. 14 is obtained by equating to zero the second derivative of Eq. 4 with respect to $\log_{10}t$, and Eq. 16 is obtained from Eq. 4 by substituting u_i for u . After obtaining the first derivative of Eq. 4 with respect to $\log_{10}t$, u_i is substituted for u to obtain Eq. 17.

3. The drawdown curves depart from those that obtain for an infinitely thick aquifer (as described completely by Eq. 4) at an approximate value of t or u given, respectively, by

$$t_d = \frac{(2b - r\beta)^2 S_s}{20 K} \dots \dots \dots (18a)$$

and

$$\frac{1}{u_d} = \frac{(2b - r\beta)^2}{5 r^2} \dots \dots \dots (18b)$$

in which t_d and u_d are, respectively, the values of t and u at the point of departure.

4. The inflection of the curves is clearly defined for small values of (r/b) . Depending on the geometry of the flow system, the inflection disappears (see curves IV and V, Fig. 3) for

$$\left[\frac{x^2 (2b - r\beta)^2}{5 (r\beta)^2} \right] \leq 1 \dots \dots \dots (19)$$

in which x and β are the parameters of Eq. 14. Eq. 19 is obtained by noting that the inflection occurs only if

$$t_i < \left[\frac{(2b - r\beta)^2 S_s}{20 K} \right] \dots \dots \dots (20)$$

5. Regardless of the location of the wells, the curves are straight lines having the same slope at relatively large values of time $[t > (b^2 S_s/2K)]$. The slope m of these lines is given by

$$m = \frac{\Delta s}{\text{cycle}} = 2.3 \frac{Q}{4 \pi K b} \dots \dots \dots (21)$$

which is obtained by differentiating Eq. 6 or Eq. 10 with respect to $\log_{10} t$ and noting that u becomes very small for large values of time.

Other Drawdown Equations.—For other drawdown equations (equations that, during a relatively short period of pumping, are not of the type of Eq. 4 or Eq. 9), the properties previously examined still apply qualitatively. Quantitatively, however, only Eq. 21 and, provided $(r \beta)$ is replaced by $(1/2) (2 l + l' + d')$, Eq. 18 are still applicable. In addition, as the length of the screen of an observation well is increased, other variables being held constant, the curve inflection becomes less distinct regardless of the well location. The curve approached is that of the Theis formula, which is obtained when (l'/b) and (d'/b) become one and zero respectively (see curves II and II", Fig. 3.

RECOVERY EQUATIONS

If t and t' are the times, reckoned respectively from the commencement and end of pumping, the residual drawdown s' in a piezometer during recovery can be shown to be

$$s' = s(t) - s(t') \dots \dots \dots (22)$$

Similarly, the average residual drawdown \bar{s}' in an observation well is

$$\bar{s}' = \bar{s}(t) - \bar{s}(t') \dots \dots \dots (23)$$

in which $t = t_0 + t'$ and t_0 is the time at which the pumping has ceased. Thus, the recovery equation corresponding to any of the drawdown equations discussed above can be formulated readily, subject to the same time criteria. For example, if the equation of drawdown is of the type that reduces to that of Eq. 4 during a relatively short period of pumping, the recovery equation can be written as³

$$s' = c \left[M(u, \beta) - M(u', \beta) + f_2(u, b/r, \beta) - f_2(u', b/r, \beta) \right] \dots (24)$$

in which u' is the value of u after replacing t by t' and

$$f_2(u, b/r, \beta) = \sum_{n=1}^{\infty} M \left[u, \left(\frac{2 n b}{r} + \beta \right) \right] - M \left[u, \left(\frac{2 n b}{r} - \beta \right) \right] \dots \dots (25)$$

For $t < \left[\frac{(2 b - r \beta)^2 S_s}{20 K} \right]$, Eq. 24 can be approximated by

$$s' = c \left[M(u, \beta) - M(u', \beta) \right] \dots \dots \dots (26)$$

For $t_0 > \left(\frac{b^2 S_s}{2 K} \right)$ and $t' < \left[\frac{(2 b - r \beta)^2 S_s}{20 K} \right]$, Eq. 24 can be approximated by

$$s' = \frac{Q}{4 \pi K b} \left[W(u) - f_s \right] - c M(u', \beta) \dots \dots \dots (27)$$

If both t_0 and t' are greater than $(b^2 S_s / 2 K)$, Eq. 24, as well as the general recovery equation,³ become

$$s' = \frac{Q}{4 \pi K b} \left[W(u) - W(u') \right] \dots \dots \dots (28)$$

The preceding equations give the recovery in piezometers. The recovery in observation wells can be similarly obtained by using the appropriate average drawdown equation. Eq. 28 gives the recovery in both cases.

PROPERTIES OF RECOVERY EQUATIONS.

In applying the recovery equation to the analysis of data from aquifer tests, use is made of some characteristic features of the equation.

Recovery Equations for Special Cases.—Of importance is the equation of water level recovery after shutoff in a pumped well that is screened throughout its depth of penetration, or in nearby wells that may be considered as piezometers of zero penetration. In such cases, as well as in others (see section

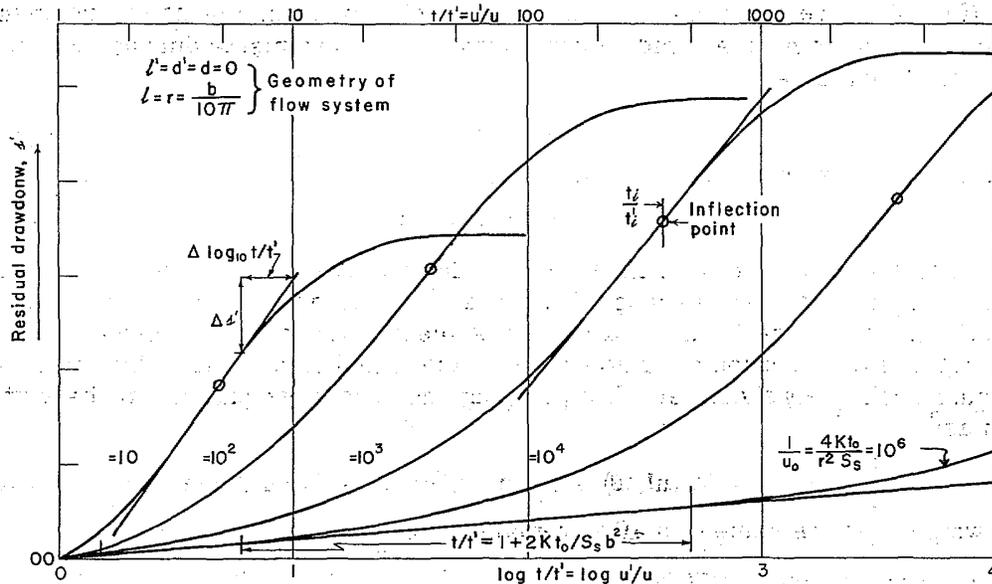


FIG. 4.—LOG (t/t')—RESIDUAL DRAWDOWN VARIATION IN WELLS PARTIALLY PENETRATING AN ARTESIAN AQUIFER

on Equations of Drawdown), the drawdown equation during short periods of pumping of the type of Eqs. 4 or 9. Consequently, the equations given in the preceding section apply. They are here called "recovery equations for special cases."

Fig. 4 represents theoretical plots of the residual drawdown s' (for the set of parameters shown in the figure) versus the logarithm of (t/t'), as given by Eq. 24. These curves have three main characteristics:

1. The curves have a straight portion at their lower left end; that is, a straight line passing through the point of zero residual drawdown and (t/t') = 1. This line may be clearly defined, as in the curves ($1/u_0$) = ($4Kt_0/r^2 S_s$) = 10^6 and 10^4 ; barely recognizable, as in the curve 10^3 ; or entirely indistinguishable, as in the curves 10^2 and 10. The range of time in which this line forms de-

depends on the length of the period of pumping t_0 , the formation coefficients, and the thickness of the aquifer. That is, the straight-line forms in the region for which (t/t') is less than $\left[1 + (2 K t_0 / b^2 S_s)\right]$. The slope of the straight line, if it forms, is given by

$$m = \frac{\Delta s'}{\text{cycle}} = \frac{2.3 Q}{4 \pi K b} \dots \dots \dots (29)$$

which is obtained by differentiating Eq. 28 with respect to $\log_{10} (t/t')$ and observing that u and u' become very small for larger values of time.

2. The curves have, in general, an inflection point, in the neighborhood of which the curve may often be approximated by a straight line, the slope of which for all practical purposes is equal to the slope of the curve at the inflection point. The inflection point forms (if it does) in the period $t' < \left[\frac{(2 b - r \beta)^2 S_s}{20 K}\right]$.

Thus, the recovery equation in the neighborhood of the inflection point is given by Eq. 24 after dropping out $f_2 \left(\frac{u', b}{r, \beta}\right)$. By differentiating this equation (or any equivalent equation³) twice with respect to $\log_{10} (t/t')$ and equating the results to zero, the value of u' at the inflection point, that is the value of u'_i , can be shown to be given approximately by the relation

$$\frac{\beta^2}{\sqrt{\pi}} = f(x) \\ = x e^{x^2} \operatorname{erf}(x) \dots \dots \dots (30)$$

in which $x = \beta \sqrt{u'_i}$.

The slope of the curve m_i at the inflection point can be obtained from Eq. 24 (or other equivalent form) by differentiating with respect to $\log_{10} (t/t')$ and substituting u_i and u'_i for u and u' , respectively, in the resulting expression. This slope can be approximated closely by either of the following two relations, depending on the range of (t/t') in which the inflection point occurs:

- a. If the inflection point occurs in the range $(t/t') < 100$, the slope can, for all practical purposes, be taken as

$$m_i = \Delta s' / \text{cycle} = 2.3c \left\{ (t'_i / t_0) \exp(-u'_i) \operatorname{erf}(x) - (t'_i / t_0) \exp\left[-(t'/t)_i u'_i\right] \operatorname{erf}\left(x \sqrt{(t'/t)_i}\right) \right\} \dots \dots \dots (31)$$

in which $(t'/t)_i$ is the value of t'/t at the inflection point.

- b. If the inflection point occurs in the range $(t/t') > 100$, the second term of Eq. 31 becomes insignificant. The slope is then given by Eq. 31 after neglecting the second term.

3. If the geometry of the flow system is such that the relation

$$\left[x^2 (2 b - r \beta)^2 / 5 (r \beta)^2 \right] \leq 1 \dots \dots \dots (32)$$

holds, the curve under consideration will not exhibit an inflection point. The straight portion of the curve that forms (if it does) through the latter part of data will, however, be the same as that described under item 1.

Other Recovery Equations.—The properties of the recovery equations for special cases, that were examined in the previous paragraphs, still apply qualitatively for other equations (see the section on Other Drawdown Equations) also. Quantitatively, however, only Eq. 29 is rigorously valid. The other relations can be used only to give an estimate of the values involved therein.

APPLICATIONS OF THEORY TO AQUIFER TESTS

Before introducing the procedure to be outlined, it should be observed that the effects of partial penetration resemble the effects of leakage from storage in a thick semipervious confining layer.¹⁰ Also, if the curve inflection is apparent, but the period of observation is not long enough to establish the ultimate straight-line variation on a semilogarithmic time-drawdown plot, the effects of partial penetrations resemble the effects of some kind of recharge boundary, such as induced infiltration from beds of streams or lakes,¹¹ or recharge from water-bearing strata supplying leakage¹² through semipervious confining beds. The same general effects are observed if the wells completely penetrate a sloping water-table aquifer or a wedge-shaped aquifer (nonuniform thickness). The existence of such conditions should be reasonably eliminated prior to performing an analysis, based on the present theory.

Outline of Methods.—Semilogarithmic time-drawdown or $\log_{10}(t/t')$ —residual drawdown plots or both are an essential part of the analysis of the observed data. Consequently, the first step in the analysis is the construction of such curves.

Analysis of Drawdown Data.—Depending on the geometry of the flow system under consideration, the methods are as follows:

Inflection Point Method.—If the equation of drawdown for the observation well under consideration during relatively short periods of pumping is of the type of Eq. 4 or Eq. 9 (or can be approximated by such equations), the following procedure can be followed, provided that the observed semilogarithmic plot clearly indicates the formation of the inflection point within the observed data, and provided also that the tangent of this curve at the inflection can be constructed with approximate accuracy:

- (1) On the semilogarithmic plot, construct the tangent in the region of the curve inflection and measure its slope $m_i = \Delta s/\text{cycle}$.
- (2) Compute $f(x)$ from $\beta^2/\sqrt{\pi} = f(x)$.
- (3) Obtain the value of x and $\text{erf}(x)$ from Table 1 (or from a graph constructed from this table).
- (4) Compute u_i from $(x/\beta)^2$ and obtain the value of $\exp(-u_i)$, using a slide rule or appropriate tables.
- (5) Compute K , using Eq. 17 with appropriate expression for c .
- (6) Obtain the value of $M(u_i, \beta)$, using tabular values of this function and the computed values of u_i and β . Then compute the value of s_i from Eq. 16.

¹⁰ "Modification of the Theory of Leaky Aquifers," by M. S. Hantush, *Journal of Geophysical Research*, Vol. 65, 1960, p. 3713.

¹¹ "Analysis of Data From Pumping Wells Near a River," by M. S. Hantush, *Journal of Geophysical Research*, Vol. 64, 1959, p. 1921.

¹² "Nonsteady Radial Flow in an Infinite Leaky Aquifer," by M. S. Hantush and C. E. Jacob, *Transactions, Amer. Geophysical Union*, Vol. 36, 1955, p. 95.

- (7) From the semilog plot, obtain the value t_1 corresponding to the computed value of s_1 . Then calculate the specific storage from $S_s = (4 K t_1 u_1 / r^2)$.
- (8) Construct the ultimate straight line of the curve (if it is discernible within the observed data) and measure its slope $m = \Delta s / \text{cycle}$. Then compute $T (= Kb)$ from Eq. 21.
- (9) Compute b from the calculated values of K and Kb .

Type-Curve Method.—If the semilogarithmic time-drawdown curve of the observed data exhibits an inflection of the type shown in Fig. 3, and if the number and distribution of the observed points are such that the details of the curve prior to the attainment of the ultimate straight-line variation are discernible, a type-curve method can be used to determine the formation coefficients and often the thickness of the aquifer. The method is essentially the "Theis graphical method."¹³ In the present case, however, the "type curve," according to the flow system under consideration, is a plot of the E (or \bar{E}) function of Eq. 1 (or Eq. 4) versus $(1/u)$ on a logarithmic paper. The observed curve is a plot of s (or \bar{s}) versus t on a logarithmic paper of the same scale as that of the type curve. The procedure is as follows:

- (1) Construct a type curve for each well, using tabular values of the function $M(u, \beta)$ (or a graph prepared therefrom) and the E (or \bar{E}) function of that well.
- (2) Plot the observed data on a logarithmic paper of the same scale as that of the type curve.
- (3) Superimpose the observed data on the type curve, keeping the coordinate axes of the two curves parallel, and adjust until the best fitting position is obtained. In matching the observed curve to the type curve, one should keep in mind that the observed points for relatively large values of time may deviate upward (having larger values) from the type curve. The deviation is to be expected, because the type curve is for drawdown values during relatively short periods of pumping.
- (4) Select an arbitrary point (matching point) anywhere on the two superimposed sheets and record its coordinates; namely,

$$[E \text{ (or } \bar{E}), 1/u] \text{ and } [s \text{ (or } \bar{s}), t]$$

- (5) Compute K from Eq. 1 or Eq. 8, whichever applies, and S_s from the relation

$$S_s = \frac{4 K t}{\left(\frac{1}{u}\right) r^2} \dots \dots \dots (33)$$

- (6) If the observed curve departs from the type curve, record the value of $(1/u)$ at the point of "departure." Then compute b from the relations

$$b \approx (1/2) [1 + z + r \sqrt{5/u_d}] \dots \dots \dots (34a)$$

for piezometer, or

$$b \approx (1/2) [1 + (1/2)(l' + d') + r \sqrt{5/u_d}] \dots \dots \dots (34b)$$

¹³ "Groundwater Hydrology," by David K. Todd, John Wiley and Sons, Inc., New York, 1959, p. 90; also "Arid Zone Hydrology, Recent Development," by H. Schoeller, UNESCO, Paris, France, 1959, p. 37.

for observation wells or, in case E (or \bar{E}) reduces to the M function of Eq. 4, from

$$b \approx (1/2) \left[r \beta + r \sqrt{\frac{5}{u_d}} \right] \dots \dots \dots (34c)$$

in which u_d is the value of u at the "departure" point.

(7) From the computed values of K and b , calculate the transmissivity of the aquifer from $T = Kb$.

(8) If the observed curve does not depart from the type curve within the observed data, record the value of $(1/u)$ of a point in the vicinity of the last observed point. The thickness of the aquifer is then greater than that obtained from the relations of b in step (6) if one uses therein the present value of $(1/u)$.

(9) It is to be observed that whether the data under analysis are obtained from piezometers or observation wells, and regardless of the location of the point of observation, step (8) of the inflection-point method for computing the transmissivity of the aquifer (Kb) always holds. Carry out this step and obtain the value of $(Kb = T)$. The value of T thus obtained serves as a check for the value obtained in step (7).

The values of T obtained from step (7) and step (9) may not agree closely. This may be because the best fitting position of the two superimposed curves had not been obtained on the first trial, or because the ultimate straight portion of the curve had been drawn either flatter or steeper than necessary, or because the apparent transmissivity of the aquifer (in case of water-table aquifers) had not attained its uniform value within the period of observation. If such agreement is lacking, the procedure is repeated again with the necessary adjustments in mind, so that the difference between the two values of T is either eliminated or reduced to a minimum. If a great difference persists, it is more likely that the apparent transmissivity has not attained a uniform value within the period of observation.

For certain flow systems, both of the preceding methods may apply, in which case they serve to check each other. Generally, the results of the computations do not agree on the first trial. The disagreement may be a result of under- or over-estimating the slope at the curve inflection, as well as the slope of the ultimate straight line; it may also be due to a poor choice of the best matching position, or to all these factors together. A second trial with the necessary adjustments generally results in a satisfactory answer.

Theis' or Jacob's Method or Both.—If the semilogarithmic plot of the observed data does not show any inflection despite a relatively long period of pumping, three possibilities may arise: (a) the observation well, although close to the pumped well, is completely penetrating and screened throughout the aquifer. Such information is generally known a priori; (b) the observation well is relatively distant from the pumped well; that is, $(r/b) > 1.5$. To aid in deciding whether this is the case, information about the approximate thickness of the aquifer should be available. Such information can be obtained from previous geological or geophysical studies, or from analysis of data from a nearby well through procedures such as those previously presented, or at least from the range of the thickness given by the relation

$$b < (1/2) \left[1 + 1' + (2.241/x) \right] \dots \dots \dots (35)$$

in which x is the solution of Eq. 14; (c) if the first and second possibilities are ruled out, the flow parameters are such that the relation

$$(2b - 1 - 1')^2 x^2 / 5l^2 < 1 \dots \dots \dots (36)$$

obtains, x being the solution of Eq. 14.

If the first or the second possibility obtains, the method of Theis and, provided the ultimate straight line of the semilogarithmic plot forms, that of Jacob^{13,14} can be used for calculating the formation coefficients. If the third possibility pertains, the type-curve method can be used, provided the number and distribution of the observed points on the curved part of the semilogarithmic plot sufficiently define a curve on the logarithmic plot needed for the type-curve method. Alternatively, the following procedure can be used, provided an estimated value of the aquifer thickness is available:

Jacob's Method Adjusted for Partial Penetration.—During the time period in which the ultimate semilogarithmic straight line forms, the drawdown is given, depending on the well observed, by either Eq. 6 or Eq. 10. Because the second term of each of these equations is constant with time, it is clear that Jacob's method can be applied if the numerical value of this constant can be obtained. The procedure is as follows:

- (1) On the observed semilogarithmic plot, construct the ultimate straight line and extend it to the zero-drawdown axis.
- (2) Obtain the slope, ($m = \Delta s / \text{cycle}$) of this line and its time intercept, t_p , on the zero-drawdown axis.
- (3) Compute $T = Kb$ from Eq. 21.
- (4) Compute the value of f_s (or \bar{f}_s) from their appropriate expressions (a few terms of the series involved are generally sufficient).
- (5) Compute $\exp(f_s)$ [or $\exp(\bar{f}_s)$], using a slide rule or appropriate tables. Then calculate the storage coefficient from

$$S = \left[\frac{2.25 T t_p \exp(f_s)}{r^2} \right] \dots \dots \dots (37)$$

Analysis of Recovery Data.—If the equation of drawdown in the observation well is one that, during short times, reduces to the type of Eq. 4 or Eq. 9, the procedure of analysis is as follows:

- (1) Prepare a plot of s' (or s'') versus $\log_{10}(t/t')$ and pass the best-fit curve through the observed points.
- (2) Construct the tangent to this curve in the region of the curve inflection and measure its slope $m_i = \Delta s' / \text{cycle}$.
- (3) Locate the inflection point on this tangent by inspection and obtain its value of (t/t') , which hereafter is designated by $(t/t')_i$. Over or underestimating the location of the inflection point will not materially alter the calculation to follow, as will be pointed out subsequently.
- (4) Compute the value of (t_0/t'_i) , which is $= (t/t')_i - 1$, and that of (t_i/t_0) , which is $= (t/t')_i / (t_0/t'_i)$.
- (5) Compute $f(x)$ from $\beta^2 / \sqrt{\pi} = f(x)$ and obtain the corresponding values of x and $\text{erf}(x)$ from Table 1.

¹⁴ "Hydrology," by C. O. Wisler and E. F. Brater, John Wiley and Sons, New York, 1951, p. 234.

(6) Compute u'_i , which is $(x/\beta)^2$, and obtain the value of $\exp(-u'_i)$, using a slide rule or a table of the exponential function.

(7) If the value of $(t/t')_i > 100$, calculate K from Eq. 31, neglecting the second term.

(8) If the value of $(t/t')_i < 100$, calculate the values of $u'_i(t'/t)_i$ and $x\sqrt{(t'/t)_i}$, and obtain the values of $\exp[-u'_i(t'/t)_i]$ and $\text{erf}(x\sqrt{(t'/t)_i})$. Then calculate K from Eq. 31.

(9) From the known values of t_0 and (t'_i/t_0) , calculate the value of t'_i .

(10) Calculate the specific storage from $S_S = (4 K t'_i u'_i / r^2)$.

(11) If a straight-line variation between s' and $\log_{10}(t/t')$ is discernible through the latter part of the data, including the origin point, $[(t/t') = 1, s' = 0]$, then, construct this line and measure its slope $m = \Delta s' / \text{cycle}$; calculate (Kb) from Eq. 29; then, knowing the values of K and (Kb) , compute the value of b .

It is to be observed that if $(t/t')_i > 10$, the second term of Eq. 31 is comparatively very small. Thus, a large error in estimating the value of $(t/t')_i$ will not affect significantly the value of this second term. The largest error, if any will be in the first term of Eq. 31, owing to the factor (t_i/t_0) . This error, however, rarely exceeds + 3%. Even if one misses the true location of the inflection point by a factor of 10 (a remote possibility) and if, for example, the true value of $(t/t')_i$ is 10 and the estimated value is 100, the error in the value of (t_i/t_0) , and consequently in the value of K , will be of the order $(1.01 - 1.11)/1.11 = -9\%$. The error in the value of S_S is approximately directly proportional to the error in estimating the value of t'_i .

An exact graphical solution for the case in which the short-time drawdown equation is not of the form of Eq. 4, is not available. The procedure outlined previously can be followed to obtain a rough estimation of the formation coefficients. However, if the straight line examined in step (11) forms, the solution for the transmissivity $T = Kb$, as described in steps (11) and (12), is exact, because in the present case Eq. 29 obtains also.

Examples of Application.—Aquifer test data obtained in the Rio Grande Valley near the town of Socorro, N. Mex., will be used to illustrate the application of the methods presented. The wells tested penetrate a water-table aquifer. However, because the observed drawdowns are small compared to the depth of penetration of the pumped wells, the theory presented herein, although presented for artesian conditions, is still fairly applicable to water-table conditions. The computations in what follows were made with a slide rule.

The Faulkner Farm Test.—A schematic representation of the wells tested is shown in Fig. 5. These wells are located in the SW 1/4 NE 1/4 sec. 35, T. 1 S., R. 1 W., Socorro County, N. Mex. Both the pumped well and the observed well are perforated throughout their depths of penetration. These depths are 116 ft and 60 ft, respectively. The observed well is 17 ft distant from the pumped well. An aquifer test using these two wells was run by J. F. Waldron¹⁵ during September 1952. During the test, the pumped well discharged at a uniform rate of 3.57 cfs.

¹⁵—“Reconnaissance Geology and Groundwater Study of a Part of Socorro County, New Mexico,” by J. F. Waldron, thesis presented to Stanford Univ., at Palo Alto, Calif., in 1956, in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

As $(l'/l) = (60/116) < 2$, the average drawdown \bar{s} in the observed well during relatively short times is given by Eq. 8, which, with $d = d' = 0$, $l' = 60$ ft, $l = 116$ ft, and $r = 17$ ft, becomes

$$\bar{s} = \frac{Q}{928 \pi K} \bar{E}(u) \dots \dots \dots (38)$$

$$= \frac{Q}{928 \pi K} [M(u, 8.6) - M(u, 5.1)]$$

Analysis of Drawdown Data.—The observed semilogarithmic curve of Fig. 5 clearly shows an inflection, and because Eq. 38 is not of the form of Eq. 9, the type-curve method is followed.

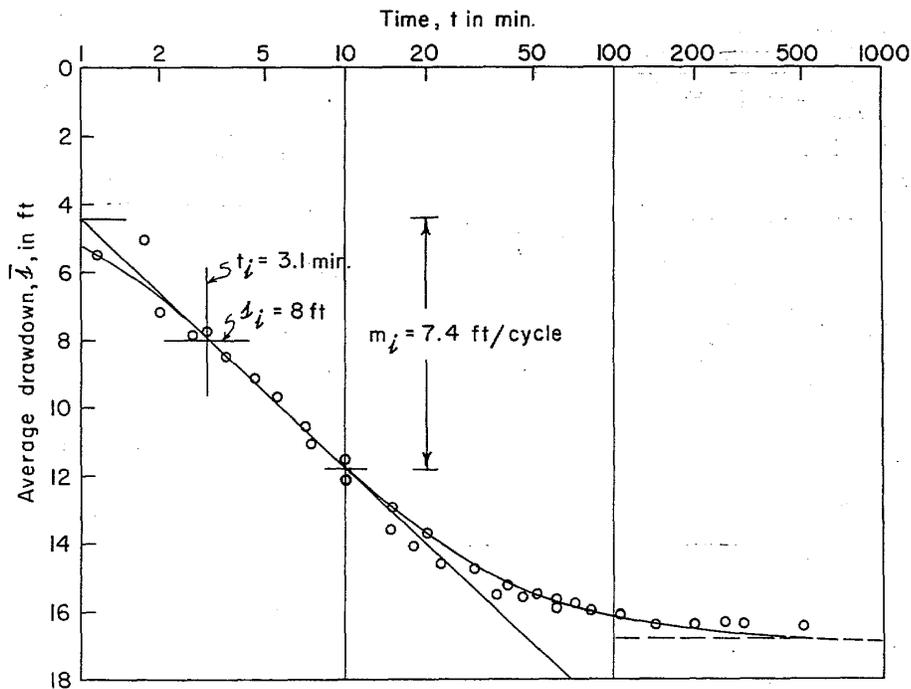


FIG. 5.—TIME-DRAWDOWN VARIATION IN THE FAULKNER TEST OBSERVATION WELL

Type-Curve Method.—From Table 1 and $\bar{E}(u)$ of Eq. 38, a type curve is prepared on logarithmic paper, and the observed data are plotted on logarithmic paper of the same scale. The two curves are superimposed and adjusted to obtain the matching position shown in Fig. 6. The values $\bar{E}(1/u)$, \bar{s} , and t at the matching point shown in the figure are 5.6, 500, 10 ft, and 100 min (6,000 sec), respectively. From Eq. 38, K is computed as 6.86×10^{-4} fps, and from $S_s = \left[4 K t / \left(\frac{1}{u} \right) r^2 \right]$, S_s is computed as 1.14×10^{-4} ft⁻¹.

Within the period of the test, the observed curve does not depart from the type curve; that is, the time t_d at the eventual point of departure is greater

than the period of observation. Thus, from Fig. 6, t_d and $(1/u_d)$ are greater than 500 min and 2,500, respectively. Consequently, the thickness of the aquifer is greater than

$$(1/2) [1 + (1/2) l' + r \sqrt{5/u} = (1/2) [116 + 30 + 17 \sqrt{5 \times 2,500}] = 1023 \text{ ft}$$

Inflection-Point Method.—It has been pointed out that the application of the inflection-point method on data obtained from flow systems for which Eq. 4 or Eq. 9 does not obtain will generally give an approximate solution. This, of course, is due to replacing the actual equation by an approximate equation of the form of Eq. 4. For instance, if the drawdown in the observation well of this

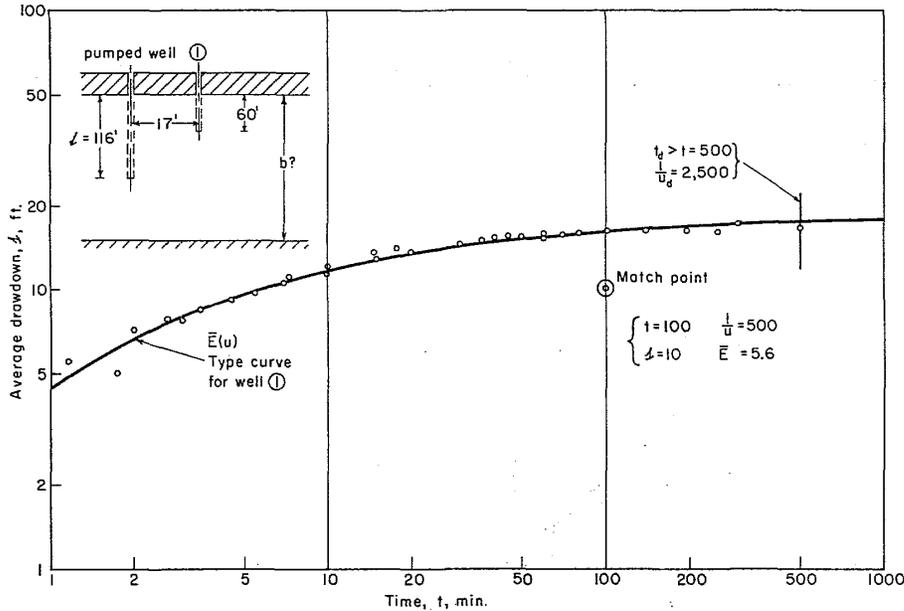


FIG. 6.—OBSERVED DATA AND THE THEORETICAL TYPE CURVE FOR THE OBSERVATION WELL OF THE FAULKNER TEST

example be approximated by that in a piezometer of zero penetration ($l' = 0$), instead of Eq. 38 (the actual equation), the resulting equation is

$$s = \frac{Q}{464 \pi K} M(u, 6.82) \dots \dots \dots (39)$$

for which $c = \left(\frac{Q}{464 \pi K}\right)$ and $\beta = 6.82$.

Based on Eq. 39, the application of the inflection-point method follows: the semilogarithmic plot of the observed data has been carried out already, as shown in Fig. 5. The tangent to the curve in the region of the curve inflection is constructed; its slope m_i is measured as 7.4 ft per cycle: $f(x) = \beta^2/\sqrt{\pi} = (6.82)^2/\sqrt{\pi} = 26.2$. From Table 1, $x = 1.666$, and $\text{erf}(x) = 0.982$. $u_i = (x/\beta)^2 = 0.06$, and $\exp(-0.06) = 0.94$. From Eq. 17, K is computed as 7×10^{-4} fps. In-

terpolation in tables of the function $M(u, \beta)$ gives $M(u_i, 6.82) = 2.291$. From Eq. 39, s_1 is computed as 8 ft. For $s_1 = 8$ ft, Fig. 5 shows $t_1 = 3.1$ min = 186 sec. Then, from $S_S = 4 K t_1 u_i / r^2$, S_S is computed as 1.08×10^{-4} ft.

The ultimate straight-line portion of the curve is not discernible within the observed data (see dashed line of Fig. 5). Hence, the transmissivity (Kb) and, consequently, the thickness of the aquifer cannot be determined from the present data.

The Olson Wells Test.—Fig. 7 (a) shows semilogarithmic time-drawdown curves for two observation wells prepared from data obtained from a pumping test on what is known as the Olson Wells. The geometry of these wells is shown diagrammatically in Fig. 8. They are located about one-half mile north of the campus of the New Mexico Institute of Mining and Technology, Socorro, N. Mex. Each of the two Olson wells has a 75-ft depth of penetration, of which the bottom 50-ft section is perforated. One of these wells is pumped at a rate of 1.6 cfs. The other well, designated as observation well (1) is 182 ft east of the pumped well. A third well, designated as observation well (2) (known as the Lopez dug well), is 384 ft west of the pumped well and is assumed to be zero penetration (actually about 1.1 ft penetration).

Analysis of drawdown data from well (1)—Eq. 8 will, of course, give the average drawdown in this well. However, because $(r/l) = (182/75) > 1$ and $(l'/l) = (75/75) \leq 1$, Eq. 8 can be approximated by Eq. 1, in which z is chosen arbitrarily between 0 and l (see section on average drawdown for short times). For $z = 25$ ft (this choice is made because Eq. 1 will reduce to the form of Eq. 4), the average drawdown in this well for small time s will, from Eq. 1, be given by

$$\bar{s} = \frac{Q}{400 \pi K} M(u, 0.55) \dots \dots \dots (40)$$

which is of the form of Eq. 4, with $c = \frac{Q}{400 \pi K}$ and $\beta = 0.55$. Because the inflection of the semilogarithmic curve of the observed data is clearly manifested (see Fig. 7 (a)), the inflection-point method and/or the type-curve method will provide a solution for the formation parameters.

Type-Curve Method.—From tables of the function $M(u, \beta)$ and \bar{E} of Eq. 40 [$M(u, 0.55)$], a type curve is prepared on logarithmic paper, and the observed data are plotted on logarithmic paper of the same scale. The two curves are superimposed and adjusted to obtain the matching position shown in Fig. 8. The values $\bar{E} [M(u, 0.55)]$, $(1/u)$, \bar{s} , and t at the matching point shown are 0.38, 10, 1 ft, and 1,000 min (6×10^{-4} sec), respectively. From Eq. 40, K is calculated as 4.84×10^{-4} fps, and from $S_S = 4 K t / (1/u) r^2$, S_S is calculated as 3.5×10^{-4} ft⁻¹. The value of $(1/u_d)$ at the point of departure is 9. Then, from the relation $b = (1/2) [r \beta + r \sqrt{5/u_d}]$, b is calculated as 660 ft. The transmissivity of the aquifer is $T = Kb = 0.319$ sq ft per sec, and the storage coefficient is $S = S_S b = 0.23$.

Inflection-Point Method.—The observed semilogarithmic plot is prepared as shown in Fig. 7 (a). The tangent to this curve in the region of the curve inflection is constructed. Its slope m_i is measured as 1.55 ft per cycle. $f(x) = \beta^2 / \sqrt{\pi} = (0.55)^2 / \sqrt{\pi} = 0.17$. From Table 1, $x = 0.371$, and $\text{erf}(x) = 0.40$. $u_i = (x/\beta)^2 = 0.454$, and $\exp(-0.454) = 0.635$. From Eq. 17, K is computed as 4.78×10^{-4} fps. From tables of the function $M(u, \beta)$ [or the type curve of

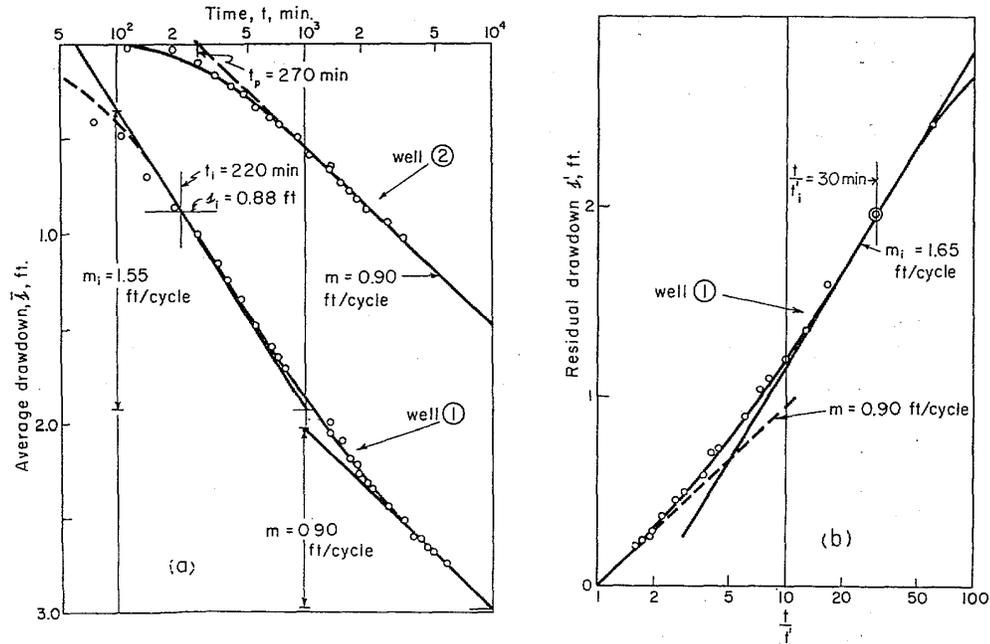


FIG. 7.—a) TIME-DRAWDOWN VARIATION IN THE OBSERVATION WELLS OF THE OLSON TEST; b) LOG (t/t') - RESIDUAL DRAWDOWN VARIATION IN WELL (1) OF THE OLSON TEST

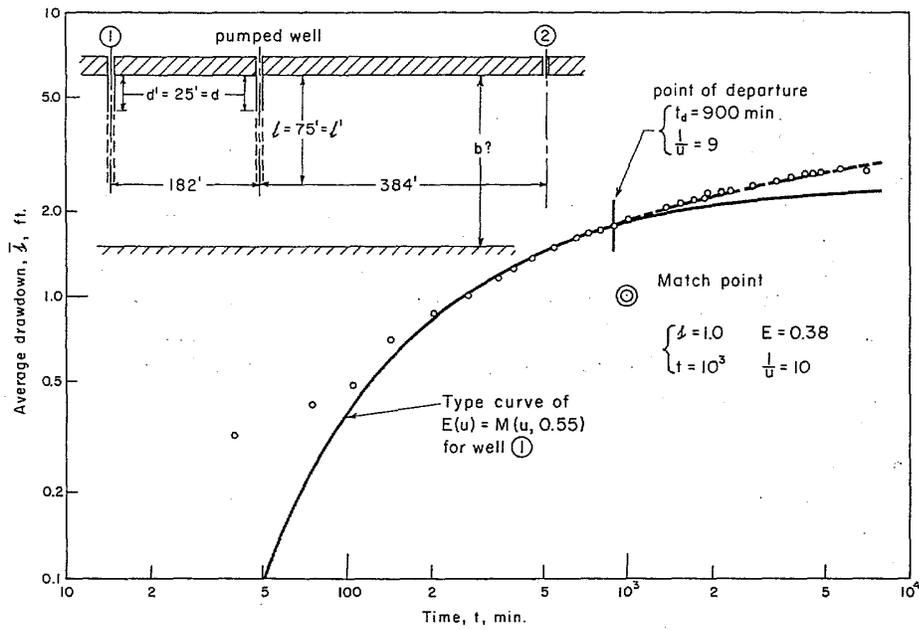


FIG. 8.—OBSERVED DATA AND THE THEORETICAL TYPE CURVE FOR WELL (1) OF THE OLSON TEST

$M(u, 0.55)$, $M(u_i, 0.55) \approx 0.33$. From Eq. 40, $\bar{s}_i = 0.88$ ft. From Fig. 7 (a), $t_i = 220$ min or 13,200 sec. Hence, $S_s = 4 K t_i u_i / r^2 = 3.46 \times 10^{-4} \text{ ft}^{-1}$. The ultimate straight line of the curve in Fig. 7 (a) is constructed. Its measured slope is 0.90 ft per cycle. From Eq. 21, Kb is calculated as 0.326 ft per sec. Consequently, $b = \left(\frac{Kb}{K}\right) = (0.326 / 4.78 \times 10^{-4}) = 680$ ft. The storage coefficient is $S = S_s b = 0.235$.

The calculations presented are those of a second trial. In the first trial, hydraulic conductivity as obtained by using the inflection-point method was underestimated. Apparently, this resulted from drawing "the two tangents" of the observed curve steeper than was necessary. The coefficient obtained by using the type-curve method was overestimated because the best matching position was not obtained, it appears, on the first trial. The two tangents were redrawn with flatter slopes in the first case, and another fitting position was obtained in the second case, because the observed data permitted these adjustments. The calculations were repeated, with the results being those previously presented.

It should be pointed out also that because of a large variation of the well discharge within probably the first 100 min of the pumping period (because of pump characteristics), the observed points within that period were rejected. In addition, one should note that during the very early period of pumping, the observed data generally do not follow the theoretical drawdown equation, because of the probable variation of the formation coefficients, especially if the flow is unconfined.

Analysis of Drawdown Data from Observation Well (2).—The observed semi-logarithmic time-drawdown curve for this well (see Fig. 7 (a)) does not show a curve inflection. The well is known to be of practically zero penetration, and the aquifer is known to be deep, its thickness, as estimated from analysis of data from well (1), is about 700 (actually an average of 670) ft; consequently, $(r/b) = (384/700) < 1.5$. Therefore, the two possibilities for which Theis' or Jacob's method does apply are ruled out, although the general trend of the time-drawdown variation resembles that given by the Theis formula.

Jacob's Method Adjusted for Partial Penetration.—Although there are enough points on the curved part of the observed semilogarithmic plot to warrant a fair solution by using the type-curve method (drawdown equation is Eq. 1, with $z = 0$), Jacob's method adjusted for partial penetration is here followed for the purpose of illustrating the procedure, which is as follows:

The slope m of the straight portion of the curve is measured as 0.90 ft per cycle, and $t_p = 270$ min (16,200 sec) [see Fig. 7 (a)]. From Eq. 21, $T = Kb$ is calculated as 0.326 sq ft per sec. From Eq. 6, f_s is calculated, using a value of $b = 700$ ft (only five terms of the infinite series are needed), as 0.81. Then $\exp(0.81) = 2.25$. From $S = \left[2.25 T t_p \exp(f_s) / r^2\right]$, the storage coefficient is calculated as 0.18.

Analysis of Recovery Data from Well (1).—Fig. 7 (b) is the observed curve of residual drawdown s' versus the logarithm of (t/t') . The tangent in the region of the curve inflection is constructed; its measured slope $m_i = \Delta s'$ per cycle = 1.65 ft per cycle. By inspection, the inflection point is located at $(t/t')_i = 30$.

Because $(t/t')_i < 100$, all terms of Eq. 31 are needed. The computation is as follows:

$$(t_0/t') = (t/t')_i - 1 = 29$$

and

$$(t_i/t_0) = (t/t')_i / (t_0/t'_i) = (30/29) = 1.035.$$

And

$$f(x) = \beta^2 / \sqrt{\pi} = (0.55)^2 / \sqrt{\pi} = 0.17$$

(see Eq. 40 for values of β and c), for which Table 1 gives $x = 0.371$ and $\text{erf}(x) = 0.40$. Then $u'_i = (x/\beta)^2 = 0.454$; $\exp(-u'_i) = \exp(-0.454) = 0.635$; $\exp(-u'_i / (t/t')_i) = \exp(-0.454/30) = 0.985$; and $\text{erf}(x/\sqrt{(t/t')_i}) = \text{erf}(0.371/\sqrt{30}) = 0.077$. From Eq. 31, $K = [(2.3)(1.6)/(400\pi)(1.65)] [(1.035)(0.635)(0.4) - (0.985)(0.077) / (29)] = (1.77 \times 10^{-3})(0.264 - 0.003) = 4.63 \times 10^{-4}$ fps. From $(t_0/t'_i) = 29$ and $t_0 = 6,630$ min (period of pumping), $t'_i = 229$ min (13,700 sec). Hence, $S_s = (4 K t'_i u'_i / r^2) = 3.46 \times 10^{-4}$ ft⁻¹.

The straight portion of the lower left portion of the observed curve is not clearly discernible. However, for the purpose of illustrating the procedure, the straight line is constructed as shown by the dashed line in Fig. 7 (b). Its measured slope m is 0.90 ft per cycle. Then, from Eq. 29 $K b$ is computed as 0.326 sq ft per sec. Finally, $b = (K b) / K = (0.326 / 4.63 \times 10^{-4}) = 705$ ft, and $S = S_s b = 0.244$.

APPENDIX.—NOTATION

The following symbols, adopted for use in this paper, conform essentially with "American Standard Letter Symbols for Hydraulics" (ASA Z10.2-1942), prepared by a committee of the American Standards Association with Society representation and approved by the Association in 1942:

- b = thickness of aquifer; dimension L;
- c = constant, depending on the well discharge, length of well screen, and on the hydraulic conductivity of the aquifer; dimension L;
- d = depth from the top of the aquifer of the unscreened portion (unperforated section of the casing) of the pumped well, L;
- d' = depth from the top of the aquifer of the unscreened portion of the observation well, L;
- E = $E(u, l/r, d/r, z/r) = M[u, (l+z)/r] - M[u, (d+z)/r] + M[u, (l-z)/r] - M[u, (d-z)/r]$;
- \bar{E} = $\bar{E}(u, l/r, d/r, l'/r, d'/r) = [E \text{ with } z = (l'+d')/2]$;
- $\text{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-y^2} dy$ = The error function;

$\operatorname{erfc}(x) = 1 - \operatorname{erf}(x)$ = The complement of the error function;

$$f = f(u, r/b, l/b, d/b, z/b) = \left[2b/\pi (1-d) \right] \sum_{n=1}^{\infty} (1/n) \left[\sin(n\pi l/b) - \sin(n\pi d/b) \right] \cos(n\pi z/b) W(u, n\pi r/b);$$

$$f_s = \left[f, \text{ with } 2K_0(n\pi r/b) \text{ replacing } W(u, n\pi r/b) \right];$$

$$\bar{f} = \bar{f}(u, r/b, l/b, d/b, l'/b, d'/b) = \left[2b^2/\pi^2 (l' - d') \right] \sum_{n=1}^{\infty} (1/n^2) \left[\sin(n\pi l/b) - \sin(n\pi d/b) \right] \left[\sin(n\pi l'/b) - \sin(n\pi d'/b) \right] W\left(u, \frac{n\pi r}{b}\right);$$

$$\bar{f}_s = \left[\bar{f}, \text{ with } 2K_0(n\pi r/b) \text{ replacing } W(u, n\pi r/b) \right];$$

$$f_2 = f_2(u, b/r, \beta) = \sum_{n=1}^{\infty} M \left[u, \left(\frac{2nb}{r} + \beta \right) \right] - M \left[u, \left(\frac{2nb}{r} - \beta \right) \right];$$

K = hydraulic conductivity of the aquifer, $L T^{-1}$;

$K_0(x)$ = the zero-order modified Bessel function of the second kind;

l = depth of penetration of the pumped well, L ;

l' = depth of penetration of an observation hole, L ;

$$M(u, \beta) = \int_u^{\infty} \frac{e^{-y}}{y} \operatorname{erf}(\beta\sqrt{y}) dy, \text{ tabular values of which are available;}$$

Q = constant well discharge, $L^3 T^{-1}$;

r = radial distance measured from center of well, L ;

r_w = effective radius of the pumped well, L ;

S = bS_s = storage coefficient;

S_s = specific storage (volume of water from storage by a unit volume of the aquifer under a unit head decline), L^{-1} ;

s = drawdown of piezometric surface at any time and at any point in the aquifer (drawdown in piezometers), L ;

\bar{s} = average drawdown in observation holes, L ;

s' = residual drawdown in piezometers, L ;

\bar{s}' = residual drawdown in observation holes, L ;

T = Kb = transmissivity of the aquifer, $L^2 T^{-1}$;

t = time since pumping started, T ;

t_0 = period of pumping, T ;

t' = time since pumping stopped, T;

u = $(r^2 S_s / 4 K t)$;

u' = $(r^2 S_s / 4 K t')$;

$W(u)$ = $\int_u^\infty \frac{e^{-y}}{y} dy$ = well function of (u) for nonleaky aquifers for which tables are available;

$W(u, x)$ = $\int_u^\infty \frac{dy}{y} \exp(-y - x^2/4y)$ = well function of (u and x) for leaky aquifers for which tables are available;

z = vertical coordinate measured from the top of the aquifer, positive downward; and

β = one of the parameters of the function $M(u, \beta)$, also it is a constant that depends on one or all of the variables, l, l', d, d', z, r, b .

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 76 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-5-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D. mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
* Total Solids @ 105°C	92.3						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	91.3			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* Acid Scrub, %NaOH/s				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	24.1		OK				
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	< 0.4		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	2.2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	2.2		OK
Copper, as Cu, mg/l	11			DDT's, mg/l	12		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	2.2		
Iron, Dissolved as Fe, mg/l				Endrin, mg/l	2.2		OK
Lead, as Pb, mg/l	< 10		OK	Heptachlor, mg/l	2.2		OK
Manganese, as Mn, mg/l				Lindane, mg/l	2.2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	2.2		
Mercury, as Hg, mg/l	20.1		OK	Toxaphene, mg/l	2.2		
Nickel, as Ni, mg/l				Parathion, mg/l	2.2		
Selenium, as Se, mg/l	2.2			2,4-D, mg/l			
Silver, as Ag, mg/l	2.1			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	2.0			PCB's, mg/l	2.2		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				Industrial Solvents	2.2		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
* Sulfides, as S, mg/l	NEG						

X19-5-24 77^E

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W 137TH ST
RIVERSIDE IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
NO DRUMS WERE FOUND.
X19-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTE
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (12", 18", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 77 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X19-5-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.9						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D. mg/l				Cyanides, as CN, Free, mg/l	None		
B.O.D., mg/l							
* Total Solids @ 105°C	85.3			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	83.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
* Acid Scrub. % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>Metal: methyl diacet</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<4.0		OK				
Barium as Ba, mg/l				Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.4		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	<2		OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<20		OK
Copper, as Cu, mg/l	9.1			DDT's, mg/l	7.1		OK
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<2		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	<2		OK
Lead, as Pb, mg/l	<10		OK	Heptachlor, mg/l	<2		OK
Manganese, as Mn, mg/l				Lindene, mg/l	<2		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<10		OK
Mercury, as Hg, mg/l	<0.2		OK	Toxaphene, mg/l	<50		OK
Nickel, as Ni, mg/l				Parathion, mg/l	<50		
Selenium, as Se, mg/l	<2			2,4-D, mg/l			
Silver, as Ag, mg/l	<1			2,4,5-TP (Silvex), mg/l			
Zinc, as Zn, mg/l	22			PCB's, mg/l	<80		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l				<i>ultra</i>			
Chlorides, as Cl, mg/l				<i>Inclusion of Silicon</i>	<0.1		
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

SPECIAL WASTE ANALYSIS REPORT

3292 PROFILE
 NIROP
 BROOKLYN CENTER, MN
 SOURCE: ENC SITE: NRP
 SOIL SAMPLE/X5-5-24

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cashen

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 9.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	83.45%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Fish Pot, P	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	82.58%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Harding Valve, BTU/l				Total Hardness, as CaCO ₃ , mg/l			
inc Scrub, gHCl/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.65						
Barium, as BA, mg/l	12.5						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.24	< 0.01					
Chromium, Total as Cr, mg/l	10.4	< 0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 1.0		
Copper, as Cu, mg/l	7.58			Chlordane, mg/l	< 1.0		
Iron, Total as Fe, mg/l	5730			DDT's, mg/l	< 1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 1.0		
Lead, as Pb, mg/l	19.3	0.04		Endrin, mg/l	< 1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 1.0		
Mercury, as Hg, mg/l	< 0.005			Methoxychlor, mg/l	< 1.0		
Nickel, as Ni, mg/l	9.93			Toxaphene, mg/l	< 5.0		
Selenium, as Se, mg/l	0.13			Parathion, mg/l	< 1.0		
Silver, as Ag, mg/l	0.67			2,4-D, mg/l	-		
Zinc, as Zn, mg/l	15.0			2,4,5-TP (Silvex), mg/l	-		
				PCB's, mg/l	< 1.0		
				0-56	< 1.0		
Boronates, as BCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l				SOLVENTS	< 1.0%		
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2.1						

Form W-82 (Rev. 11-4-82)
 CHEMICAL WASTE MANAGEMENT, INC.

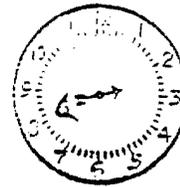
This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.



Chemical Waste Management, Inc.
 Environmental Remedial Action Division
 150 W. 137th Street
 Riverdale, Illinois 60627
 312/841-8600

JAN 12 1984

RECEIVED



CONSTR - OPER. DIV

PROJECT OFFICE 7

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE & CUSTOMS HOUSE
 ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
 ANALYTICAL RESULTS.
 REF. JAN. 4, 1984 LETTER OF ITEMS TO FOLLOW

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
X-6-1-0	3125	} ALL A. 88606.
X-6-1-24	3127	
X-6-2-0	3128	
X-6-5-0	3137	

Very Truly Yours,
 Dean Kennedy

CC. TRACESTELL W/ SWP
 NIROP FILE

SPECIAL WASTE ANALYSIS REPORT

Chemical Waste Management

LABORATORY: Technical Center

FILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: T. Cester

Test	As Received	ERT Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	10% SOLUTION 8.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	40.10%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	97.8%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness as CaCO ₃ , mg/l			
acid scrub, gms/DMG				Calcium Hardness as CaCO ₃ , mg/l			
				Magnesium Hardness as CaCO ₃ , mg/l			
Arsenic as AS, mg/l	1.06						
Barium as Ba, mg/l	1.25						
Boron as B, mg/l				Oil and Grease, mg/l			
Cadmium as Cd, mg/l	2.01	<0.01					
Chromium, Total as Cr, mg/l	13.1	<0.01					
hexavalent Chromium @ Cr, mg/l				Alum., mg/l	<1.0		
Copper as Cu, mg/l	45.5			Chlorides, mg/l	<1.0		
Iron, Total as Fe, mg/l	9130.			DDTs, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxins, mg/l	<1.0		
Lead as Pb, mg/l	49.4	0.04		Endrin, mg/l	<1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury as Hg, mg/l	0.0146			Methoxychlor, mg/l	<1.0		
Nickel as Ni, mg/l	15.5			Toxaphene, mg/l	<5.0		
Selenium as Se, mg/l	0.25			Permethrin, mg/l	<1.0		
Silver as Ag, mg/l	0.95			2,4-D, mg/l			
Zinc as Zn, mg/l	41.5			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	<1.0		
				11.56	<1.0		
Bicarbonates as HCO ₃ , mg/l				Solvents	<1.0%		
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrates as NO ₃ , mg/l							
Nitrites as NO ₂ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Sulfides as S, mg/l	DISSOLVED	<2.0					

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Rinse, acetone wash, water Rinse

1. HOUR AND DATE OF SAMPLING: 1-4-84 1100
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #5 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED); AT EACH SECTIONAL 5 POINTS, 3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LB
5. TYPE OF CONTAINER IN WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIRDP, CWM - FMC
 SAMPLE HOUR/DATE: 1-4-84 1100
 PROFILE SHEET CODE: A 88609
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Jerry Bell

EMPLOYER: ENRAL

TITLE: FIELD AIR TECHNICIAN

DATE: 1-4-84

EMPLOYER: ENRAL

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: W. C. Baker

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
Acidity % HCl							
Alkalinity % HCl				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 1.0		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	86.40%			Nitrogen, Ammonia as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	82.96%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Soluble, % SO ₃ H				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic as AS, mg/l	3.33						
Barium as Ba, mg/l	89.7			Oil and Grease, mg/l			
Boron as B, mg/l							
Calcium as Ca, mg/l	1.80	< 0.01					
Chromium, Total as Cr, mg/l	19.3	0.02					
Hexavalent Chromium @ Cr, mg/l				Alomn, mg/l	< 1.0		
Copper as Cu, mg/l	6.71			Chlordane, mg/l	< 1.0		
Iron, Total as Fe, mg/l	12300			DDTs, mg/l	< 1.0		
Iron, dissolved as Fe, mg/l				Dioxin, mg/l	< 1.0		
Lead as Pb, mg/l	53.0	0.01		Endrin, mg/l	< 1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium as Mg, mg/l				Linane, mg/l	< 1.0		
Mercury as Hg, mg/l	0.052			Methoxychlor, mg/l	< 1.0		
Nickel as Ni, mg/l	27.1			Toxaphene, mg/l	< 50		
Selenium as Se, mg/l	< 0.06			Parathion, mg/l	< 1.0		
Silver as Ag, mg/l	1.68			2,4-D, mg/l			
Zinc as Zn, mg/l	55.1			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	< 1.0		
				PCP's, mg/l	< 1.0		
Bicarbonates as HCO ₃ , mg/l				PCP's, mg/l	< 1.0		
Carbonates as CO ₃ , mg/l							
Chloride as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED < 2						

NIROP
MINNESOTA, MN
SOURCE: ENC SITE: CD1
SOIL EX6-2-0/NIROP

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
Activity 4 as							
Activity 9 as				Phenols, mg/l	<5		
CO ₂ mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD ₅ , mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	91.02%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°	2212			Total Alkalinity (M), as CaCO ₃ , mg/l			
ASH Content, on ignition	86.67%			Total Hardness, as CaCO ₃ , mg/l			
using vols. BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
and scrub. gms/CH ₄ g				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4.00						
Barium, as Ba, mg/l	117	1.31		Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	1.30	<0.01					
Chromium, Total, as Cr, mg/l	13.9	0.01		Align, mg/l	<1.0		
hexavalent Chromium @ Cr, mg/l				Chlorides, mg/l	<10		
Copper, as Cu, mg/l	20.8			DDTs, mg/l	<10		
Iron Total, as Fe, mg/l	12800			Dioxins, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	<1.0		
Lead, as Pb, mg/l	38.9	0.05		Endosulfon, mg/l	<1.0		
Manganese, as Mn, mg/l				Endrin, mg/l	<1.0		
Magnesium, as Mg, mg/l				Endrin, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0108			Endrin, mg/l	<1.0		
Nickel, as Ni, mg/l	14.1			Endrin, mg/l	<1.0		
Selenium, as Se, mg/l	20.00			Endrin, mg/l	<1.0		
Silver, as Ag, mg/l	0.75			Endrin, mg/l	<1.0		
Zinc, as Zn, mg/l	70.9			Endrin, mg/l	<1.0		
				Endrin, mg/l	<1.0		
				Endrin, mg/l	<1.0		
Bicarbonate, as HCO ₃ , mg/l				Endrin, mg/l	<1.0		
Carbonate, as CO ₃ , mg/l				Endrin, mg/l	<1.0		
Chloride, as Cl, mg/l				Endrin, mg/l	<1.0		
Fluoride, as F, mg/l				Endrin, mg/l	<1.0		
Nitrate, as NO ₃ , mg/l				Endrin, mg/l	<1.0		
Nitrite, as NO ₂ , mg/l				Endrin, mg/l	<1.0		
Sulfate, as SO ₄ , mg/l				Endrin, mg/l	<1.0		
Phosphate, as P, mg/l				Endrin, mg/l	<1.0		
Zinc, as Zn, mg/l				Endrin, mg/l	<1.0		
Sulfate, as S, mg/l	DISSOLVED 22			Endrin, mg/l	<1.0		

FORM 7-83 (Rev. 11-83)
CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other party.

NIROF
MINNESOTA, MN
SOURCE: ENC SITE: CD1
SOIL EX6-1-~~2~~ NIROF

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: 24 January

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 12/5/84 LAB MANAGER: Flash

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	73.3%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, °F	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	66.60%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gmsOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic as As, mg/l	6.15	50.01					
Barium as Ba, mg/l	169	1.49					
Boron as B, mg/l				Oil and Grease, mg/l			
Cadmium as Cd, mg/l	1.59	0.002					
Chromium, Total as Cr, mg/l	14.6						
hexavalent Chromium @ Cr, mg/l				Alum., mg/l	<1.0		
Copper as Cu, mg/l	38.0			Chloride, mg/l	<1.0		
Iron, Total as Fe, mg/l	12900			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<1.0		
Lead as Pb, mg/l	63.8	0.11		Endrin, mg/l	<1.0		
Manganese as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium as Mg, mg/l				Linane, mg/l	<1.0		
Mercury as Hg, mg/l	0.223	<0.002		Methoxychlor, mg/l	<1.0		
Nickel as Ni, mg/l	14.2			Toxaphene, mg/l	<5.0		
Selenium as Se, mg/l	0.17			Permethrin, mg/l	<1.0		
Silver as Ag, mg/l	1.26			2,4-D, mg/l			
Zinc as Zn, mg/l	51.4			2,4,5-TP (Silvex), mg/l			
				PCB's, mg/l	<1.0		
				C-51	<1.0		
Bicarbonate as HCO ₃ , mg/l				SOLVENTS	<1.0%		
Carbonate as CO ₃ , mg/l							
Chloride as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED	<2					

3125 PROFILE: NRFAB8606 12/27/8
 NIRCOP
 MINNESOTA, MN
 SOURCE: ENC SITE: CD1
 SOIL EX6-1-0/NIRCOP

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: T. G. ...

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
Acidity %							
Alkalinity %				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 1.0		
SDC, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 102°C	82.98%			Nitrogen, ammonia, as N, mg/l			
Total Dissolving Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content on Ignition	78.90%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Ash Solubility, %				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	4.20						
Barium, as Ba, mg/l	166			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	1.35						
Chromium, Total as Cr, mg/l	13.6						
Hexavalent Chromium @ Cr, mg/l				Alum, mg/l	< 1.0		
Copper, as Cu, mg/l	43.1			Chloride, mg/l	< 1.0		
Iron, Total as Fe, mg/l	1300			DDTs, mg/l	< 1.0		
Iron, elemental, as Fe, mg/l				Dieldrin, mg/l	< 1.0		
Lead, as Pb, mg/l	74.2			Endrin, mg/l	< 1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 1.0		
Mercury, as Hg, mg/l	0.0151			Methoxychlor, mg/l	< 1.0		
Nickel, as Ni, mg/l	11.4			Toxaphene, mg/l	< 5.0		
Selenium, as Se, mg/l	< 0.07			Parathion, mg/l	< 1.0		
Silver, as Ag, mg/l	1.00			2,4-D, mg/l	-		
Zinc, as Zn, mg/l	59.4			2,4,5-TP (Silyl), mg/l	-		
				PCBs, mg/l	< 1.0		
				C-56	< 1.0		
Bicarbonates, as HCO ₃ , mg/l				SOLVENTS	< 1.0?		
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED < 2						

FORM WMA-62 (Rev. 11-4-82)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and use of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or complete



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60827
312-941-3600

<u>SAMPLE</u>	<u>PROFILE #</u>	<u>WPS #</u>
X6-1-0	3125 TO FOLLOW	} ALL A 88606
X6-1-12	3126	
X6-1-24	3127 TO FOLLOW	
X6-2-0	3128 TO FOLLOW	
X6-2-12	3129	
X6-2-24	3130	
X6-3-0	3131	
X6-3-12	3132	
X6-3-24	3133	
X6-4-0	3134	
X6-4-12	3135	
X6-4-24	3136	
X6-5-0	3137 TO FOLLOW	
X6-5-12	3138	
X6-5-24	3139	

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

LANDFILL SAMPLE SOURCES
CITY AND STATE
 TO: CHEMICAL WASTE MGMT FROM: N.ROP
 150 W. 137TH ST. MINN MN
 RIVERDALE, IL 60627
 ATTN: JACK KOLOPANIS
 LAB

SAMPLE INVENTORY AND MASTER PACKING LIST

QX Q.	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL
		X16-1-0													
		X16-1-12													
		X16-1-24													
		X16-2-0													
		X16-2-12													
		X16-2-24													
		X16-3-0													
		X16-3-12													
		X16-3-24													
		TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Hentz 12-22-83

 Signature _____ Date and Time _____
 FIELD CUSTODIAN _____

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL
 To: CHEMICAL WASTE MGMT FROM: NIROP
 150 W. 137TH ST. MINN. MN
 RIVERDALE, IL 601027
 ATTN: JACK KOLOPANIS
 LAB

SAMPLE INVENTORY AND MASTER PACKING LIST

Box No.	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL
		X6-4-0													
		X6-4-12													
		X6-4-24													
		X6-5-0													
		X6-5-12													
		X6-5-24													
		TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) C. Mark Hentz 12-22-83

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ (OVER) Date and Time _____

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60067
ATTN: JACK KOLOPANIS - Lab.

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
ACETONE RINSE, WATER
RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 12-22-83 1030
PROFILE SHEET CODE: A-88606
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSUITSABLE FOR THE PERSONS LISTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

NIROF
 MINNESOTA, MN
 SOURCE: END SITE: CD1
 SOIL EX6-1-12/NIROF

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/94 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % ac							
Alkalinity, % ac				Phenols, mg/l	< 5		
COD, mg/l				Cyanides, as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	87.842						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content on ignition	86.92%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Atomic as AS, mg/l	< 0.06						
Barium, as Ba, mg/l	17.3						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.77	< 0.01					
Chromium Total as Cr, mg/l	13.6	0.01					
hexavalent Chromium as Cr, mg/l				Arsenic, mg/l	< 10		
Copper, as Cu, mg/l	6.60			Chlordane, mg/l	< 10		
Iron, Total as Fe, mg/l	5000			DDTs, mg/l	< 10		
Iron, dissolved, as Fe, mg/l	-			Dieldrin, mg/l	< 10		
Lead, as Pb, mg/l	21.5	0.06		Endrin, mg/l	< 10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 10		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 10		
Mercury, as Hg, mg/l	0.0136			Methoxychlor, mg/l	< 10		
Nickel, as Ni, mg/l	13.5			Toxaphene, mg/l	< 50		
Selenium, as Se, mg/l	< 0.06			Parathion, mg/l	< 10		
Silver, as Ag, mg/l	0.99			2, 4, D, mg/l	-		
Zinc, as Zn, mg/l	17.3			2, 4, 5, TP (Silver), mg/l	-		
				PCBs, mg/l	< 10		
				C-56	< 10		
				Solvents	< 1.0%		
Extractions as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides as Cl, mg/l							
Fluorides as F, mg/l							
Nitrites as NO ₂ , mg/l							
Nitrate as NO ₃ , mg/l							
Phosphates as P, mg/l							
Sulfates as SO ₄ , mg/l							
Official re 2, mg/l	DISSOLVED < 2						

FORM WMS-22 (Rev. 11-4-82)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or complete is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - Lab

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

CLEANING: SOAP SOLUTION, WATER, RINSE, ACETONE, RINSE, WATER, RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1055
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION # 6 - NO DRUMS WERE FOUND
X-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIAPER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - EMC
SAMPLE HOUR/DATE: 12-22-83 1055
PROFILE SHEET CODE: A-88606
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

EMPLOYER: ENRA

SIGNATURE: _____

DATE: 12-22-83

TITLE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

MINNESOTA, MN
 SOURCE: ENC SITE: 001
 SOIL EX6-2-12/NIROP

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: Hecker

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
C O D, mg/l				Cyanides, as CN, Total, mg/l	<10		
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	92.58%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fresh Point, F°	72.12			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	91.77%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub., pH@OH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.47						
Barium, as Ba, mg/l	24.7			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	1.57	<0.01					
Chromium, Total as Cr, mg/l	10.3	0.02					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<10		
Copper, as Cu, mg/l	11.0			Chlordane, mg/l	<10		
Iron, Total as Fe, mg/l	4900			DDT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	25.2	0.06		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	11.2			Toxaphene, mg/l	<50		
Selenium, as Se, mg/l	0.12			Parathion, mg/l	<10		
Silver, as Ag, mg/l	0.91			2,4-D, mg/l	—		
Zinc, as Zn, mg/l	17.9			2,4,5-TP (Silvex), mg/l	—		
				PCB's, mg/l	<10		
				C-56	<10		
Bicarbonates, as HCO ₃ , mg/l				Solvents	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED <2						

FORM WMS-42 (Rev. 11-4-83)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERDALE IL 60627
 ATTN: JACK KOLOPANIS - Lab

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER RINSE,
 ACETONE RINSE, WATER
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1055
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X16-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 1", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - FMC
 SAMPLE HOUR/DATE: 12-22-83 1055
 PROFILE SHEET CODE: A-88606/1
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE SPECIFIC WASTE DESIGN

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

MINNESOTA, MN
 SOURCE: ENC SITE: C01
 SOIL EX-2-24/NIROF
 ANALYSIS SHEET CODE

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides as CN, Total, mg/l	<10		
ROCl, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	88.942						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Fresh Point, F°	>312			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	88.032			Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pH/OM/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.67						
Barium, as Ba, mg/l	22.5						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.52	<0.01					
Chromium, Total as Cr, mg/l	10.7	0.02					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<10		
Copper, as Cu, mg/l	6.40			Chlordane, mg/l	<10		
Iron, Total as Fe, mg/l	550			DDT's, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	21.2	0.05		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	<0.005			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	11.3			Toxaphene, mg/l	<50		
Selenium, as Se, mg/l	<0.07			Parathion, mg/l	<10		
Silver, as Ag, mg/l	0.91			2,4-D, mg/l			
Zinc, as Zn, mg/l	14.5			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<10		
				C-76	<10		
				SCHEMATIC	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED <2						

FORM WMA-42 (Rev. 11-4-83)
 WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER, ACETONE (RINSE), WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-3-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIAPER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24")...
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>12-22-83 1115</u>
PROFILE SHEET CODE: <u>A-88606</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> UNSUITABLE FOR THE ABOVE NOTED REASON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: Harlan

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<10		
COD, mg/l				Cyanides, as CN, Free, mg/l			
BOD, mg/l							
Total Solids @ 105°C	90.51%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Vol. Content, on ignition	98.54%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	1.167						
Barium, as Ba, mg/l	53.4			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	2.37	<0.01					
Chromium, Total as Cr, mg/l	17.4	0.01					
Hexavalent Chromium @ Cr, mg/l				Alomn, mg/l	<10		
Copper, as Cu, mg/l	50.2			Chloroform, mg/l	<10		
Iron, Total as Fe, mg/l	106.22			DDTs, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	7.95	0.02		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	0.0355			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	17.8			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.06			Parathion, mg/l	<10		
Silver, as Ag, mg/l	1.10			2, 4, D, mg/l			
Zinc, as Zn, mg/l	124.1			2, 4, 5, TP (Silver), mg/l			
				PCB's, mg/l	<10		
				C-56	<10		
				SOLVENTS	<1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrites, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED	<2					

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
1501 W. 137th ST.
RIVERDALE, IL 60162
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
 ACETONE, RINSE, WATER
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X10-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1115
 PROFILE SHEET CODE: A-88606
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

UNSPECIFIC FOR THE BELOW NOTED REASON:

SPECIAL WASTE ANALYSIS REPORT

MINNESOTA, MN
SOURCE: END SITE: CD1
SOIL EX6-3-12/NIROP

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/3/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	84.932			Nitrogen, Ammonia as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fiber Form, %	72.2			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	94.20%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Bate Scrub" extract				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arabic as AS, mg/l	0.06						
Barium as Ba, mg/l	16.8						
Boron as B, mg/l				Oil and Grease, mg/l			
Calcium as Ca, mg/l	1.77	< 0.01					
Chromium, Total as Cr, mg/l	11.7	0.01					
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 10		
Copper as Cu, mg/l	7.03			Chlordane, mg/l	< 10		
Iron, Total as Fe, mg/l				DDT, mg/l	< 10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 10		
Lead as Pb, mg/l	21.7	< 0.01		Endrin, mg/l	< 10		
Manganese as Mn, mg/l				Heptachlor, mg/l	< 10		
Magnesium as Mg, mg/l				Linane, mg/l	< 10		
Mercury as Hg, mg/l	0.0171			Methoxychlor, mg/l	< 10		
Nickel as Ni, mg/l	11.6			Toxaphene, mg/l	< 10		
Strontium as Sr, mg/l	0.06			Parathion, mg/l	< 50		
Silver as Ag, mg/l	0.90			2,4-D, mg/l			
Zinc as Zn, mg/l	14.8			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	< 10		
				C-56	< 10		
				solvents	< 10%		
Bicarbonate as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chloride as Cl, mg/l							
Fluoride as F, mg/l							
Nitrate as NO ₃ , mg/l							
Nitrite as NO ₂ , mg/l							
Phosphate as P, mg/l							
Sulfate as SO ₄ , mg/l							
Sulfide as S, mg/l	DISSOLVED < 5						

This report has been prepared for the exclusive use and of Chemical Waste Management. No responsibility concerning sample validity or analytical accuracy or compliance is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE IL 60067
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
 ACETONE, RINSE,
 WATER
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
3. EQUIPMENT AND SAMPLING METHOD USED: X6-3-24 STAINLESS STEEL SCOOP, POST HOLE DIAPER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1115
 PROFILE SHEET CODE: A-886061
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

NIRQP
 MINNESOTA, MN
 SOURCE: ENC SITE: CD1
 SOIL EX6-3-24/NIRQP

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides, as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	93.812			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	7212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	93.07%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.51						
Barium, as Ba, mg/l	0.36						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.70	< 0.01					
Chromium, Total as Cr, mg/l	4.57	0.01					
hexavalent Chromium @ Cr, mg/l				Alum., mg/l	< 10		
Copper, as Cu, mg/l	5.94			Chloroform, mg/l	< 10		
Iron, Total as Fe, mg/l	4820			DDTs, mg/l	< 10		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	< 10		
Lead, as Pb, mg/l	18.4	0.07		Endrin, mg/l	< 10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 10		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 10		
Mercury, as Hg, mg/l	< 0.005			Methoxychlor, mg/l	< 10		
Nickel, as Ni, mg/l	11.6			Toxaphene, mg/l	< 50		
Selenium, as Se, mg/l	0.06			Parathion, mg/l	< 10		
Silver, as Ag, mg/l	0.87			2, 4, D, mg/l	—		
Zinc, as Zn, mg/l	15.9			2, 4, 5, TP (Silver), mg/l	—		
				PCB's, mg/l	< 10		
				C-56	< 10		
				INVENTS	< 1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2						

FORM 700-42 (Rev. 11-4-83)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and be of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or compliance is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE IL 60162
ATTN: JACK KOLOPANIS - LAG

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EQUIPMENT USED:
SOAP SOLUTION, WATER, RINSE,
ACETONE, K 15E, WATER,
RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1135
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION # 6 - NO DRUMS WERE FOUND
X6-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (1", 12", 24").
- AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: WALGREEN EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 12-22-83 1135
PROFILE SHEET CODE: A-886061
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

NIRDF
MINNESOTA, MN
SOURCE: ENO SITE: CD1
SOIL EX 6-4-0

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: T. Carter

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	88.60%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fresh Point, F°	72.12			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	84.19%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gmsOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsonic, as AS, mg/l	2.59						
Barium, as Ba, mg/l	25.4						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	2.24	<0.01					
Chromium, Total, as Cr, mg/l	14.3	0.01					
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<10		
Copper, as Cu, mg/l	39.4			Chlorane, mg/l	<10		
Iron, Total, as Fe, mg/l	4670			DDTs, mg/l	<10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<10		
Lead, as Pb, mg/l	51.60	0.05		Endrin, mg/l	<10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<10		
Magnesium, as Mg, mg/l				Lindane, mg/l	<10		
Mercury, as Hg, mg/l	0.021			Methoxychlor, mg/l	<10		
Nickel, as Ni, mg/l	17.5			Toxaphene, mg/l	<10		
Selenium, as Se, mg/l	<0.06			Parathion, mg/l	<10		
Silver, as Ag, mg/l	1.07			2, 4, D, mg/l	—		
Zinc, as Zn, mg/l	50.9			2, 4, 5, TP (Silver), mg/l	—		
				PCB's, mg/l	<10		
				C-56	<10		
Bicarbonates, as HCO ₃ , mg/l				PCB's, mg/l	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED <2						

FORM W-42 (Rev. 11-8-83)
ENRO WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and b of Chemical Waste Management. No repr concerning sample validity or analytical accuracy or com is hereby made to any other person receiving this repo

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THIS SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF THE EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - Lab

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
 ACETONE, RINSE,
 WATER
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1135
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (1", 2", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGEN
EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM - FMC
 SAMPLE HOUR/DATE: 12-22-83 1135
 PROFILE SHEET CODE: A-886061
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRA
 DATE: 12-22-83

WITNESS: _____
 SIGNATURE: _____
 TITLE: _____
 EMPLOYER: _____
 DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON:

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

NIROF
 MINNESOTA, MN
 SOURCE: END SITE: CD1
 SOIL EX-4-12/NIROF

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: [Signature]

Test	As Received	Eff. Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity % as							
Alkalinity % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides, as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	95.34%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fresh Form. P*	72.2			Total Alkalinity (P), as CaCO ₃ , mg/l			
Asn Content, on ignition	90.84%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Organic as AS, mg/l	11.14						
Selenium, as Se, mg/l	15.3						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.75	< 0.01					
Chromium, Total as Cr, mg/l	9.00	0.01					
Hexavalent Chromium @ Cr, mg/l				Arsine, mg/l	< 10		
Copper, as Cu, mg/l	6.23			Chloroars, mg/l	< 10		
Iron, Total as Fe, mg/l	426.01			DDTs, mg/l	< 10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 10		
Lead, as Pb, mg/l	18.3	0.04		Endrin, mg/l	< 10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 10		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 10		
Mercury, as Hg, mg/l	< 0.005			Methoxychlor, mg/l	< 10		
Nickel, as Ni, mg/l	10.4			Toxaphene, mg/l	< 50		
Selenium, as Se, mg/l	< 0.07			Parathion, mg/l	< 10		
Silver, as Ag, mg/l	0.84			2, 4, D, mg/l	---		
Zinc, as Zn, mg/l	15.2			2, 4, 5, TP (Silver), mg/l	---		
				PCBs, mg/l	< 10		
				P-36	< 10		
Bicarbonates, as HCO ₃ , mg/l				Solvents	< 1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	< 2					

FORM 700-62 (Rev. 11-4-83)
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management. No representation concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 12-22-83 1135
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
3. EQUIPMENT AND SAMPLING METHOD USED: X6-4-24 STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL : EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: WALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

SOAP SOLUTION, WATER
ACETONE, RINSE, WATER
RINSE.

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 12-22-83 1135
PROFILE SHEET CODE: A-886061
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED BELOW.

SPECIAL WASTE ANALYSIS REPORT

NIRDP
MINNESOTA, MN
SOURCE: ENC SITE: CD1
SOIL EXE-4-B/NIRDP
24 D. Ramsey

LABORATORY: Chemical Waste Management

PROFILE SHEET RECEIVED ON: Technical Center

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/3/84 LAB MANAGER: *Thaler*

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
C O D, mg/l				Cyanides, as CN, Total, mg/l	< 10		
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	92.00%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ignition Content, on ignition	91.03%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	< 0.07						
Barium, as Ba, mg/l	7.55						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.73	< 0.01					
Chromium, Total, as Cr, mg/l	11.7	0.01					
hexavalent Chromium @ Cr, mg/l				Alum., mg/l	< 10		
Copper, as Cu, mg/l	5.58			Chloroform, mg/l	< 10		
Iron, Total, as Fe, mg/l	5370			DDTs, mg/l	< 10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 10		
Lead, as Pb, mg/l	19.9	0.05		Endrin, mg/l	< 10		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 10		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 10		
Mercury, as Hg, mg/l	< 0.005			Methoxychlor, mg/l	< 10		
Nickel, as Ni, mg/l	10.2			Toxaphene, mg/l	< 50		
Selenium, as Se, mg/l	< 0.07			Parathion, mg/l	< 10		
Silver, as Ag, mg/l	0.85			2, 4, D, mg/l	—		
Zinc, as Zn, mg/l	17.2			2, 4, 5, TP (Silver), mg/l	—		
				PCBs, mg/l	< 10		
				C-56	< 10		
Bicarbonates, as HCO ₃ , mg/l				2, 4, D, TP	< 1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2						

This report has been prepared for the exclusive use and of Chemical Waste Management Inc. No representation concerning sample validity or analytical accuracy or complete is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60167
ATTN: JACK KOLOPANIS - LAR

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EQUIPMENT USED: SOAP SOLUTION, WATER, RINSE, ACETONENING, WATER, RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1155
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
3. EQUIPMENT AND SAMPLING METHOD USED: X6-5-12 STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER
5. TYPE OF CONTAINER IN WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1155
 PROFILE SHEET CODE: A-88606/6
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRA

TITLE: _____

DATE: 12-22-83

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON:

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

MINNESOTA, MN
 SOURCE: ENC SITE: CD1
 SOIL EX6-5-12/NIROF

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/84 LAB MANAGER: Thaler

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
C O D, mg/l				Cyanides, as CN, Total, mg/l	< 10		
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	96.712			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	2212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	95.91%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	0.19						
Barium, as Ba, mg/l	1.16						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.97	< 0.01					
Chromium, Total as Cr, mg/l	10.0	0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 10		
Copper, as Cu, mg/l	5.68			Chlordane, mg/l	< 10		
Iron, Total as Fe, mg/l	4794			DDT's, mg/l	< 10		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 10		
Lead, as Pb, mg/l	21.7	0.04		Endrin, mg/l	< 10		
Manganese, as Mn, mg/l				heptachlor, mg/l	< 10		
Magnesium, as Mg, mg/l				Lindane, mg/l	< 10		
Mercury, as Hg, mg/l	0.0183			Methoxychlor, mg/l	< 10		
Nickel, as Ni, mg/l	11.1			Toxaphene, mg/l	< 5.0		
Strontium, as Sr, mg/l	0.13			Parathion, mg/l	< 10		
Silver, as Ag, mg/l	0.04			2,4-D, mg/l			
Zinc, as Zn, mg/l	12.3			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	< 10		
				C-56	< 10		
				PCB'S	< 1.0%		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	< 2					

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE IL 60627
ATTN: JACK KOLOPANIS - Lab

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER, RINSE,
ACETONE, RINSE, WATER,
RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1155
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIRO, CWM-FMC
SAMPLE HOUR/DATE: 12-22-83 1155
PROFILE SHEET CODE: A-886016
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRA
DATE: 12-22-83

WITNESS: _____
SIGNATURE: _____
TITLE: _____
EMPLOYER: _____
DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

NIROF

MINNESOTA, MN

SOURCE: ENC SITE: CD1

SOIL EX6-5-24/NIROF

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/3/89 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides, as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	96.26%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fish Point, P*	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	95.22%			Total Alkalinity (N), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	1.21						
Barium, as Ba, mg/l	65.3						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	4.29	< 0.01					
Chromium, Total, as Cr, mg/l	9.50	0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	< 1.0		
Copper, as Cu, mg/l	10.5			Chlordane, mg/l	< 1.0		
Iron, Total, as Fe, mg/l	1039			DDTs, mg/l	< 1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	< 1.0		
Lead, as Pb, mg/l	72.4	0.05		Endrin, mg/l	< 1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Linane, mg/l	< 1.0		
Mercury, as Hg, mg/l	17.0169			Methoxychlor, mg/l	< 1.0		
Nickel, as Ni, mg/l	80.8			Toxaphene, mg/l	< 5.0		
Silver, as Ag, mg/l	0.21			Parathion, mg/l	< 1.0		
Zinc, as Zn, mg/l	148			2,4-D, mg/l			
				2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	< 1.0		
				(1-5)6	< 1.0		
Acetone, as HCO ₂ , mg/l				Solvent	< 1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrites, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2						

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PIT 7 TRUE LOCATION/RMT-APRIL 1987



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

MAR 02 '84 PM

RECEIVED



CONSTR - OPER. DIV

MARCH 1, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

PROJECT OFFICE

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEAN-UP, DA-CA-45-84-C-002D

ANALYTICAL RESULTS. 2 COPIES EACH
15 BOTTOM SAMPLES, 3 VOA SAMPLES

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
2ND EXCAVATION OF TRENCH #7		PER SAMPLE SHEETS ATTACHED

Very Truly Yours,

CC. JAY COSTELLO
NIROP FILE
DOC. FIVE
M. HENKE

T7-1-0

INTERPOL #201

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB

MN

ATTN:

JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1 PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1430
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: BOB KRLETE

TITLE: CHEMIST

SIGNATURE: Bob Krlete

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

T7-1-12 INTERPOL LAB

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN.
JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1430
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: BOB KRISTE

TITLE: CHEMIST

SIGNATURE: Bob Kriste

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

T7-1-24

INTERPOLL-203

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THE CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOLL LAB
MA
ATTN:
JOHN KAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1430
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Kriete

SIGNATURE: Bob Kriete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

T7-2-0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MA
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1445
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Kriete
 SIGNATURE: Bob Kriete
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 2-21-84

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

INTERPOLL LAB

MN

ATTN:

JOHN RAFFERTY

SAMPLE INVENTORY AND MASTER PACKING LIST

Box No.	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL	
			T	7	-	1	-	0								
			T	7	-	1	-	12								
			T	7	-	1	-	24								
			T	7	-	2	-	0								
			T	7	-	2	-	12								
			T	7	-	2	-	24								
			T	7	-	3	-	0								
			T	7	-	3	-	12								
			T	7	-	3	-	24								
		TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Henke 2-21-84 1600

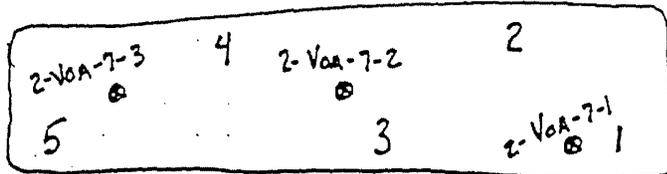
FIELD CUSTODIAN X Bob Krute _____

Signature _____ Date and Time _____

2-21-84

On 2-18-84 it was discovered that T#7 was surveyed incorrectly and thus, was excavated in the wrong place. T#7 was rechecked & now must be resampled. Three VOA samples will be taken at the one foot depth. Fifteen soil bottom samples will be taken at the surface, 1 foot & 2 foot depths (5 points).

SOIL SAMPLES



Old T#7 sample was designated as T7-1-12^N
so T7-1-12 will be used for actual trench #7.

201	T7-1-0	} 1430	Mud
202	-12		Clean sand
203	-24		Clean sand
204	T7-2-0	} 1445	Sand
205	12		
206	24		
207	T7-3-0	} 1500	Clay Sand
208	12		
209	24		
210	T7-4-0	} 1515	Sand & Clay
211	-12		
212	-24		
213	T7-5-0	} 1530	Sand & Clay
214	-12		
215	-24		

Designates 2nd T#7 VOAs

- 216 2-VOA-7-1
- 217 2-VOA-7-2
- 218 2-VOA-7-3

Sent to Interpoll on 2-21-84

T7-1-0

INTERPOLL #201

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOLL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIDOP
 SAMPLE HOUR/DATE: 2-21-84 1430
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: Bob Keiete
SIGNATURE: Bob Keiete

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 2-21-84

TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: * 3/1 REPRESENTATIVE SAMPLE RECEIVED ON: 2/15/84

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T77-1-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	7.4						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
X Total Solids @ 105°C	85.6			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
X Ash Content, on ignition	53.0			Total Hardness, as CaCO ₃ , mg/l			
Melting Valve, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." NaOH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Oil and Grease, mg/l			
Arsenic, as As, mg/l	6			Aldrin, mg/l	<1		
Barium, as Ba, mg/l	110			Chlordane, mg/l	<10		
Boron, as B, mg/l				DDT's, mg/l	193		
Cadmium, as Cd, mg/l				Dieldrin, mg/l	<1		
Chromium, Total as Cr, mg/l	33			Endrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<1		
Copper, as Cu, mg/l	3500			Lindane, mg/l	<1		
Iron, Total as Fe, mg/l				Methoxychlor, mg/l	<5		
Iron, dissolved as Fe, mg/l				Toxaphene, mg/l	<20		
Lead, as Pb, mg/l	160			Parathion, mg/l	<10		
Manganese, as Mn, mg/l	710			_____ mg/l			
Magnesium, as Mg, mg/l				_____ mg/l			
Mercury, as Hg, mg/l	<0.1			_____ mg/l			
Nickel, as Ni, mg/l	52			_____ mg/l			
Selenium, as Se, mg/l	<5			_____ mg/l			
Silver, as Ag, mg/l	<1			_____ mg/l			
Zinc, as Zn, mg/l	290			_____ mg/l			
				PCB's mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

0157-01

17-1-12
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOLL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1430
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Krete

SIGNATURE: Bob Krete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

- ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/22 REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/81

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-1-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	55.2						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
* Ash Content, on ignition	56.4			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
Metals m/L/kydry w/F				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<4			Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	55						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	0.8						
Chromium, Total as Cr, mg/l	11			Aldrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<10		
Copper, as Cu, mg/l	390			DDT's, mg/l	39		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<1		
Iron, dissolved as Fe, mg/l				Endrin, mg/l	<1		
Lead, as Pb, mg/l	25			Heptachlor, mg/l	<1		
Manganese, as Mn, mg/l	240			Lindane, mg/l	<1		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<5		
Mercury, as Hg, mg/l	<0.04			Toxaphene, mg/l	<20		
Nickel, as Ni, mg/l	10			Parathion, mg/l	<10		
Selenium, as Se, mg/l	<5			2,4-D, mg/l			
Silver, as Ag, mg/l	20.1			2,4,5-TP (Silver), mg/l			
Zinc, as Zn, mg/l	51			PCB's, mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

1 1-1-84
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1430
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Kriete

SIGNATURE: Bob Kriete

TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 UNSUITABLE FOR THE PURPOSES NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 2003 REPRESENTATIVE SAMPLE RECEIVED ON: 2/25/03

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-1-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.8						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.C.D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
Total Solids @ 105°C	909			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	60.4			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH/p				Magnesium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt							
Arsenic, as AS, mg/l	<4			Oil and Grease, mg/l			
Barium, as Ba, mg/l	26						
Boron, as B, mg/l				Aldrin, mg/l	<1		
Cadmium, as Cd, mg/l	0.7			Chlordane, mg/l	<10		
Chromium, Total as Cr, mg/l	9.7			DDT's, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Dieldrin, mg/l	<1		
Copper, as Cu, mg/l	6.4			Endrin, mg/l	<1		
Iron, Total as Fe, mg/l				Heptachlor, mg/l	<1		
Iron, dissolved, as Fe, mg/l				Lindane, mg/l	<1		
Lead, as Pb, mg/l	<4			Methoxychlor, mg/l	<5		
Manganese, as Mn, mg/l	75			Toxaphene, mg/l	<20		
Magnesium, as Mg, mg/l				Parathion, mg/l	<10		
Mercury, as Hg, mg/l	<0.07			2, 4, D, mg/l			
Nickel, as Ni, mg/l	10			2, 4, 5, TP (Silver), mg/l			
Selenium, as Se, mg/l	<4			PCB's, mg/l	<25		
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	14						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

11-a 0
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:
INTERPOL LAB
MN
ATTN:
JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMG NIDOP
SAMPLE HOUR/DATE: 2-21-84 1445
PROFILE SHEET CODE: ---
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 2-21-84

WITNESS: Bob Kriete
SIGNATURE: Bob Kriete
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

DATE: _____

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 2004

REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/84

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T9-2-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.3						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
B.O.D., mg/l							
Total Solids @ 105°C	87.4			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	85.5			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metal <i>mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	25						
Barium, as Ba, mg/l	41			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	1						
Chromium, Total as Cr, mg/l	16			Aldrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<10		
Copper, as Cu, mg/l	740			DDT's, mg/l	240		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	2		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	2		
Lead, as Pb, mg/l	71			Heptachlor, mg/l	<1		
Manganese, as Mn, mg/l	380			Lindane, mg/l	2		
Magnesium, as Mg, mg/l				Melthoxychlor, mg/l	<5		
Mercury, as Hg, mg/l	<0.06			Toxaphene, mg/l	<20		
Nickel, as Ni, mg/l	20			Parathion, mg/l	<10		
Selenium, as Se, mg/l	24			2, 4, D, mg/l			
Silver, as Ag, mg/l	<1			2, 4, 5, TP (Silver), mg/l			
Zinc, as Zn, mg/l	42			PCB's, mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NEG						

DIST-

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CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN.
JOHN KAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

- HOUR AND DATE OF SAMPLING: 2-21-84 1445
- SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-2-121
- EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
- AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR COE)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1445
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: Bob Kriete

TITLE: CHEMIST

SIGNATURE: Bob Kriete

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE SEE THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 205 REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/84

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-2-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.8						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
COD, mg/l				Cyanides, as CN, Free, mg/l	None		
BOD ₅ , mg/l							
* Total Solids @ 105°C	84.0			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	83.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5						
Barium, as Ba, mg/l	7			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.5						
Chromium, Total as Cr, mg/l	6.3			Aldrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<10		
Copper, as Cu, mg/l	6.1			DDT's, mg/l	11		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<1		
Iron, dissolved, as Fe, mg/l				Endrin, mg/l	<1		
Lead, as Pb, mg/l	<10			Heptachlor, mg/l	<1		
Manganese, as Mn, mg/l	44			Lindane, mg/l	<1		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<5		
Mercury, as Hg, mg/l	<0.07			Toxaphene, mg/l	<20		
Nickel, as Ni, mg/l	7			Parathion, mg/l	<10		
Selenium, as Se, mg/l	<6			2, 4, D, mg/l	---		
Silver, as Ag, mg/l	<1			2, 4, 5, TP (Silvex), mg/l	---		
Zinc, as Zn, mg/l	8.0			PCB's, mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

T 7-2-24 IN 11440

CERTIFICATION OF REPRESENTATIVE SAMPLE

WASTE PROFILE SHEET CODE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1445
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T 7-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL)
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1 PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1445
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 2-21-84

WITNESS: Bob Kriete
 SIGNATURE: Bob Kriete
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/26

REPRESENTATIVE SAMPLE RECEIVED ON: 2/28/84

CERTIFICATE OF REP. SAMPLE RECEIVED: _____

SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____

LAB MANAGER: _____

T7-2-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.8						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	Neg		
B.O.D., mg/l							
* Total Solids @ 105°C	45.6			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 100°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	95.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." @ 100/1/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/Kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5						
Barium as Ba, mg/l	26			Oil and Grease, mg/l			
Boron, as B, mg/l							
Calcium, as Ca, mg/l	<205						
Chromium, Total as Cr, mg/l	5.3						
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1		
Copper, as Cu, mg/l	4.1			Chlordane, mg/l	<10		
Iron, Total as Fe, mg/l				DDT's, mg/l	<1		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1		
Lead, as Pb, mg/l	<9			Endrin, mg/l	<1		
Manganese, as Mn, mg/l	530			Heptachlor, mg/l	<1		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1		
Mercury, as Hg, mg/l	<0.04			Methoxychlor, mg/l	<5		
Nickel, as Ni, mg/l	9			Toxaphene, mg/l	<20		
Selenium, as Se, mg/l	<3.8			Parathion, mg/l	<10		
Silver, as Ag, mg/l	<1			2,4-D, mg/l	1		
Zinc, as Zn, mg/l	9.5			2,4,5-TP (Silvex), mg/l	1		
				HCH's, mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Cyanides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

1 1-3 0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-3-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL)
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1500
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: Bob Keiete

TITLE: CHEMIST

SIGNATURE: Bob Keiete

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

17-3-12

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T 7-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL)
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1500
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 2-21-84

WITNESS: Bob Keiete
 SIGNATURE: Bob Keiete
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/28 REPRESENTATIVE SAMPLE RECEIVED ON: 2/28/84

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-3-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l	NEG		
Total Solids @ 105°C	83.9			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	83.0			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pH/OH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
Metals <i>multicycle wt</i>				Oil and Grease, mg/l			
Arsenic, as AS, mg/l	<5						
Barium, as Ba, mg/l	64						
Boron, as B, mg/l							
Calcium, as Ca, mg/l	0.8						
Chromium, Total as Cr, mg/l	14						
Six-valent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	9.5						
Iron, Total as Fe, mg/l							
Iron, dissolved as Fe, mg/l							
Lead, as Pb, mg/l	<10						
Manganese, as Mn, mg/l	11000						
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l	<0.1						
Nickel, as Ni, mg/l	20						
Selenium, as Se, mg/l	<5						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	20						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	NRG						

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17-3-24
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMG NIROP
SAMPLE HOUR/DATE: 2-21-84 1500
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Keite

SIGNATURE: Bob Keite

TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON 2/29/91 REPRESENTATIVE SAMPLE RECEIVED ON: 2/25/91

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER _____

T7-3-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity				Phenols, mg/l			
* pH	7.8			Cyanides, as CN, Total, mg/l			
Acidity, % as				Cyanides as CN, Free, mg/l	Yes		
Alkalinity, % as				Nitrogen, Ammonia, as N, mg/l			
COD, mg/l				Nitrogen, Organic, as N, mg/l			
BOD, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
* Total Solids @ 105°C	91.4			Total Alkalinity (P), as CaCO ₃ , mg/l			
Total Dissolved Solids, mg/l				Total Alkalinity (M), as CaCO ₃ , mg/l			
Total Suspended Solids, mg/l				Total Hardness, as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Calcium Hardness, as CaCO ₃ , mg/l			
Flash Point, F°				Magnesium Hardness, as CaCO ₃ , mg/l			
* Ash Content, on ignition	98.4			Oil and Grease, mg/l			
Heating Value, BTU/lb							
"Acid Scrub," @NaOH/lb							
Metals mg/kg dry wt							
Arsenic, as AS, mg/l	25			Aldrin, mg/l	<1		
Barium, as Ba, mg/l	30			Chlordane, mg/l	<10		
Boron, as B, mg/l				DDE's, mg/l	<1		
Cadmium, as Cd, mg/l	1			Dieldrin, mg/l	<1		
Chromium, Total as Cr, mg/l	13			Endrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<1		
Copper, as Cu, mg/l	6.0			Lindane, mg/l	<1		
Iron, Total as Fe, mg/l				Methoxychlor, mg/l	<5		
Iron, Dissolved, as Fe, mg/l				Toxaphene, mg/l	<20		
Lead, as Pb, mg/l	<10			Parathion, mg/l	<10		
Manganese, as Mn, mg/l	3.70			2,4-D, mg/l	1		
Magnesium, as Mg, mg/l				2,4,5-T (Silvex), mg/l	1		
Mercury, as Hg, mg/l	<0.08			PCBs, mg/l	<25		
Nickel, as Ni, mg/l	10						
Selenium, as Se, mg/l	<4						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	15						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Yes						

10150 WASTE MANAGEMENT INC

0157-

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THE CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1515
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1515
PROFILE SHEET CODE: —
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Kreite

SIGNATURE: Bob Kreite

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/10 REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/84

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-4-0

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	7.4						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	None		
B.O.D., mg/l				Nitrogen, Ammonia, as N, mg/l			
* Total Solids @ 105°C	89.0			Nitrogen, Organic, as N, mg/l			
Total Dissolved Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Total Suspended Solids, mg/l				Total Alkalinity (P), as CaCO ₃ , mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (M), as CaCO ₃ , mg/l			
Flash Point, F°				Total Hardness, as CaCO ₃ , mg/l			
X Ash Content, on ignition	85.6			Calcium Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Magnesium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pH @ 10pp				Oil and Grease, mg/l			
Metals mg/kg dry wt							
Arsenic, as AS, mg/l	<6			Algae, mg/l	<1		
Barium, as Ba, mg/l	81			Chlorides, mg/l	<10		
Boron, as B, mg/l				DDT's, mg/l	270		
Cadmium, as Cd, mg/l	1			Dieldrin, mg/l	2		
Chromium, Total as Cr, mg/l	23			Endrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<1		
Copper, as Cu, mg/l	1000			Lindane, mg/l	<1		
Iron, Total as Fe, mg/l				Methoxychlor, mg/l	<5		
Iron, dissolved as Fe, mg/l				Toxaphene, mg/l	<20		
Lead, as Pb, mg/l	67			Parathion, mg/l	<10		
Manganese, as Mn, mg/l	580			2,4, D, mg/l	1		
Magnesium, as Mg, mg/l				2,4,5, TP (Silver), mg/l	1		
Mercury, as Hg, mg/l	<0.1			PCB's, mg/l	<25		
Nickel, as Ni, mg/l	33						
Selenium, as Se, mg/l	<5						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	210						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	124						

0157-1

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING ONE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1515
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-4-12'
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1515
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: Bob Keiete

TITLE: CHEMIST

SIGNATURE: Bob Keiete

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/11

REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/80

CERTIFICATE OF REP. SAMPLE RECEIVED _____

SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-4-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as							
Alkalinity, % as							
C.O.D. mg/l				Phenols, mg/l			
B.O.U. mg/l				Cyanides, as CN, Total, mg/l			
* Total Solids @ 105°C	84.2			Cyanides, as CN, Free, mg/l	None		
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	83.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5			Oil and Grease, mg/l			
Barium, as Ba, mg/l	37						
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	0.5						
Chromium, Total as Cr, mg/l	12						
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	9.0						
Iron, Total as Fe, mg/l							
Iron, dissolved, as Fe, mg/l							
Lead, as Pb, mg/l	<10						
Manganese, as Mn, mg/l	620						
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l	<0.1						
Nickel, as Ni, mg/l	20						
Selenium, as Se, mg/l	<5						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	21						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	None						

CRM W-11-22 (Rev. 11-5-80)
01926 WASTE MANAGEMENT, INC.

0157-11

11-4-84

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1515
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-4-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM, WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>FMC NIROP</u>
SAMPLE HOUR/DATE: <u>2-21-84 1515</u>
PROFILE SHEET CODE: <u> </u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: Bob Kriete

SIGNATURE: Bob Kriete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

INADEQUATE FOR THE PURPOSES NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 2/2 REPRESENTATIVE SAMPLE RECEIVED ON: 2/22/82

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-4-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.8						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	N/27		
B.O.D., mg/l							
* Total Solids @ 105°C	97.7			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 100°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	97.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gH ₂ O/lb				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5						
Barium, as Ba, mg/l	<5			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.5						
Chromium, Total as Cr, mg/l	5.4			Aldrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	<10		
Copper, as Cu, mg/l	410			DDT's, mg/l	<1		
Iron, Total as Fe, mg/l				Dieldrin, mg/l	<1		
Iron, Dissolved, as Fe, mg/l				Endrin, mg/l	<1		
Lead, as Pb, mg/l	<9			Heptachlor, mg/l	<1		
Manganese, as Mn, mg/l	86			Lindane, mg/l	<1		
Magnesium, as Mg, mg/l				Methoxychlor, mg/l	<5		
Mercury, as Hg, mg/l	<0.07			Toxaphene, mg/l	<20		
Nickel, as Ni, mg/l	9			Parathion, mg/l	<1		
Selenium, as Se, mg/l	<4			2,4-D, mg/l	1		
Silver, as Ag, mg/l	<1			2,4,5-TP (Slovak), mg/l	1		
Zinc, as Zn, mg/l	11			PCNB's, mg/l	<25		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

11 - 0
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1PT (1PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
SAMPLE HOUR/DATE: 2-21-84 1530
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 2-21-84

WITNESS: BOB KRLETE
SIGNATURE: Bob Krlete
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

1-5-12

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN: JOHN KAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-5-12'
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR COE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC NIROP
 SAMPLE HOUR/DATE: 2-21-84 1530
 PROFILE SHEET CODE:
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 2-21-84

WITNESS: Bob Kriete
 SIGNATURE: Bob Kriete
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 5/14

REPRESENTATIVE SAMPLE RECEIVED ON: 5/22/84

CERTIFICATE OF REP. SAMPLE RECEIVED _____

SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-5-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C.O.D., mg/l				Cyanides, as CN, Free, mg/l	142		
B.O.D., mg/l							
* Total Solids @ 105°C	94.0			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	93.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gH ₂ O/l/g				Calcium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	<5						
Barium, as Ba, mg/l	20			Oil and Grease, mg/l			
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.5			Aldrin, mg/l	<1		
Chromium, Total as Cr, mg/l	12			Chlordane, mg/l	<10		
Hexavalent Chromium @ Cr, mg/l				DDT's, mg/l	17		
Copper, as Cu, mg/l	1100			Dieldrin, mg/l	<1		
Iron, Total as Fe, mg/l				Endrin, mg/l	<1		
Iron, Dissolved as Fe, mg/l				Heptachlor, mg/l	<1		
Lead, as Pb, mg/l	42			Lindane, mg/l	<1		
Manganese, as Mn, mg/l	97			Methoxychlor, mg/l	<5		
Magnesium, as Mg, mg/l				Toxaphene, mg/l	<20		
Mercury, as Hg, mg/l	<0.01			Parathion, mg/l	<10		
Nickel, as Ni, mg/l	20			2,4-D, mg/l			
Selenium, as Se, mg/l	24			2,4,5-TP (Silver), mg/l			
Silver, as Ag, mg/l	21			PCB's, mg/l	<25		
Zinc, as Zn, mg/l	79						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	142						

T7-5-24

IN REF. W. 215

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERPOL LAB
MN
ATTN:
JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT DEPTHS OF 0" (SURFACE), 12" & 24"
T7-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP (STAINLESS STEEL),
SHOVEL, POST HOLE DIGGER, EQUIPMENT CLEANED
AFTER EACH POINT. (5 POINTS - 3 SAMPLES AT
EACH POINT = 15 TOTAL SAMPLES)
4. AMOUNT OF SAMPLE OBTAINED: 2-1 PT (1 PT FOR CDE)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>FMC NIROP</u>
SAMPLE HOUR/DATE: <u>2-21-84</u> <u>1530</u>
PROFILE SHEET CODE: <u> </u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: BOB KEIETE

SIGNATURE: Bob Keiete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

WASTE PROFILE SHEET CODE _____

PROFILE SHEET RECEIVED ON: 8/15 REPRESENTATIVE SAMPLE RECEIVED ON: 8/22/84

CERTIFICATE OF REP. SAMPLE RECEIVED _____ SAMPLE TAKEN _____

PROPOSED TREATMENT/DISPOSAL FACILITY _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

T7-5-24

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D ₅ , mg/l				Cyanides, as CN, Free, mg/l	10-9		
* Total Solids @ 105°C	93.4			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 100°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
* Ash Content, on ignition	93.1			Total Hardness, as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
Metals mg/kg dry wt				Oil and Grease, mg/l			
Arsenic, as AS, mg/l	<4			Aldrin, mg/l			
Barium, as Ba, mg/l	4			Chlordane, mg/l	<10		
Boron, as B, mg/l				DDE's, mg/l	6		
Cadmium, as Cd, mg/l	<0.4			Dieldrin, mg/l	<1		
Chromium, Total as Cr, mg/l	7.1			Endrin, mg/l	<1		
Hexavalent Chromium @ Cr, mg/l				Heptachlor, mg/l	<1		
Copper, as Cu, mg/l	11			Lindane, mg/l	<1		
Iron, Total as Fe, mg/l				Methoxychlor, mg/l	<5		
Iron, Dissolved, as Fe, mg/l				Toxaphene, mg/l	<20		
Lead, as Pb, mg/l	<9			Parathion, mg/l	<10		
Manganese, as Mn, mg/l	110			2, 4, D, mg/l	1		
Magnesium, as Mg, mg/l				2, 4, 5, TP (Dioxin), mg/l	1		
Mercury, as Hg, mg/l	<0.09			PCB's, mg/l	<25		
Nickel, as Ni, mg/l	9						
Selenium, as Se, mg/l	<4						
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	11						
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	142						

X 7-1-0 PIT / WRONG LOCATION / KMT - April 14 07
 CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
 EQUIPMENT: CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #10 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-1-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM, WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-5-84
 PROFILE SHEET CODE: A 88609
 SAMPLER SIGNATURE: Mark Henke

WITH THIS VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

LABORATORY: X7-1-0

--	--

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 16 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: 1-5-84

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.3						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				* Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	746						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
* Ash Content, on ignition	72.5			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	10		✓	Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	85						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	204		✓				
Chromium, Total as Cr, mg/l	31		✓	Sol ⁿ mg/l/kg			
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	83		✓	DDT's, mg/l	ND		
Iron, Total as Fe, mg/l			✓	Dieldrin, mg/l	16		
Iron, dissolved, as Fe, mg/l			✓	Endrin, mg/l	5.8		
Lead, as Pb, mg/l			✓	Heptachlor, mg/l	3.7		
Manganese, as Mn, mg/l	770		✓	Lindane, mg/l	2.1		
Magnesium, as Mg, mg/l			✓	Methoxychlor, mg/l	ND		
Mercury, as Hg, mg/l	20.03		✓	Toxaphene, mg/l	ND		
Nickel, as Ni, mg/l	<10		✓	Parathion, mg/l	ND		
Selenium, as Se, mg/l	<1		✓				
Silver, as Ag, mg/l	<1		✓				
Zinc, as Zn, mg/l	39		✓	(Silvex), mg/l			
				PCB's, mg/l	22		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	Neg						

FORM WMI-52 (Rev. 11-5-80)
 01980 WASTE MANAGEMENT, INC

Rec 13 JAN 24

0014-01

X-1-1-12 11

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60127
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFter EACH HOle SAMPlE
EQUIPMenT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>A-88609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-5-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL	
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:	
<input type="checkbox"/>	ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/>	INADEQUATE FOR THE REASONS NOTED HEREON.

X 7-1-24 10

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60127
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE,
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X 7-1-24.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>A 88609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITH MY VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET
 I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

11-2-0

... SITE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 WEST 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE,
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON

X7-2-12 20

A 88607
WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT IS RINSED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (9", 17", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1.0)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>A 88609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-5-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

X7-2-24 21

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH TUBE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>487609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

UNSUITABLE FOR THE REASONS NOTED HEREON.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
 EQUIPMENT IS CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-3-0.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE COLLECTED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIRUP, CWM-FMC</u> SAMPLE HOUR/DATE: <u>1-5-84</u> PROFILE SHEET CODE: <u>A 88609</u> SAMPLER SIGNATURE: <u>Mark Henke</u>

WITH CROSS VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-5-84

WITNESS: MARK HILL
 SIGNATURE: Mark Hill
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-3-0

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 22 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	Neg		
Total Solids @ 105°C	84.9						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flesh Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	84.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5		✓				
Barium, as Ba, mg/l	21						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.5		✓				
Chromium, Total as Cr, mg/l	8.2		✓	<i>soil mg/kg</i>			
Six-valent Chromium @ Cr, mg/l				Arsenic, mg/l	ND		✓
Copper, as Cu, mg/l	15			Chromium, mg/l	ND		✓
Iron, Total as Fe, mg/l				DDT's, mg/l	14		✓
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	2.2		✓
Lead, as Pb, mg/l	<2.8		✓	Endrin, mg/l	ND		✓
Manganese, as Mn, mg/l	55			Heptachlor, mg/l	ND		✓
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		✓
Mercury, as Hg, mg/l	20.04		✓	Methoxychlor, mg/l	ND		✓
Nickel, as Ni, mg/l	1.9			Toxaphene, mg/l	ND		✓
Selenium, as Se, mg/l	21			Parathion, mg/l	ND		✓
Silver, as Ag, mg/l	<2			_____ mg/l			
Zinc, as Zn, mg/l	6.2			_____ TP (Silver), mg/l			
				PCB's, mg/l	19		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

A / 2 1 6

PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60127
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-3-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL: EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FML</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON.

X1-221 61

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60127
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH TUPLE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS, AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIRUP, CWM-FML</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>M-H-K</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: M-H-K
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-5-84

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-3-24

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 24 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analys Initials
Specific Gravity							
X pH	8.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
G.O.D. mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				* Cyanides, as CN, Free, mg/l	ND		
X Total Solids @ 105°C	94.0						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
X Ash Content, on ignition	92.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Melting Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub. % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/Kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<3		/				
Barium, as Ba, mg/l	14		/				
Boron, as B, mg/l			/	Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	10.3		/				
Chromium, Total as Cr, mg/l	6.9		/				
Hexavalent Chromium @ Cr, mg/l			/	<i>See slightly</i>	ND		
Copper, as Cu, mg/l	2.6		/	_____ , mg/l	ND		
Iron, Total as Fe, mg/l			/	DDT's, mg/l	8.2		
Iron, dissolved as Fe, mg/l			/	Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	<1.4		/	Endrin, mg/l	ND		
Manganese, as Mn, mg/l	130		/	Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l			/	Lindane, mg/l	ND		
Mercury, as Hg, mg/l	20.04		/	Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	7.6		/	Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	20.8		/	Parathion, mg/l	ND		
Silver, as Ag, mg/l	<1		/	_____ , mg/l	ND		
Zinc, as Zn, mg/l	8.1		/	_____ TP (Slivex), mg/l	ND		
			/	PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrous, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
X Sulfides, as S, mg/l	ND						

X7-4-0

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH FULL SAMPLE
 EQUIPMENT IS CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: VALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FML</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITH MY VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-4-0

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 25 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.6						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
COD, mg/l				Cyanides, as CN, Free, mg/l	Neg		
BOD, mg/l							
* Total Solids @ 105°C	84.4			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	81.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/Kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4						
Barium, as Ba, mg/l	100						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	10.4						
Chromium, Total as Cr, mg/l	23						
Hexavalent Chromium @ Cr, mg/l				_____ mg/l <i>See mg/l</i>	ND		
Copper, as Cu, mg/l	330			_____ mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	460		
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	3.6		
Lead, as Pb, mg/l	<1.9			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	860			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	20.04			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	23			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	21			Parathion, mg/l	ND		
Silver, as Ag, mg/l	<1			_____ mg/l			
Zinc, as Zn, mg/l	40			_____ TP (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrous, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

0014-10

X7-4-12 46

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFter EACH HOle SAMPlE
EQUIPMenT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIRUP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>48609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

EMPLOYER: ENRAC

SIGNATURE: Mark Hill

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

UNDETERMINED BY REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-9-12

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 26 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.6						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l	Neg		
Total Solids @ 105°C	830						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition	81.4			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry wt</i>				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<5			Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	51						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	40.5						
Chromium, Total as Cr, mg/l	14			<i>500 mg/kg</i>			
Hexavalent Chromium @ Cr, mg/l				Arsenic, mg/l	ND		
Copper, as Cu, mg/l	290			Cadmium , mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	160		
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	N/D		
Lead, as Pb, mg/l	<3.4			Endrin, mg/l	N/D		
Manganese, as Mn, mg/l	630			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	N/D		
Mercury, as Hg, mg/l	40.04			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	13			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<1			Parathion, mg/l	N/D		
Silver, as Ag, mg/l	<2			Chlordane , mg/l			
Zinc, as Zn, mg/l	34			Endrin , mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

0014-11

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60629
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EQUIPMENT: CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. 17-4-24.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OF ANALYZED: 1 LITER (1.0L)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: ALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 1-5-84
 PROFILE SHEET CODE: A 89609
 SAMPLER SIGNATURE: Mark Henke

WITH MY VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

11-00

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH INDIV. SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIRUP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-5-0

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 28 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
X pH	7.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				* Cyanides, as CN, Free, mg/l	Neg		
X Total Solids @ 105°C	82.0						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
X Ash Content, on ignition	79.0			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
<i>mg/Kg dry wt</i>				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	30			Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	180						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.5						
Chromium, Total as Cr, mg/l	24			<i>Soil mg/kg</i>			
Hexavalent Chromium @ Cr, mg/l				Ammonia, mg/l	ND		
Copper, as Cu, mg/l	2100			Chlorides , mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	42		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	< 2.9			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	1600			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	20.04			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	55			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	< 0.9			Parathion, mg/l	ND		
Silver, as Ag, mg/l	< 2			DDT , mg/l			
Zinc, as Zn, mg/l	160			DDT (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
X Sulfides, as S, mg/l	Neg						

0014-1

170-10 1

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFter EACH HOle SAMPlE
EQUIPMEnt: CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X7-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-5-84</u>
PROFILE SHEET CODE: <u>A 88609</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITHOUT VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

- ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
- INADEQUATE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KALOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
 EQUIPMENT IS CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. X7-5-24.
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL. EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NAI 30L
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84</u>
PROFILE SHEET CODE:	<u>A88609</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITH MY VERIFICATION, I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: MARK HILL

SIGNATURE: Mark Hill

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-5-24

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: # 30 SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	8.0						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD ₅ , mg/l				Cyanides, as CN, Free, mg/l	ND		
* Total Solids @ 105°C	96.9						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	96.5			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
mg/l (dry wt)				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<3						
Barium, as Ba, mg/l	9.1						
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.4						
Chromium, Total as Cr, mg/l	3.2						
Hexavalent Chromium @ Cr, mg/l					ND		
Copper, as Cu, mg/l	<1.0				ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	6.6		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	<1.4			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	71			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	0.02			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	4.0			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<0.9			Parathion, mg/l	ND		
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	5.6						
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	ND						

0014-1E

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: _____
2. SOURCE FROM WHICH SAMPLE TAKEN: _____

3. EQUIPMENT AND SAMPLING METHOD USED: _____

4. AMOUNT OF SAMPLE OBTAINED: _____
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: _____

6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: SAMPLE HOUR/DATE: PROFILE SHEET CODE: SAMPLER SIGNATURE:
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WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: _____

SIGNATURE: _____

WITNESS: _____

TITLE: _____

SIGNATURE: _____

EMPLOYER: _____

TITLE: _____

DATE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS: <input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE <input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON
--

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X7-2-0

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: # 31 SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	85.2						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	84.4			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." @NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/Kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Asenic, as AS, mg/l	<4						
Barium, as Ba, mg/l	99						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	40.3						
Chromium, Total as Cr, mg/l	10			<i>500 mg/l</i>			
Hexavalent Chromium @ Cr, mg/l				_____ , mg/l	ND		
Copper, as Cu, mg/l	28			_____ , mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	29		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	<1.8			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	1700			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	<0.05			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	7.2			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<0.0			Perathion, mg/l	ND		
Silver, as Ag, mg/l	<1			_____ , mg/l			
Zinc, as Zn, mg/l	13			_____ TP (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	Neg						

OK

0014-16

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: _____
2. SOURCE FROM WHICH SAMPLE TAKEN: _____

3. EQUIPMENT AND SAMPLING METHOD USED: _____

4. AMOUNT OF SAMPLE OBTAINED: _____
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: _____
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:
SAMPLE HOUR/DATE:
PROFILE SHEET CODE:
SAMPLER SIGNATURE:

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: _____

SIGNATURE: _____

WITNESS: _____

TITLE: _____

SIGNATURE: _____

EMPLOYER: _____

TITLE: _____

DATE: _____

EMPLOYER: _____

DATE: _____

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON.



Chemical Waste Management, Inc.
 Environmental Remedial Action Division
 150 W. 137th Street
 Riverdale, Illinois 60627
 312/841-8600

JAN 15 '84 PM

RECEIVED



PROJECT OFFICE 7

Jan 11 1984

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE & CUSTOMS HOUSE
 ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
 ANALYTICAL RESULTS.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

See attached sample source sheets for TH: 7, 10 & 17.

Note that no detectable amounts of industrial solvents were found in any of these samples.

Very Truly Yours,
 Dick Lanning

cc. JACLOSTELLO
 NIROP FILE
 DCC FILE

X10-2-12

PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE,
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1050
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X10-2-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS, AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE COLLECTED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIRUP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-5-84 1050</u>
PROFILE SHEET CODE: <u>A 88608</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: X10-2-12

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 5 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.9						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				* Cyanides, as CN, Free, mg/l	14.9		
* Total Solids @ 105°C	59.4						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
* Ash Content, on ignition	88.8			Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
mg/Kg dry wt				Calcium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	<4			Magnesium Hardness, as CaCO ₃ , mg/l			
Barium, as Ba, mg/l	15						
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	<0.4						
Chromium, Total as Cr, mg/l	7.3			Sol. mg/kg			
Hexavalent Chromium @ Cr, mg/l				Asbestos, mg/l	ND		
Copper, as Cu, mg/l	2			Asbestos, mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	2.5		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	<2			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	69			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	<0.04			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	41.9			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<0.9			Parathion, mg/l	ND		
Silver, as Ag, mg/l	<1						
Zinc, as Zn, mg/l	6.3			TP (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

X10-2-24

6

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE WAS MADE
EQUIPMENT WAS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1050
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X10-2-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL: EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
SAMPLE HOUR/DATE: 1-5-84 1050
PROFILE SHEET CODE: A-88608
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

110-20 11

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOCOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

CHECK EACH TUBE SEPARATELY
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1105
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
XK-30
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FML
SAMPLE HOUR/DATE: 1-5-84 1105
PROFILE SHEET CODE: A 880608
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSURE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-5-84 1105
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X10-3-12
- EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL: EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
- AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE: <u>1-5-84 1105</u>
PROFILE SHEET CODE: <u>A-88608</u>
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION: I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON

X10-3-24

4

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KALOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT WAS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1105
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. X10-3-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-24 1105</u>
PROFILE SHEET CODE:	<u>4 81608</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

110
CERTIFICATION OF REPRESENTATIVE SAMPLE

AL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
 ATTN: JACK KALOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ALL EQUIPMENT IS CLEANED
 (SOAP WASH, R.I.E. ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X-4-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1.00)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NO NONE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FML</u>
SAMPLE HOUR/DATE:	<u>1-5-84 1115</u>
PROFILE SHEET CODE:	<u>A 88608</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

SALES _____ CCDE _____

LABORATORY: _____

X10-4-D

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 11 10

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____

SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____

LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
* Acidity, % as	7.0						
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD ₅ , mg/l				* Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	73.6						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	68.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Hushing Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid" lb. NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
<i>mg/kg dry wt</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l	9		✓				
Barium, as Ba, mg/l	300						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.6		✓				
Chromium, Total as Cr, mg/l	7.4		✓				
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l	19		✓				
Iron, Total as Fe, mg/l							
Iron, dissolved, as Fe, mg/l							
Lead, as Pb, mg/l	23		✓				
Manganese, as Mn, mg/l	39		✓				
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l	20.40		✓				
Nickel, as Ni, mg/l	25		✓				
Selenium, as Se, mg/l	21		✓				
Silver, as Ag, mg/l	22		✓				
Zinc, as Zn, mg/l	25		✓				
				PCB's, mg/l	130		OK
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

110-410

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

ENTER EACH HOLE SAMPLE. EQUIPMENT WAS CLEANED (SOAP WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - NO DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. X10-4-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LB (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM, WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIRUP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84 1115</u>
PROFILE SHEET CODE:	<u>A 88608</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-5-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL	
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:	
<input type="checkbox"/>	ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/>	INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X10-4-12

SALES	CODE
WASTE PROFILE SHEET CODE	

PROFILE SHEET RECEIVED ON: # 11 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.1						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				* Cyanides, as CN, Free, mg/l	ND		
* Total Solids @ 105°C	71.9						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	65.8			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Ca Hardness, as CaCO ₃ , mg/l			
<i>mal/ke-d-w-ut</i>				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	6						
Barium, as Ba, mg/l	240						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	<0.6						
Chromium, Total as Cr, mg/l	13						
Hexavalent Chromium @ Cr, mg/l				<i>Sodi 200/11g</i>			
Copper, as Cu, mg/l	13			Asbestos, mg/l	ND		
Iron, Total as Fe, mg/l				Chrysotile, mg/l	ND		
Iron, dissolved as Fe, mg/l				DDT's, mg/l	16		
Lead, as Pb, mg/l	23			Dieldrin, mg/l	ND		
Manganese, as Mn, mg/l	3000			Endrin, mg/l	ND		
Magnesium, as Mg, mg/l				Heptachlor, mg/l	ND		
Mercury, as Hg, mg/l	<0.44			Lindane, mg/l	ND		
Nickel, as Ni, mg/l	<10			Methoxychlor, mg/l	ND		
Selenium, as Se, mg/l	<1			Toxaphene, mg/l	ND		
Silver, as Ag, mg/l	<2			Parathion, mg/l	ND		
Zinc, as Zn, mg/l	28			TP (Silvex), mg/l			
				PCB's, mg/l	ND		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

0013-11

X10-4-24 10

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1115
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X10-4-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-84 1115</u>
PROFILE SHEET CODE:	<u>A 88608</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: Mark Hill

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL	
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:	
<input type="checkbox"/>	ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/>	INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X10-4-24

SALES	CODE

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 12 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH	7.5						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l	NEG		
Total Solids @ 105°C	85.1			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
Ash Content, on ignition	87.1			Total Hardness, as CaCO ₃ , mg/l			
Hushing Value, BTU/lb				Calcium Hardness, as CaCO ₃ , mg			
Acid S: _____ mg/l <i>Ry 0.04 WT</i>				Magnesium Hardness, as CaCO ₃ , mg			
Arsenic, as AS, mg/l	7		✓				
Barium, as Ba, mg/l	27						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.7		✓				
Chromium, Total as Cr, mg/l	11		✓	<i>not by soil</i>			
Hexavalent Chromium @ Cr, mg/l				Aroclor, mg/l	ND		
Copper, as Cu, mg/l	2			Chlordane, mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	ND	✓	
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	<2		✓	Endrin, mg/l	ND		
Manganese, as Mn, mg/l	110			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	<0.04		✓	Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	12			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<1			Parathion, mg/l	ND		
Silver, as Ag, mg/l	<2			_____ mg/l			
Zinc, as Zn, mg/l	9.4			_____ TP (Silvex), mg/l			
				PCB's, mg/l	29		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

X10-5-0

10

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60427
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

WATER TANK FULL OF WASTE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 11:30
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. X10-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL: EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIDOP, CWM-FML
SAMPLE HOUR/DATE: 1-5-84 1130
PROFILE SHEET CODE: A 88608
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: *Mark Henke*

WITNESS: MARK HILL

TITLE: CHEMIST

SIGNATURE: *Mark Hill*

EMPLOYER: ENRAC

DATE: 1-5-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

LABORATORY: _____

X10-5-D

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: H 13

REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____

SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____

LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.2						
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD ₅ , mg/l				Cyanides, as CN, Free, mg/l	Neg		
* Total Solids @ 105°C	83.2						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	79.2			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium H ₂ O, as CaCO ₃ , mg/l			
mg/Kg dry wt				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	9						
Barium, as Ba, mg/l	140						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.5						
Chromium, Total as Cr, mg/l	13			<i>water sig</i>			
Hexavalent Chromium @ Cr, mg/l				Chloroform , mg/l	ND		
Copper, as Cu, mg/l	11			Chlorobenzene , mg/l	ND		
Iron, Total as Fe, mg/l				DDT's, mg/l	45		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	ND		
Lead, as Pb, mg/l	22			Endrin, mg/l	ND		
Manganese, as Mn, mg/l	1000			Heptachlor, mg/l	ND		
Magnesium, as Mg, mg/l				Lindane, mg/l	ND		
Mercury, as Hg, mg/l	20.31			Methoxychlor, mg/l	ND		
Nickel, as Ni, mg/l	12			Toxaphene, mg/l	ND		
Selenium, as Se, mg/l	<1			Parathion, mg/l	ND		
Silver, as Ag, mg/l	<2			o,p'-DDT , mg/l			
Zinc, as Zn, mg/l	21			o,p'-DDT (Silver), mg/l			
				PCB's, mg/l	38		
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
* Sulfides, as S, mg/l	Neg						

0013

110-010 11
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60129
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH FULL SAMPLE
 EQUIPMENT IS CLEANED
 (SOAP WASH, RINSE, ACETONE RINSE,
 WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1130
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #1 - No DRUMS WERE FOUND. EXCAVATED TO VIRGIN SOIL. X10-5-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH TRENCH IS DIVIDED INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS 3 SAMPLES WILL BE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1.0L)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIRUP, CWM-FMC
 SAMPLE HOUR/DATE: 1-5-84 - 1130
 PROFILE SHEET CODE: A-81608
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: [Signature]
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-5-84

WITNESS: MARK HILL
 SIGNATURE: [Signature]
 TITLE: FIELD TECHNICIAN
 EMPLOYER: ENRAC
 DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

110-5-04

10

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 WEST 137TH ST
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH HOLE SAMPLE
EQUIPMENT IS CLEANED
(SOAP WASH, RINSE, ACETONE RINSE,
WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-5-84 1130
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # - NO DRUMS
WERE FOUND. EXCAVATED TO VIRGIN SOIL.
X 10-5-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP,
POST HOLE DIGGER, SHOVEL: EACH TRENCH IS DIVIDED
INTO 5 EQUALLY SPACED SECTIONS. AT EACH OF THESE POINTS
3 SAMPLES WILL BE TAKEN (6", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 LITER (1 QT)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR:	<u>NIROP, CWM-FMC</u>
SAMPLE HOUR/DATE:	<u>1-5-24 1100</u>
PROFILE SHEET CODE:	<u>A-816998</u>
SAMPLER SIGNATURE:	<u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-5-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECHNICIAN
EMPLOYER: ENRAC
DATE: 1-5-84

LABORATORY REVIEW OF SAMPLING PROTOCOL	
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:	
<input type="checkbox"/>	ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/>	INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: X10-5-24

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 15 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	7.7						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
C O D, mg/l				* Cyanides, as CN, Free, mg/l	Neg		
B O D, mg/l							
* Total Solids @ 105°C	80.7			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
* Ash Content, on ignition	78.9			Total Alkalinity (M), as CaCO ₃ , mg/l			
Husting Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pNa				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	28		✓				
Barium, as Ba, mg/l	61						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	20.4		✓				
Chromium, Total as Cr, mg/l	17		✓	mg/kg soil			
Hexavalent Chromium @ Cr, mg/l			✓	mg/l	ND		✓
Copper, as Cu, mg/l	8.0		✓	Chromene, mg/l	ND		✓
Iron, Total as Fe, mg/l			✓	DDT's, mg/l	11		✓
Iron, dissolved, as Fe, mg/l			✓	Dieldrin, mg/l	5.6		✓
Lead, as Pb, mg/l	22		✓	Endrin, mg/l	13.5		✓
Manganese, as Mn, mg/l	200		✓	Heptachlor, mg/l	3.8		✓
Magnesium, as Mg, mg/l			✓	Lindane, mg/l	23		✓
Mercury, as Hg, mg/l	20.04		✓	Methoxychlor, mg/l	ND		✓
Nickel, as Ni, mg/l	14		✓	Toxaphene, mg/l	ND		✓
Selenium, as Se, mg/l	21		✓	Parathion, mg/l	ND		✓
Silver, as Ag, mg/l	21		✓				
Zinc, as Zn, mg/l	14		✓	TP (Silver), mg/l			
				PCB's, mg/l	38		✓
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

X15-1-0

78

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: CHEMICAL WASTE MGMT
150 W 137th ST.
RIVERDALE, IL 60127
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-10
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2-1/2 LIT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-89-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
NO DRUMS WERE FOUND.
X15-1-12
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER, IN EACH TRENCH 5 POINTS WERE SELECTED,
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

WAS CLEANED BY SOAP & WATER
RINSE, ACETON RINSE, WATER
RINSE.

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH.
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: # 79 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

X15-1-12

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
* pH	6.7						
Acidity, % as				Phenols, mg/l			
Alkalinity, % as				Cyanides, as CN, Total, mg/l			
COD, mg/l				Cyanides, as CN, Free, mg/l	1/veg		
BOD, mg/l							
* Total Solids @ 105°C	88.6			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C				Total Alkalinity (P), as CaCO ₃ , mg/l			
Flash Point, F°				Total Alkalinity (M), as CaCO ₃ , mg/l			
* Ash Content, on ignition	58.2			Total Hardness, as CaCO ₃ , mg/l			
Heating Value BTU/lb				Calcium Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Magnesium Hardness, as CaCO ₃ , mg/l			
<i>Metals mg/kg wt</i>							
Arsenic, as AS, mg/l	24.5		OK	Oil and Grease, mg/l			
Barium, as Ba, mg/l							
Boron, as B, mg/l							
Cadmium, as Cd, mg/l	<0.5		OK				
Chromium, Total as Cr, mg/l				Aldrin, mg/l	mg/kg	<2	OK
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l	mg/kg	<20	OK
Copper, as Cu, mg/l	8.4			DDT's, mg/l		16	9
Iron, Total as Fe, mg/l				Dieldrin, mg/l		2.3	
Iron, dissolved as Fe, mg/l				Endrin, mg/l		5.8	OK
Lead, as Pb, mg/l	<10		OK	Heptachlor, mg/l		<2	OK
Manganese, as Mn, mg/l				Lindane, mg/l		<2	
Magnesium, as Mg, mg/l				Methoxychlor, mg/l		<10	OK
Mercury, as Hg, mg/l	<0.4		OK	Toxaphene, mg/l		<50	OK
Nickel, as Ni, mg/l				Parathion, mg/l		<50	
Selenium, as Se, mg/l	<2			2,4, D, mg/l		-	
Silver, as Ag, mg/l	<1			2,4,5, TP (Silvex), mg/l		-	
Zinc, as Zn, mg/l	1.5			PCB's, mg/l		5.5	OK
Bicarbonates, as HCO ₃ , mg/l				<i>Quat</i>			
Carbonates, as CO ₃ , mg/l				<i>Industrial Solvents</i>		<0.1	
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l	1/veg						

X15-1-24 " 80^F

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS & TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

AFTER EACH SAMPLE THE EQUIPMENT WAS CLEANED BY SOAP & WATER RINSE, ACETON RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 1-9-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #15
NO DRUMS WERE FOUND.
X15-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOPS, SHOVEL,
POLE HOLE DIGGER. IN EACH TRENCH 5 POINTS WERE SELECTED
(EVENLY SPACED) AND 3 SAMPLES WERE TAKEN FROM EACH
POINT (0", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 QT (2 - 1 PINT CONTAINERS)
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-9-84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-9-84

WITNESS: MARK HILL
SIGNATURE: Mark Hill
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-9-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

5. RESULTS OF MPCA REQUESTED VOC ANALYSIS

1-FOOT BELOW PIT BOTTOMS



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN. 19, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

SAMPLE No. PROFILE No. WPS#

T#3 Volatile Organic Analysis (V.O.A.) RESULTS.

RESULTS FROM 6 OUT OF 7 SAMPLE LOCATIONS PER
SAMPLE SOURCE DOCUMENT.

NOTE: RESULTS INDICATED BY > 50PPM. WILL BE ANALYSED FURTHER TO
DETERMINE ACTUAL CONCENTRATION, OTHER RESULTS ARE
IN $\mu\text{g}/\text{kg} = \text{PPB}$.

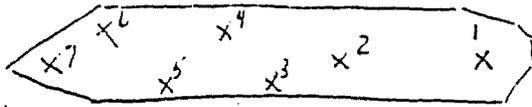
Very Truly Yours,

Dean Ramsey

CC. JACUOSTELLO w/out attac
NIROP FILE w/attac
DOC. FILE w/attac

1-17-84

Trench #3



INTERPole#

101	VOA - 3	- 1
102	VOA - 3	- 2
103	VOA - 3	- 3
104	VOA - 3	- 4
105	VOA - 3	- 5
106	VOA - 3	- 6
107	VOA - 3	- 7

1315 - 1500

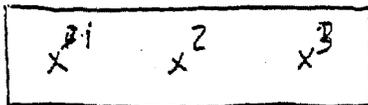
MPCA creates ~~one~~ three
 composite samples
 of the 6 points
 COE # 104 - broken

sent to Interpols on 1-17-84

Ground was frozen solid - hard to pick thru
 #7 was not obtained because ground frozen
 beyond 12"

1-18-84

T#6



INTERPole#

108	VOA - 6 - 1
109	VOA - 6 - 2
110	VOA - 6 - 3

1430-1500
 ground frozen to $\frac{1}{2}$ past 1 foot

sent to Interpols on 1-18-84 with #109

MPCA created 3 composite samples of all
 3 points

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

WDFILL

INTERPOLE LAB
 4500 BALL ROAD N.E.
 CIRCLE PINE, MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

Pres.	Sample	SAMPLE LOG NUMBER										TOTAL			
	101	V	O	A	-	0	3	-	1						
	102	V	O	A	-	0	3	-	2						
	103	V	O	A	-	0	3	-	3						
	104	V	O	A	-	0	3	-	4						
	105	V	O	A	-	0	3	-	5						
	106	V	O	A	-	0	3	-	6						
	107	V	O	A	-	0	3	-	7	Not taken					
		V	O	A	-	0	3	-	8						
		V	O	A	-	0	3	-	9						
	TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Duke 1-17-84

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ (OVER) Date and Time _____

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING SAMPLES. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, MEASURE, RINSE, WATER, RINSE).

1. HOUR AND DATE OF SAMPLING: 1-17-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-3-1.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 3/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-17-84 1500
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-17-84

WITNESS: GARY SCHWEERS
 SIGNATURE: Gary Schwuers
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
 I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Interpoll

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 101 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/15/83 LAB MANAGER: John W. Roffel

TRENCH #3 VOA-3-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Alcnn, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				As/ kg			
Selenium, as Se, mg/l				Ethyl benzene	<10		
Silver, as Ag, mg/l				benzene	<10		
Zinc, as Zn, mg/l				Acetone Chloride	33		
				tetrachloroethylene	14.00		
				1,1,2-trichloroethane	750 ppm		
				toluene	1400		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	11		
Chlorides, as Cl, mg/l				cis-dichloroethylene	>750 ppm		
Fluorides, as F, mg/l				trans-dichloroethylene	107		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	25		
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane	610		
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane	620		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

FORM WMI-52 (Rev. 11-3-80)
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0043-01

REC. 20 JAN 84

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Latapel

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 102 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/18/83 LAB MANAGER: John W. Roberts

TRENCH #3 VOA-3-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				µg/l Hg			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	45		
				tetrachloroethylene	6300		
				1,1,2-trichloroethane	750 ppm		
				toluene	302		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	13.9		
Chlorides, as Cl, mg/l				cis-dichloroethylene	>50 ppm		
Fluorides, as F, mg/l				trans-dichloroethylene	771		
Nitric, as NO ₃ , mg/l				1,1-dichloroethylene	45		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	410		
Phosphate, as P, mg/l				1,1,2-tetrachloroethane	410		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: late-poll

SALES	CODE

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 103 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/18/83 LAB MANAGER: John W. Refferty

TRENCH # 3 VOA-3-S

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal Init
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Alorn, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				US/MS			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	not retested		
				tetrachloroethylene	" "		
				1,1,2-trichloroethane	750 ppm		
				toluene	1000		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	not retested		
Chlorides, as Cl, mg/l				1,1-dichloroethylene	" 750 ppm		
Fluorides, as F, mg/l				1,1-dichloroethane	750 ppm		
Nitric, as NO ₃ , mg/l				1,1-dichloroethylene	750 ppm		
Nitrite, as NO ₂ , mg/l				1,1,2-tetrachloroethane	410		
Phosphate, as P, mg/l				1,1,2-tetrachloroethane	410		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Interpoll

SALES CODE

 WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 104 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: 1

PROPOSED TREATMENT/DISPOSAL FACILITY: John W Rafferty

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/18/83 LAB MANAGER: _____

TRENCH #3 VOA-3-4

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	An Ini
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				<u>ugl Kg</u>			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	750 ppm		
				tetrachloroethylene	2000		
				1,1,2-trichloroethane	750 ppm		
				toluene	2600		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	55		
Chlorides, as Cl, mg/l				cis-dichloroethylene	750 ppm		
Fluorides, as F, mg/l				trans-dichloroethylene	1500		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	7.6		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	2.410		
Phosphate, as P, mg/l				1,1,2-trichloroethane	2.410		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

FORM WMI-57 (Rev. 11-5-80)
 6150 WASTE MANAGEMENT, INC

0043-04

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Inter-pol

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 105 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/18/83 LAB MANAGER: John W. Rafferty

TRENCH #3 VOA-3-5

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub., pHNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				US/Kg			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	23		
				tetrachloroethylene	out of range 750 ppm		
				1,1,2-trichloroethane	210		
				toluene	out of range 750 ppm		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	412		
Chlorides, as Cl, mg/l				2,2-dichloroethylene	750 ppm		
Fluorides, as F, mg/l				1,2-dichloroethylene	130		
Nitric, as NO ₃ , mg/l				1,1-dichloroethylene	45		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	410		
Phosphate, as P, mg/l				1,1,2-tetrachloroethane	410		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

FORM WMI-57 (Rev. 11-5-80)
 WASTE MANAGEMENT, INC

0043-05

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

LABORATORY: Interpoll

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 106 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/8/83 LAB MANAGER: John W. Refferty

TRENCH #3 VOA-3-6

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Ans In/1
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Huiling Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Alinn, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDTs, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

Ethyl benzene 610
 benzene 610
 methylene chloride 250 ppm
 tetrachloroethylene 250 ppm
 1,1,1-trichloroethane 250 ppm
 toluene 250 ppm
 chloroform 250 ppm
 1,1-dichloroethane 250 ppm
 1,2-dichloroethane 250 ppm
 1,1-dichloroethane 250 ppm
 1,1,2-trichloroethane 250 ppm
 1,1,2-dichloroethane 250 ppm

FORM WMI-52 (Rev. 11-5-80)
 1980 WASTE MANAGEMENT, INC

* data is unreliable by the heated lead spec method due to the concentration of base



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN. 23, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS. - 2 COPIES EACH.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION, ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
VOA T#3	SAMPLE #7.	(SAMPLES 1-6 SUBMITTED EARLIER)
VOA T#6	SAMPLES #1-3.	

PER. SAMPLE SOURCE DOCUMENTS.

Very Truly Yours,
Dean Ramsey

CC. JAILLOSTELLO W/O ATTACH
NIROP FILES - 2 W/O ATTACH
DOC. FILE - W/O ATTACH.

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

FILL

INTERPOLE LAB
 4500 BALL ROAD N.E.
 CIRCLE PINE, MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

Pres.	Sample	SAMPLE LOG NUMBER												TOTAL	
	107	V	O	A	-	0	3	-	7						
	108	V	O	A	-	0	6	-	1						
C	109	V	O	A	-	0	6	-	2						
	110	V	O	A	-	0	6	-	3						
		V	O	A	-	0	6	-	3						
		V	O	A	-	(	|	|	|
		V	O	A	-	(	|	|	|
		V	O	A	-	(	|	|	|
		V	O	A	-	(	|	|	|
	TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S)

Mark Drake

1-18-84

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ Date and Time _____

VOA-3 - 21
Frozen Solid

(107)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, LINDOL, ACETONE, RINSE, WATER, RINSE)

1. HOUR AND DATE OF SAMPLING: 1-18-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-3-7
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AND DRY)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-18-84 1500
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-18-84

WITNESS: GARY SCHWEERS
SIGNATURE: Gary Schweers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-18-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.



Chemical Waste Management, Inc.
Environmental Remedial Action Division
153 W. 137th Street
Riverdale, Illinois 60627
312 841-8600

FEB 7 '84 AM

RECEIVED



CONTE...

PROJECT OFFICE

FEB 7, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DACA45-84-C-0020
VOA RESULTS - CLARIFICATION BY INTERPOLL
2-COPIES

DEAR MR. KOENIG,

PER YOUR REQUEST, WE HAVE ATTACHED COPIES
OF VOA RESULTS FOR VOA-3-1, 3-2, 3-3, 3-4, 3-5 AND 3-6
FOR YOUR REVIEW. THE RESULTS OF MANY VOLATILE
ORGANICS WERE PREVIOUSLY LISTED AS 750.
THE RESULTS ATTACHED SHOULD NOW CLARIFY THE
UPPER LIMIT OF CONTAMINATION.

IF YOU REQUIRE ANY ADDITIONAL INFORMATION
PLEASE ADVISE AT YOUR CONVENIENCE.

Sincerely,

Dean Ramsey

CC. J. COSTELLO - w/o Encl
J. RENKES - w/o Encl
NIROP - w Encl
RF - w/o Encl
DOC. FILE - w Encl.
HENKE - w Encl.

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: Interpoll

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 101 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/15/83 LAB MANAGER: John W. Ruffolo

TRENCH #3 VOA-3-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				MS/Kg			
Selenium, as Se, mg/l				Ethyl benzene	<10		
Silver, as Ag, mg/l				benzene	<10		
Zinc, as Zn, mg/l				methylene chloride	33		
				tetrachloroethylene	14.60		
				1,1,2-trichloroethane	750 PPM		
				toluene	1400		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	11		
Chlorides, as Cl, mg/l				1,1,1-trichloroethane	750ppm		
Fluorides, as F, mg/l				1,1-dichloroethane	107		
Nitrate, as NO ₃ , mg/l				1,1,2-trichloroethane	25		
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane	ne. 410		
Phosphate, as P, mg/l				1,1,1,2-tetra chloro ethane	one 410		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

REC BY SPAN

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: LA 20001

--	--

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 10 2 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 11/18/83 LAB MANAGER: John W. R. H. - t

TRENCH #3 VOA-3-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal. Init
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				US/KS			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	45		
				tetrachloroethylene	6300		
				1,1,2-trichloroethane	750 ppm		
				toluene	302		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	13.9		
Chlorides, as Cl, mg/l				cis-dichloroethylene	250 ppm		
Fluorides, as F, mg/l				trans-dichloroethylene	771		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	45		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	410		
Phosphate, as P, mg/l				1,1,2-trichloroethane	600		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Inte-poll

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 103 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/18/83 LAB MANAGER: John W. Refferty

TRENCH # 3 Y6A-3-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

LABORATORY: Interpoll

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 104 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: 2

PROPOSED TREATMENT/DISPOSAL FACILITY: John W. Ralfe-ty

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/18/83 LAB MANAGER: _____

TRENCH #3 VOA-3-4

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	An In
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				<u>ug/l kg</u>			
Selenium, as Se, mg/l				Ethyl benzene	210		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	750 ppm		
				tetrachloroethylene	2000		
				1,1,1-trichloroethane	750 ppm		
				toluene	2600		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	58		
Chlorides, as Cl, mg/l				1,1-dichloroethylene	750 ppm		
Fluorides, as F, mg/l				1,2-dichloroethylene	1500		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	7.6		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	610		
Phosphate, as P, mg/l				1,1,2-trichloroethane	610		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Inter-pul

--	--

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 105 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/19/83 LAB MANAGER: John W Rafferty

TRENCH #3 VOA-3-5

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				ug/kg			
Selenium, as Se, mg/l				Ethyl benzene	410		
Silver, as Ag, mg/l				benzene	410		
Zinc, as Zn, mg/l				methylene chloride	23		
				tetrachloroethylene	out of range 750 ppm		
				1,1,1-trichloroethane	210		
				toluene	out of range 750 ppm		
Bicarbonates, as HCO ₃ , mg/l				chloroform	410		
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	410		
Chlorides, as Cl, mg/l				1,1-dichloroethylene	750 ppm		
Fluorides, as F, mg/l				1,1-dichloroethylene	130		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	25		
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane	210		
Phosphate, as P, mg/l				1,1,2,2-tetrachloroethane	210		
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB.
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

LAWYER USE (RINSE, WASH, RINSE, WASH, RINSE, WATER, RINSE)

- HOUR AND DATE OF SAMPLING: 1-17-84 1500
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA - 3 - 2.
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SPOON, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
- AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIRPP-COE</u>
SAMPLE HOUR/DATE: <u>1-17-84</u> <u>1500</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEEBS

TITLE: CHEMIST

EMPLOYER: ENRAC

EMPLOYER: ENRAC

TITLE: FIELD TECH

DATE: 1-17-84

EMPLOYER: ENRAC

DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
<input type="checkbox"/> INADEQUATE FOR THE REASONS NOTED HEREON

VOA-3

(103)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, RINSE, WATER, RINSE)

1. HOUR AND DATE OF SAMPLING: 1-17-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-3-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave)
4. AMOUNT OF SAMPLE OBTAINED: 3/4 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIRAP-COE</u>
SAMPLE HOUR/DATE: <u>1-17-84</u> <u>1500</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-17-84

WITNESS: GARY SCHWEERS
SIGNATURE: Gary Schweers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 NOT ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

CERTIFICATION OF REPRESENTATIVE SAMPLE

FOR DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-17-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-3-4
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

RINSE, WATER, RINSE.

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-17-84 1500
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-17-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

CERTIFICATION OF REPRESENTATIVE SAMPLE

ALL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-17-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 3
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA - 3 - 5
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

RINSE, WATER, RINSE

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-17-84 1500
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEES

TITLE: CHEMIST

EMPLOYER: ENRAC

EMPLOYER: ENRAC

DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

DATE: 1-17-84

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-17-84 7500
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #3
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-3-6
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave)
- AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-17-84 1500
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: GARY SCHWEERS

SIGNATURE: Gary Schweers

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-17-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

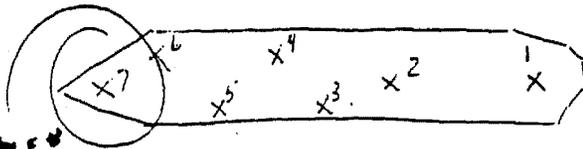
EMPLOYER: ENRAC

DATE: 1-17-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

1-17-84

Trench #3



INTERPOLE #

101	VOA - 3 - 1
102	VOA - 3 - 2
103	VOA - 3 - 3
104	VOA - 3 - 4
105	VOA - 3 - 5
106	VOA - 3 - 6
107	VOA - 3 - 7

1315 - 1500

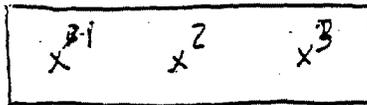
MPCA creates one three
composite sample
of the 6 points
COE # 104 - broken

sent to Interpol on 1-17-84

Ground was frozen solid - hard to pick thru
#7 was not obtained because ground frozen
beyond 12"

1-18-84

T #6



INTERPOLE #

108	VOA - 6 - 1
109	VOA - 6 - 2
110	VOA - 6 - 3

1430-1500

ground frozen to 1 foot

sent to Interpol on 1-18-84 with #109

MPCA created 3 composite samples of all
3 points

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: Labcorp

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON #104 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/16/84 LAB MANAGER: [Signature]

VDA-3-4

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides as CN, Free mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as Bi, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Alorn, mg/l			
Copper, as Cu, mg/l				Chlorane, mg/l			
Iron, Total as Fe, mg/l				DDTs, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l				Ethyl Benzene	<10		
Silver, as Ag, mg/l				Benzene	<10		
Zinc, as Zn, mg/l				methylene chloride	1200		
				tetrachloroethylene	2000		
				1,1,2-trichloroethane	<10		
				toluene	2600		
Bicarbonates, as HCO ₃ , mg/l				chloroform	<10		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	<10		
Chlorides, as Cl, mg/l				cis-dichloroethylene	<10		
Fluorides, as F, mg/l				trans-dichloroethylene	1400		
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene	<10		
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane	<10		
Phosphates, as P, mg/l				1,1,1,2-tetrachloroethane	<10		
Sulfate, as SO ₄ , mg/l				1,1,1,2-tetrachloroethane	210,000	<100,000	
Sulfides, as S, mg/l				1,1,1,2-tetrachloroethane	1000		

0043-04



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverside, Illinois 60467
312/841-8600

FEB 14, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DACA45-84-C-0020 VOA
RESULT CLARIFICATION

DEAR MR. KOENIG,

PER YOUR FEB. 11 REQUEST, INTERPOLE
HAS PROVIDED US WITH AN EXPLANATION OF
THE VOA RESULTS FOR VOA 3-1 THROUGH 6
WHICH DIFFERRED FROM THOSE SUBMITTED
EARLIER. THE EXPLANATION IS ATTACHED
FOR YOUR REVIEW. AS MR. RAFFERTY
EXPLAINS, THE MOST RECENT SUBMITTAL
CONTAINS THE MOST ACCURATE INFORMATION.

I HOPE THIS EXPLANATION IS ADEQUATE TO
ELIMINATE ANY CONCERN YOU HAD REGARDING
THE DATA SUBMITTED. IF YOU HAVE ANY
FURTHER QUESTIONS, PLEASE ADVISE ME
AT YOUR EARLIEST CONVENIENCE.

Sincerely,

Dale Ramsey

cc. J. Renkes - w7
J. Costello - w7
NIROP - w7
RF - w7
C. 2 - w7
DOC. FILE - w7



interpoll

INTERPOLL INC.
4500 BALL ROAD N.E.
BLAINE, MINNESOTA 55014

February 14, 1984

Mr. Dean Ramsey
Chemical Waste Management Inc.
NIROP
Fridley, Minnesota

Dear Mr. Ramsey:

In this letter I will address the differences that were noted in data acquired from the heated head space analysis of soil samples. From our discussion on February 14, 1984, I gathered that the Corp of Engineers was concerned that some of the values reported in our preliminary results did not match with our final verified results. There are two phenomena that occur in this analysis that account for the differences noted. These are:

1. At very low levels of the chemical compounds, the relative error increases significantly. The method used is very economical and very sensitive for the detection of industrial solvents at very low levels. The relative magnitude of the results is quite good, however, the percent error in duplicate analysis of the same sample may show an error of up to 50 percent.
2. The heated head space technique is primarily a trace analysis technique that will achieve detection limits of 5 to 10 parts per billion (ppb) in soil. The samples that we received from the NIROP site were 10,000 times more concentrated than what we had anticipated from our discussions with you. An organic loading as high as that seen in some of your samples will effect both the retention time and the magnitude of the signal generated by a given quantity of a chemical compound. The very high levels of organics seen can cause quantification of numbers to be wrong by a factor of up to 100. Considerable additional work was performed, at no additional cost, to give a better quantification of the organic constituents present. The final numbers presented represent the most accurate information possible.

I hope that this will help to eliminate any further concern on your part about the data presented for the VOA samples. If you do have any further questions, please do not hesitate to call me at 786-6020.

Sincerely,

John W. Rafferty
Laboratory Manager

JWR/kp

TELEPHONE 612/786-6020

TELEX 297095

107 0 1
(117)
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 5
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-5-1.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTCLAVE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIRAP-COE
SAMPLE HOUR/DATE: 1-19-84 1530
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-19-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 117 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-5-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., % NaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l				Aldrin, mg/l			
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l			
Copper, as Cu, mg/l				DDT's, mg/l			
Iron, Total as Fe, mg/l				Dieldrin, mg/l			
Iron, Dissolved, as Fe, mg/l				Endrin, mg/l			
Lead, as Pb, mg/l				Heptachlor, mg/l			
Manganese, as Mn, mg/l							
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Endrin benzene <i>mg/kg</i>	<10		
Selenium, as Se, mg/l				benzene			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,1-trichloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitrates, as NO ₃ , mg/l				1,1,1-trichloroethylene			
Nitrites, as NO ₂ , mg/l				1,1,2-trichloroethane			
Phosphates, as P, mg/l				1,1,2,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,2,2-tetrachloroethane			
Sulfides, as S, mg/l				1,1,1-trichloroethane			
				1,1,2-trichloroethylene			

6.420 ppb
 0051-08
 OK

VOA-5-2

118

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #5
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-5-2.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-19-84 1530.
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS
SIGNATURE: Gary Schweers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-19-84

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN 26, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES: DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

VOA RESULTS T# 5 & 17 Per SAMPLE SOURCE & certificate of representative SAMPLE DOCUMENTS AND TRENCH maps previously submitted ON JAN. 25, 1984. NOTE THAT VOA-17-4 WAS LOST DUE TO BREAKING OF THE SAMPLE TUBE AFTER THAWING, ALSO VOA #17-5 WAS IMPOSSIBLE TO OBTAIN DUE TO WATER RECHARGING IN THE 1" HOLE. WE ACKNOWLEDGE YOUR INSTRUCTION NOT TO TEST THE SPLI SAMPLE OF VOA #17-4. VOA #17-3 WAS DUPLICATED FOR Q.C.

Very Truly Yours,
Dean Ramsey

CC. JUAN COSTELLO
NIROP FILE
DOC. FIVE
M. HENKE

VOA-6-1

(108)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE MUST ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-18-84 1500
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 10
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-6-1
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
- AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIP-60E</u>
SAMPLE HOUR/DATE: <u>1-18-84 1500</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-18-84

WITNESS: GARY SCHWEES

SIGNATURE: Gary Schwees

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-18-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

VOA-6

(109)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

I, THE UNDERSIGNED, CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-19-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #6
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-6-2.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

CAN BE RINSED WITH WATER (RINSE)

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-18-84</u> <u>1500</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

PERSONAL VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: GARY SCHWEERS
SIGNATURE: Gary Schwears
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-18-84

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-18-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #109 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-6-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/lp				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				1,4-dichlorobenzene			
Selenium, as Se, mg/l				hexane			
Silver, as Ag, mg/l				methylene chloride	17		
Zinc, as Zn, mg/l				tetrachloroethylene	48		
				1,1,2-trichloroethane	<10		
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform	<10		
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	<10		
Chlorides, as Cl, mg/l				1,1-dichloroethylene	<10		
Fluorides, as F, mg/l				1,1-dichloroethane	21		
Nitric, as NO ₃ , mg/l				1,1-dichloroethylene	<10		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	<10		
Phosphate, as P, mg/l				1,1,2-trichloroethane	<10		
Sulfate, as SO ₄ , mg/l				TRICHLOROETHYLENE	160	130	
Sulfides, as S, mg/l				1,1,1-TRICHLOROETHANE	<10		

mg/kg

Half PID

FORM WMI-52 (Rev. 11-5-80)
©1980 WASTE MANAGEMENT, INC.

Sample 0049-03
Preliminary

(110)

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, LINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-18-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #6
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-6-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTCLAVE)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-18-84 1500
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-18-84

WITNESS: GARY SHWEERS
SIGNATURE: Gary Shweers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-18-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNSUITABLE FOR THE REASONS NOTED HEREON

SPECIAL WASTE ANALYSIS REPORT

DATE: _____ CODE: _____
 WASTE PROFILE SHEET CODE

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: #110 REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-6-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal. Initt.
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D ₅ , mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Fresh Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Sixvalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene	Hull	PIB	
Selenium, as Se, mg/l				hexane	-	<10	
Silver, as Ag, mg/l				methylene chloride	-	<10	
Zinc, as Zn, mg/l				tetrachloroethylene	33	-	
				1,1,2-trichloroethane	42	43	
				toluene	<10	-	
Bicarbonates, as HCO ₃ , mg/l				chloroform	-	21	
Carbonates as CO ₃ , mg/l				1,1-dichloroethane	<10	-	
Chlorides, as Cl, mg/l				1,2-dichloroethane	<10	-	
Fluorides, as F, mg/l				1,1-dichloroethane	64	-	
Nitrate, as NO ₃ , mg/l				1,2-dichloroethane	<10	-	
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	<10	-	
Phosphate, as P, mg/l				1,1,1-trichloroethane	<10	-	
Sulfate, as SO ₄ , mg/l				1,1,2-trichloroethane	1600	2100	
Sulfides, as S, mg/l				1,1,1-trichloroethane	13	-	

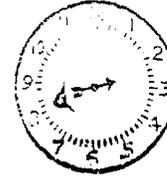
Sample 0049-04
 Preliminary



Chemical Waste Management, Inc.
 Environmental Remedial Action Division
 150 W. 137th Street
 Riverdale, Illinois 60627
 312/841-8600

JAN 1984 AM

RECEIVED



CONSTR. OPER. DIVN

PROJECT OFFICE 7

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE & CUSTOMS HOUSE
 ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
 ANALYTICAL RESULTS.
 REF. JAN. 4, 1984 LETTER OF TRANSMITTAL

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
X-6-1-C	3125	ALL A.S.L.C.C.
X-6-1-34	3127	
X-6-2-C	3128	
X-6-4-C	3131	

Very Truly Yours,
 Drew (Handwritten)

cc. JACQUESTELLO w/
 NIROP FILE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137th ST.
RIVERDALE IL 60162
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER RINSE
 ACETONE RINSE, WATER RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
EX 6-1-D
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIAPER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24")
4. AMOUNT OF SAMPLE OBTAINED: ... liters
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1030
 PROFILE SHEET CODE: A-88606
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Jacoby Bell

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRA

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: _____ TECHNICAL CENTER _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: T. Carlson

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	5.5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<1.0		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	82.98%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Fusion Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	78.20%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4.20						
Barium, as Ba, mg/l	166.						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.39		NO				
Chromium, Total, as Cr, mg/l	13.6		NO				
Hexavalent Chromium @ Cr, mg/l				Align, mg/l	<1.0		
Copper, as Cu, mg/l	42.1			Chloroform, mg/l	<1.0		
Iron, Total, as Fe, mg/l	1300			DBTs, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	<1.0		
Lead, as Pb, mg/l	74.2			Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0151			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	112.4			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.07			Permethrin, mg/l	<1.0		
Silver, as Ag, mg/l	1.00			2, 4, D, mg/l	-		
Zinc, as Zn, mg/l	59.4			2, 4, 5, TP (Silver), mg/l	-		
				PCBs, mg/l	<1.0		
				C-56	<1.0		
Bicarbonates, as HCO ₃ , mg/l				SOLVENTS	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	<2					

REC'D T-2-20

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representative concerning sample validity or analytical accuracy or completeness is hereby made to any other person receiving this report.

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
 ACETONE, RINSE,
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
XL-1-24
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIAGER, SHOVEL : EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (1", 12", 24").
4. AMOUNT OF SAMPLE OBTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGENE
EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIRO, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1030
 PROFILE SHEET CODE: A-88606
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Missy Bell

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRA

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

UNSUITABLE FOR THE ABOVE NOTED REASON

NIROF
MINNESOTA, MN

SOURCE: ENC SITE: CD1
SOIL EX6-1-8/NIROF

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: 12/25/84

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 12/5/84 LAB MANAGER: Clark

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l	< 5		
COD, mg/l				Cyanides as CN, Total, mg/l	< 10		
BOD, mg/l				Cyanides as CN, Free, mg/l			
Total Solids @ 105°C	73.3%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	> 212			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	66.60%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	6.15	50.01					
Barium, as Ba, mg/l	169.	7.99					
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l	1.59	10.02					
Chromium, Total, as Cr, mg/l	14.6						
Hexavalent Chromium @ Cr, mg/l				Alomn, mg/l	< 1.0		
Copper, as Cu, mg/l	38.0			Chloroane, mg/l	< 1.0		
Iron, Total, as Fe, mg/l	729.0			DDTs, mg/l	< 1.0		
Iron, dissolved, as Fe, mg/l				Dioxin, mg/l	< 1.0		
Lead, as Pb, mg/l	65.8	0.11		Enam, mg/l	< 1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	< 1.0		
Magnesium, as Mg, mg/l				Lineane, mg/l	< 1.0		
Mercury, as Hg, mg/l	0.223	< 0.005		Methoxychlor, mg/l	< 1.0		
Nickel, as Ni, mg/l	14.2			Toxaphene, mg/l	< 5.0		
Selenium, as Se, mg/l	0.19			Parathion, mg/l	< 1.0		
Silver, as Ag, mg/l	1.26			2, 4, D, mg/l			
Zinc, as Zn, mg/l	51.4			2, 4, 5, TP (Silver), mg/l			
				PCB's, mg/l	< 1.0		
				C-57	< 1.0		
				SOLVENTS	< 1.0%		
Bicarbonate, as HCO ₃ , mg/l							
Carbonate, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED	< 2					

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE YOURSELF. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
1501 W. 137TH ST.
RIVERDALE, IL 60627
 ATTN: JACK KOLOPANIS - L18

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER, ACETONE, RINSE, RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1055
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-2-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIGGER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 2 SAMPLES WERE TAKEN (0", 12", 24").
 AMOUNT OF SAMPLE CONTAINED: 1 liter
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: WALZ JE EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIROP, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1055
 PROFILE SHEET CODE: A-88606
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Tracy Bell

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRAC

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASON(S) LISTED BELOW:

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management

FILE SHEET RECEIVED ON: Technical Center REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: J. Cash

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity % as							
Alkalinity % as				Phenols, mg/l	<5		
COD, mg/l				Cyanides, as CN, Total, mg/l	<10		
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C	91.02%						
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°	221.2			Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition	86.67%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. % @ 105°C				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	4.00						
Barium, as Ba, mg/l	117	1.31					
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.30	<0.01					
Chromium, Total as Cr, mg/l	13.9	0.01					
hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l	<1.0		
Copper, as Cu, mg/l	30.8			Chlordane, mg/l	<1.0		
Iron, Total as Fe, mg/l	12800			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	38.9	0.05		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.0108			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	14.1			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.010			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	0.75			2,4-D, mg/l			
Zinc, as Zn, mg/l	70.8			2,4,5-TP (Silver), mg/l			
				PCB's, mg/l	<1.0		
				C-516	<1.0		
Bicarbonate, as HCO ₃ , mg/l				Solvents	<1.0%		
Carbonate, as CO ₃ , mg/l							
Chloride, as Cl, mg/l							
Fluoride, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Sulfate, as S, mg/l							
Sulfide, as SO ₄ , mg/l							
Sulfide, as S, mg/l	DISSOLVED <2						

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL WASTE MGMT
150 W. 137TH ST.
RIVERDALE, IL 60627
ATTN: JACK KOLOPANIS - LAB

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

SOAP SOLUTION, WATER
 ACETONE, RINSE,
 RINSE.

1. HOUR AND DATE OF SAMPLING: 12-22-83 1155
2. SOURCE FROM WHICH SAMPLE TAKEN: EXCAVATION #6 - NO DRUMS WERE FOUND
X6-5-0
3. EQUIPMENT AND SAMPLING METHOD USED: STAINLESS STEEL SCOOP, POST HOLE DIAPER, SHOVEL; EACH EXCAVATION IS DIVIDED INTO 5 SECTIONS (EVENLY SPACED), AT EACH OF THESE 5 POINTS 3 SAMPLES WERE TAKEN (0", 12", 24").
AMOUNT OF SAMPLE OBTAINED: 1 liter
TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: NALGE
EQUIPMENT CLEANED AFTER EACH SAMPLE
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: NIRO, CWM-FMC
 SAMPLE HOUR/DATE: 12-22-83 1155
 PROFILE SHEET CODE: A-886061
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: _____

TITLE: CHEMIST

SIGNATURE: Mary Bell

EMPLOYER: ENRA

DATE: 12-22-83

TITLE: FIELD AIR TECHNICIAN

EMPLOYER: ENRA

DATE: 1-4-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

INADEQUATE FOR THE REASONS NOTED HEREON.

3137 PROFILE: NRP488606 12/27/83
 NIROP
 MINNESOTA, MN
 SOURCE: ENC SITE: CD1
 SOIL EX-5-0/NIROP

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: Chemical Waste Management
Technical Center

PROFILE SHEET RECEIVED ON: _____ REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: 1/5/84 LAB MANAGER: [Signature]

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as				Phenols, mg/l	<5		
Alkalinity, % as				Cyanides, as CN, Total, mg/l	<10		
CO ₂ , mg/l				Cyanides, as CN, Free, mg/l			
BOD ₅ , mg/l							
Total Solids @ 105°C	86.46%			Nitrogen, Ammonia, as N, mg/l			
Total Dissolved Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Total Suspended Solids, mg/l				Total Kjeldahl Nitrogen, as N, mg/l			
Residue on Evaporation @ 180°C							
Flash Point, F°	>212			Total Alkalinity (P), as CaCO ₃ , mg/l			
ASH Content, on ignition	82.96%			Total Alkalinity (M), as CaCO ₃ , mg/l			
Welding Valve, BTU/hr				Total Hardness, as CaCO ₃ , mg/l			
Acid Solub. % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l	3.33						
Barium, as Ba, mg/l	89.7						
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l	1.80	<0.01					
Chromium, Total as Cr, mg/l	19.3	0.02					
Hexavalent Chromium @ Cr, mg/l				Arsen. mg/l	<1.0		
Copper, as Cu, mg/l	1.71			Chlorides, mg/l	<1.0		
Iron, Total as Fe, mg/l	12300			DDT's, mg/l	<1.0		
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l	<1.0		
Lead, as Pb, mg/l	53.0	0.07		Endrin, mg/l	<1.0		
Manganese, as Mn, mg/l				Heptachlor, mg/l	<1.0		
Magnesium, as Mg, mg/l				Lindane, mg/l	<1.0		
Mercury, as Hg, mg/l	0.052			Methoxychlor, mg/l	<1.0		
Nickel, as Ni, mg/l	27.1			Toxaphene, mg/l	<5.0		
Selenium, as Se, mg/l	<0.016			Parathion, mg/l	<1.0		
Silver, as Ag, mg/l	1.68			2,4-D, mg/l	—		
Zinc, as Zn, mg/l	55.1			2,4,5-TP (Silver), mg/l	—		
				PCB's, mg/l	<1.0		
				PCB's	<1.0		
Bicarbonates, as HCO ₃ , mg/l				SOLVENTS	<1.0%		
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrates, as NO ₂ , mg/l							
Phosphates, as P, mg/l							
Sulfates, as SO ₄ , mg/l							
Sulfides, as S, mg/l	DISSOLVED < 2						

FORM WMA-1 Rev. 11-4-83
 CHEMICAL WASTE MANAGEMENT, INC.

This report has been prepared for the exclusive use and benefit of Chemical Waste Management, Inc. No representation concerning sample validity or analytical accuracy or completeness is made.



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN. 23, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MAZIK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS. - 2 COPIES EACH.

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION, ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPS#

VOA T#3 SAMPLE #7. (SAMPLES 1-6 SUBMITTED EARLIER)

VOA T#6 SAMPLES #1-3.

PER. SAMPLE SOURCE DOCUMENTS.

Very Truly Yours,
Dean Kennedy

CC. JACU COSTELLO W/O ATTACH
NIROP FILES - 2 ^{W/O} ATTACH
DOC. FILE - W/ ATTACH.
M. W. H. C. - 1272-111

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

FILL
INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

Pres.	Sample	SAMPLE LOG NUMBER										TOTAL			
	107	V	O	A	-	0	3	-	7						
	108	V	O	A	-	0	6	-	1						
(	109	V	O	A	-	0	6	-	2						
	110	V	O	A	-	0	6	-	3						
		V	O	A	-										
		V	O	A	-										
		V	O	A	-										
		V	O	A	-										
	TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

PLER (S) Mark Drake 1-18-84

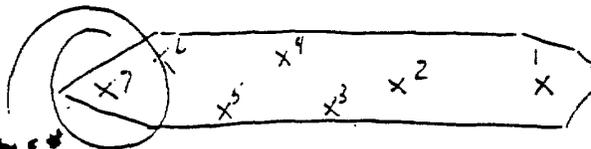
 Signature _____ Date and Time _____

 Signature _____ Date and Time _____

LD
 TCDIAN

1-17-84

Trench #3



INTERP#

101	VOA - 3	- 1
102	VOA - 3	- 2
103	VOA - 3	- 3
104	VOA - 3	- 4
105	VOA - 3	- 5
106	VOA - 3	- 6
107	VOA - 3	- 7

1315 - 1500

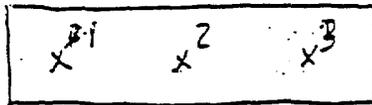
MPCA create one three composite sample of the 6 points
COE # 104 - broken

sent to Interpol on 1-17-84

Ground was frozen solid - had to pick thru
#7 was not obtained because ground frozen beyond 12"

1-18-84

T#6



INTERP#

108	VOA - 6 - 1
109	VOA - 6 - 2
110	VOA - 6 - 3

1430-1500
ground frozen to & past 1 foot

sent to Interpol on 1-18-84 with #109

MPCA created 3 composite samples of all 3 points

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: #108 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-6-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal In
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.C.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 125°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Solub. pHNaOH/c				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene			
Selenium, as Se, mg/l				benzene			
Silver, as Ag, mg/l				methylene chloride	19		
Zinc, as Zn, mg/l				tetrachloroethylene	51		
				1,1,2-trichloroethane	<10		
				toluene			
Li carbonates, as HCO ₃ , mg/l				chloroform	<10		
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	<10		
Chlorides, as Cl, mg/l				1,1,2-dichloroethane	<10		
Fluorides, as F, mg/l				1,1-dichloroethane	52		
Sulfate, as SO ₄ , mg/l				1,1-dichloroethane	<10		
Nitrate, as NO ₃ , mg/l				1,1,2-trichloroethane	<10		
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane	<10		
Phosphate, as P, mg/l				1,1,2-trichloroethane	<10		
Sulfate, as SO ₄ , mg/l				TRICHLOROETHYLENE	700		
Sulfides, as S, mg/l				1,1,1-trichloroethane	<1		

11/10

HEX

PED

Sample 004-02

NA

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #110 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA - 6-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH/p				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene	nd	PID	
Selenium, as Se, mg/l				hexane	—	<10	
Silver, as Ag, mg/l				methylene chloride	33	—	
Zinc, as Zn, mg/l				tetrachloroethylene	42	43	
				1,1,2-trichloroethane	<10	—	
				toluene	—	21	
Bicarbonates, as HCO ₃ , mg/l				chloroform	<10	—	
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane	<10	—	
Chlorides, as Cl, mg/l				1,1,2-dichloroethane	<10	—	
Fluorides, as F, mg/l				1,2-dichloroethane	64	—	
Nitrate, as NO ₃ , mg/l				1,1,1-trichloroethane	<10	—	
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane	<10	—	
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane	<10	—	
Sulfate, as SO ₄ , mg/l				trichloroethylene	1600	2100	
Sulfides, as S, mg/l				1,1,1-trichloroethane	13	—	

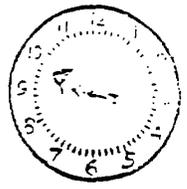
Sample 0049-04
 Preliminary



Minnesota Waste Management Unit
 Environmental Remediation Division
 1500 13th St.
 Riverdale, MN 55127
 612 841-9801

FEB 7 '84 AM

RECEIVED



CONTRACT R. DIVISION

FEB 7, 1984

THE DEPARTMENT OF THE ARMY
 1135 U.S. POST OFFICE
 ST. PAUL, MN. 55101

PROJECT OFFICE

ATTN: MR. MARK KOENIG

RE: NIRDOP SITE CLEANUP, DACA45-84-C-0020
 VOA RESULTS - CLARIFICATION BY INTERPOLL
2-COPIES

DEAR MR. KOENIG,

PER YOUR REQUEST, WE HAVE ATTACHED COPIES OF VOA RESULTS FOR VOA-3-1, 3-2, 3-3, 3-4, 3-5 AND 3-6 FOR YOUR REVIEW. THE RESULTS OF MANY VOLATILE ORGANICS WERE PREVIOUSLY LISTED AS 750. THE RESULTS ATTACHED SHOULD NOW CLARIFY THE UPPER LIMIT OF CONTAMINATION.

IF YOU REQUIRE ANY ADDITIONAL INFORMATION PLEASE ADVISE AT YOUR CONVENIENCE.

Sincerely,

Dean Ramsey

- CC. J. COSTELLO - w/o Encl
- J. REAKES - w/o Encl
- NIRDOP - w Encl
- RF - w/o Encl
- DOC. FILE - w Encl.
- HENKE - w Encl.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: INTERPOL

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WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 2-16 REPRESENTATIVE SAMPLE RECEIVED ON: 2-22-87

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*)

DATE OF ANALYSIS: _____ LAB MANAGER: _____

2-VOA-7-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Anal. Instr.
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l				Aldrin, mg/l			
Hexavalent Chromium @ Cr, mg/l				Chlordane, mg/l			
Copper, as Cu, mg/l				DDT's, mg/l			
Iron, Total as Fe, mg/l				Dieldrin, mg/l			
Iron, Dissolved as Fe, mg/l				Endrin, mg/l			
Lead, as Pb, mg/l				Heptachlor, mg/l			
Manganese, as Mn, mg/l							
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethylbenzene	<10		
Strontium, as Sr, mg/l				Benzene	<10		
Silver, as Ag, mg/l				Methylene chloride	25		
Zinc, as Zn, mg/l				1,1,1-trichloroethylene	<5		
				1,1,2-trichloroethane	<5		
Bicarbonates, as HCO ₃ , mg/l				Toluene	<10		
Carbonates, as CO ₃ , mg/l				Chloroform	<5		
Chlorides, as Cl, mg/l				1,1-dichloroethane	<5		
Fluorides, as F, mg/l				1,1-dichloroethylene	<5		
Nitrate, as NO ₃ , mg/l				1,2-dichloroethylene	<5		
Nitrite, as NO ₂ , mg/l				1,1-dichloroethylene	<5		
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane	<5		
Sulfate, as SO ₄ , mg/l				1,1,1,2-tetrachloroethane	<5		
Sulfides, as S, mg/l				1,1,2-trichloroethane	<5		

CH2M HILL (Mar 11-5-80)
 ©1980 WASTE MANAGEMENT, INC

156-01

2 VOA - 1 ✓
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERADLL LAB
MINNESOTA
ATTN:
JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT- ONE FOOT DEPTH
2-VOA-7-2
3. EQUIPMENT AND SAMPLING METHOD USED: DUG TO ONE FOOT
DEPTH WITH SHOVEL, SAMPLED WITH STAINLESS STEEL
SCOOP INTO VOA SAMPLE JAR.
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA JAR
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC/NIRDP
SAMPLE HOUR/DATE: 2-21-84 1500
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: BOB KRISTE

TITLE: CHEMIST

SIGNATURE: Bob Kriste

EMPLOYER: ENRAC

DATE: 2-21-84

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE
 INADEQUATE FOR THE REASONS NOTED HEREON

2-VOA-7-3 (218)
CERTIFICATION OF REPRESENTATIVE SAMPLE

WASTE PROFILE SHEET CODE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERADLL LAB
MINNESOTA
ATTN:
JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT ONE FOOT DEPTH
2-VOA-7-3
3. EQUIPMENT AND SAMPLING METHOD USED: DUG TO ONE FOOT
DEPTH WITH SHOVEL, SAMPLED WITH STAINLESS STEEL
SCOOP INTO VOA SAMPLE JAR
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA JAR
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC/NIRDP
SAMPLE HOUR/DATE: 2-21-84 1530
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: BOB KRLETE

SIGNATURE: Bob Krlete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

2-1-1
CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

INTERADILL LAB
MINNESOTA
ATTN: JOHN RAFFERTY

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 2-21-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: ACTUAL TRENCH #7
AT ONE FOOT DEPTH
2-VOA-7-1
3. EQUIPMENT AND SAMPLING METHOD USED: DUG TO ONE FOOT
DEPTH WITH SHOVEL, SAMPLED WITH STAINLESS STEEL
SCOOP INTO VOA SAMPLE JAR.
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA JAR
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM, WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: FMC/NIRDP
SAMPLE HOUR/DATE: 2-21-84 1430
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

WITNESS: BOB KRIETE

SIGNATURE: Bob Kriete

TITLE: FIELD TECHNICIAN

EMPLOYER: ENRAC

DATE: 2-21-84

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 2-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL:
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON

PIT 7 WRONG LOCATION/RMT- 4/87



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN 26 '84 AM

RECEIVED



PROJECT OFFICE

JAN. 25, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

SAMPLE No. PROFILE No. WPST#

VOA RESULTS FOR T# 7, 10, 18, 19 & 15
PER SAMPLE SOURCE DOCUMENTS. WE ACKNOWLEDGE
YOUR VERBAL APPROVAL TO BEGIN BACKFILLING
OF THESE TRENCHES COMMENCING 1/26/84.

NOTE: RESULTS FOR T# 5 & 17 STILL PENDING

Very Truly Yours,

Dean Ramsey

CC. JACQUESTELLO
NIROP FILE
DOC. FIVE
M. HENKE

JAN 26 '84 AM

RECEIVED



MONSTR-OPER. DIVN

Parameters: RCRA _____
Priority Pollutants _____
IEPA _____
Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

PROJECT OFFICE

INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

x	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL
			VOA-07-1												
			VOA-07-2												
		(	VOA-07-3												
			VOA-10-1												
			VOA-10-2												
			VOA-10-3												
			VOA-05-1												
			VOA-05-2												
			VOA-												
		TOTALS													

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Hanks 1-19-84 1550

Signature _____ Date and Time _____

FIELD CUSTODIAN _____

JAN 26 '84 AM

Parameters: RCRA _____

Priority Pollutants _____

IEPA _____

Other (specify) _____

RECEIVED



CONSTR. OPER. DIV.

SAMPLE SOURCES
CITY AND STATE

WDFILL

INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

Pres.	Sample	SAMPLE LOG NUMBER										TOTAL			
	119	V	O	A	-	1	7	-	1						
	120	V	O	A	-	1	7	-	2						
	121	V	O	A	-	1	7	-	3						
	122	V	O	A	-	1	7	-	4						
	124	V	O	A	-	1	8	-	1						
	125	V	O	A	-	1	8	-	2						
	126	V	O	A	-	1	9	-	1						
	127	V	O	A	-	1	9	-	2						
		V O A													
	TOTALS														

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Drake 1-25-84 1125

Signature _____ Date and Time _____

FIELD CUSTODIAN

Signature _____ Date and Time _____

(over)

JAN 26 '84 AM

Parameters: RCRA _____
Priority Pollutants _____
IEPA _____
Other (specify) _____

RECEIVED



CONSTR. OPER. DIVN

SAMPLE SOURCES
CITY AND STATE

LANDFILL

INTERPROJECT OFFICE
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

SAMPLE INVENTORY AND MASTER PACKING LIST

Ck No.	Pres.	Sample	SAMPLE LOG NUMBER												TOTAL			
		128	V	O	A	-	1	5	-	1								
		129	V	O	A	-	1	5	-	2								
		131	V	O	A	-	1	7	-	3								
			V	O	A	-	-	-	-	-								
			V	O	A	-	-	-	-	-								
			N	O	A	-	-	-	-	-								
			V	O	A	-	-	-	-	-								
			V	O	A	-	-	-	-	-								
			V	O	A	-	-	-	-	-								
		TOTALS																

CUSTODY SIGNATURES

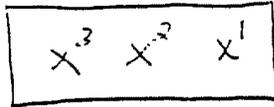
The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) _____ 1- -84

Signature _____ Date and Time _____

FIELD CUSTODIAN _____

1-19-84
T# 7



1430

No MPCA Split

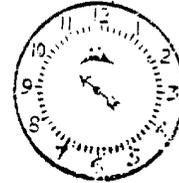
INTERPOLE #

- 111 VOA - 7 - 1
- 112 VOA - 7 - 2
- 113 VOA - 7 - 3

130 - Duplicate

Sent to lookups on

JAN 26 '84 AM



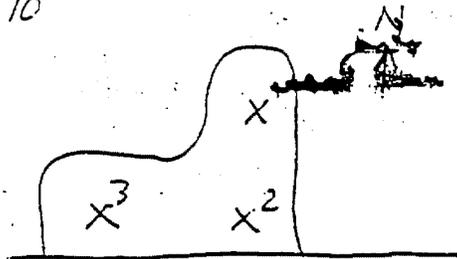
RECEIVED

CONSTR. OPER. DIV.

PROJECT OFFICE

1-19-84

T# 10



No MPCA Split

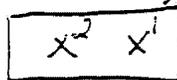
INTERPOLE #

- 114 VOA - 10 - 1
- 115 VOA - 10 - 2
- 116 VOA - 10 - 3

Sent to Interpole on

1-19-84

T# 5



1530

No MPCA Split

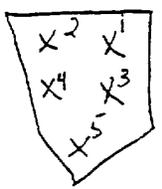
INTERPOLE #

- 117 VOA - 5 - 1
- 118 VOA - 5 - 2

Sent to Interpole on

1-21-84

T#17

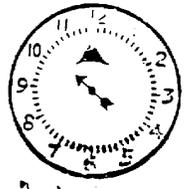


N
↑

No MPCA split

JAN 26 '84 AM

RECEIVED



MINSTR. OPER. DIV.

PROJECT OFFICE

INTERPOLE # Sent to Interpol on 1-23-84
0915

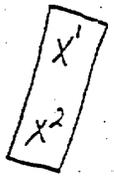
- 119- VOA-17-1
- 120 VOA-17-2
- 121 VOA-17-3
- 122 VOA-17-4
- 123 VOA-17-5

131 - Duplicate

- unable to obtain because water recharging readily in hole -

1-21-84

T#18



N
↑

No MPCA split

MPCA picked up
COES splits on 1-23-84

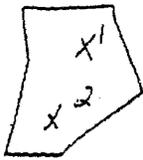
1000

- INTERPOLE #
- 124 VOA-18-1
 - 125 VOA-18-2

Sent to Interpol on 1-23-84

1-21-84

VOA # 17 T# 17



N
↑

1030

~~No MPCA split~~

MPCA picked up
COE splits on 1-25

INTERPOLE #

126
127

VOA - 17-1
VOA - 17-2

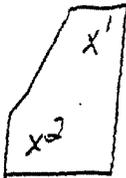
Sent to Interpole on 1-23-84

ing

1-21-84

T# 15

1045



N
↑

No MPCA split

INTERPOLE #

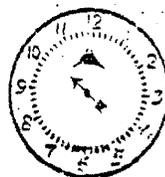
128
129

VOA # - 15-1
VOA - 15-2

Sent to Interpole on 1-23-84

JAN 26 '84 AM

RECEIVED



PROJECT OFFICE



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN. 26, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MAZIK KOENIG ✓

RE: NIROP SITE CLEAN-UP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

SAMPLE No. PROFILE No. WPS#

VOA # 7-2 DUPLICATE OF RESULTS VOA-7-2
SUBMITTED JAN 25, 1984. THESE ARE PROVIDED AS
PART OF OUR QC. OF THE LAB.

Very Truly Yours,
Dennis Kainsey

CC. JAY CASTELLO
NIROP FILE
DOC. FIVE
M. HENKE

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

--	--

WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: 130 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-7-2 Duplicates

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
COD, mg/l				Cyanides, as CN, Total, mg/l			
BOD, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
Acid Scrub, pH _{NaOH} /p				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

005-11

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

To:

SAMPLE INVENTORY AND MASTER PACKING LIST

OX D.	Pres.	Sample	SAMPLE LOG NUMBER												TOT		
			WRS# ALL A 88609														
		16	X	7	-	1	-	0									
		17	X	7	-	1	-	12									
		18	X	7	-	1	-	24									
		19	X	7	-	2	-	0									
		20	X	7	-	2	-	12									
		21	X	7	-	2	-	24									
		22	X	7	-	3	-	0									
		23	X	7	-	3	-	12									
		24	X	7	-	3	-	24									
		TOTALS															

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Decker 1-5-84

 Signature Date and Time
 FIELD CUSTODIAN _____
 Signature (OVER) Date and Time

Parameters: RCRA _____
 Priority Pollutants _____
 IEPA _____
 Other (specify) _____

SAMPLE SOURCES
CITY AND STATE

LANDFILL

To:

SAMPLE INVENTORY AND MASTER PACKING LIST

Box id.	Pres.	Sample	SAMPLE LOG NUMBER										TOTAL	
		25	X	7	-	4	-	0						
		26	X	7	-	4	-	12						
(		27	X	7	-	4	-	24						
		28	X	7	-	5	-	0						
		29	X	7	-	5	-	12						
		30	X	7	-	5	-	24						
		31	X	7	-	2	-	0	DUP					TO TECH CENTER
		32	X	7	-	3	-	12	DUP					TO TECH CENTER
			X											
		TOTALS												

CUSTODY SIGNATURES

The persons whose signatures are listed below certify that the collected samples listed in the sample inventory and master packing list above had the samples in their custody and the only manner in which custody was given up was either to one of the other persons listed below or to a locked and/or secured area or chest.

SAMPLER (S) Mark Henke 1-5-84

Signature _____ Date and Time _____

FIELD CUSTODIAN _____

Signature _____ Date and Time _____

VOA-7-1

(111)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: INTERPOLE LAB

4500 BALL ROAD N.E.

CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #7
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-7-1
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTCLAVE)
4. AMOUNT OF SAMPLE OBTAINED: 3/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-19-84 1430
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: [Signature]

EMPLOYER: ENRAC

DATE: 1-19-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

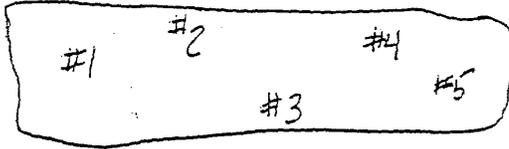
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

1-5-84

No Drums were found in Trench #7 so only the 5 point, 15 sample procedure will be completed. All samples will be split with the COE.

Key



↓
N

<u>MN Ref</u>		<u>TRACE CONTAM</u>	Sent to Intersol for analysis MN 1-5-8
16	X7-1-0		X
17	-12	1410	X
18	-24		
19	X7-2-0		X X7-2-0 ⇒ #31 (control)
20	-1	1430	X
21	-24		X
22	X7-3-0		X
23	-12	1445	X X7-3-12 ⇒ #32 (control)
24	-24		X
25	X7-4-0		X
26	-12	1500	X
27	-24		X
28	X7-5-0		X
29	-12	1515	X
30	-24		X

VOA-7-2

(112)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

Each Use (Rinse, Wash, Rinse, Acetone Rinse, Water Rinse)

- HOUR AND DATE OF SAMPLING: 1-19-84 1430
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #7
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-7-2
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
ACETONE)
- AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIRAP-COE
SAMPLE HOUR/DATE: 1-19-84 1430
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-19-84

WITNESS: GARY SCHWEERS
SIGNATURE: Gary Schweers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

DATE: _____ CODE: _____

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: #112 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: VOA-7-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D. mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Hauling Valve, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Carbonium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrite, as NO ₂ , mg/l							
Nitrate, as NO ₃ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

CRM WMI-22 (Rev. 11-5-80)
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4167-006 OK
 0051-03

VOA-7-3

(113)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 7
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-7-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTCLAVE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROB-COE
SAMPLE HOUR/DATE: 1-19-84 1430
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-19-84

WITNESS: GARY SHWERS
SIGNATURE: Gary Shwers
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

LABORATORY: _____

SALES CODE

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 WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #113 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA - 7-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C.O.D., mg/l				Cyanides, as CN, Total, mg/l			
B.O.D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH/p				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDTs, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l				Ethyl benzene			410
Silver, as Ag, mg/l				Hexane			
Zinc, as Zn, mg/l				Methylene chloride			
				Tetrachloroethylene			
				1,1,1-trichloroethane			
				Toluene			
Bicarbonates, as HCO ₃ , mg/l				Chloroform			
Carbonates as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1,1-trichloroethane			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitric, as NO ₃ , mg/l				1,1,1-trichloroethane			
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane			
Phosphate, as P, mg/l				1,1,2,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1,2-tetrachloroethane			
Sulfides, as S, mg/l				1,1,2-dichloroethane			59
				Trichloroethylene			

0051-04

VOA-1-0

130 Duplicate

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1430
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #7
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-7-2
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTCLAVE)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-19-84 1430
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-19-84

SIGNATURE: _____

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

VOA-10-1

114

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-19-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 10
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-10-1
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
ACETONE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-19-84</u> <u>1500</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEES

TITLE: CHEMIST

SIGNATURE: Doug Schwes

EMPLOYER: ENRAC

DATE: 1-19-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL.
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON #114 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-10-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pHNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Carbonum, as C, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene	<10		
Selenium, as Se, mg/l				hexane			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,1,2-tetrachloroethane			
Urearbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitric, as NO ₃ , mg/l				1,1-dichloroethane			
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,2,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,2-trichloroethane			
Sulfides, as S, mg/l				trichloroethylene			

<36-55
0051-05

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 10 1500
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-10-2
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE, STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE, AUTOCLAVE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-19-84 1500
PROFILE SHEET CODE:
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke
TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-19-84

WITNESS: GARY SCHWEEES
SIGNATURE: Gary Schwnees
TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 5/15 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-10-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub. % NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

ug/l

<10

<40

0051-06

OK

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-19-84 1500
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #10
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-10-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOCLEASE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-19-84 1500
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
 SIGNATURE: Mark Henke
 TITLE: CHEMIST
 EMPLOYER: ENRAC
 DATE: 1-19-84

WITNESS: GARY SCHWEERS
 SIGNATURE: Gary Schweers
 TITLE: FIELD TECH
 EMPLOYER: ENRAC
 DATE: 1-19-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE
 [] []
 WASTE PROFILE SHEET CODE

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: #116 REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-10-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C. O. D., mg/l				Cyanides, as CN, Total, mg/l			
B. O. D., mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F*				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," %NaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene	210		
Selenium, as Se, mg/l				hexane			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,2,2-tetrachloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1,1-trichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitrate, as NO ₃ , mg/l				1,1,2-dichloroethane			
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1-trichloroethane			
Sulfides, as S, mg/l				trichloroethylene	29		

*CRAI WMI-52 (Rev. 11-5-60)
 01920 WASTE MANAGEMENT, INC

0051-07

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER USE)

- HOUR AND DATE OF SAMPLING: 1-21-84 1045
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-15-1
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
- AMOUNT OF SAMPLE OBTAINED: 2/3 100 ML BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 1045
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 UNRELIABLE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #128 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-15-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Ana Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flesh Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Hesting Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Carbonium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				<i>mg/kg</i>			
Selenium, as Se, mg/l				Ethyl benzene	650		
Silver, as Ag, mg/l				benzene			
Zinc, as Zn, mg/l				methylene chloride			
				tetrachloroethylene			
				1,1,2-trichloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitrate, as NO ₃ , mg/l				1,1-dichloroethylene			
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,2,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1-trichloroethane			
Sulfides, as S, mg/l				trichloroethylene			

650
0053-10

VOA-15-2

129

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 1045
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 15
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-15-2.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 1045
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

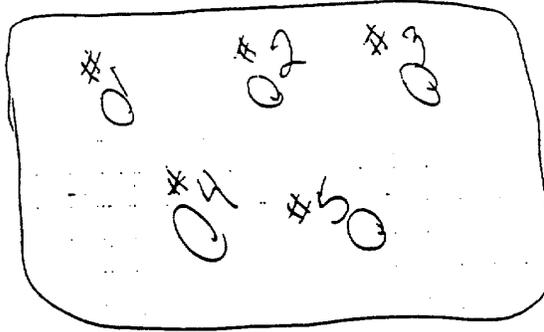
LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

1-9-84

T# 15

No drums were found in T# 15 so only the 5 pt - 15 sample procedure will be followed. Samples sent to Interpol.

Key:



INTERPOL #

78	X15-1-0
79	X15-1-12
80	X15-1-24
81	X15-2-0
82	X15-2-12
83	X15-2-24
84	X15-3-0
85	X15-3-12
86	X15-3-24
87	X15-4-0
88	X15-4-12
89	X15-4-24
90	X15-5-0
91	X15-5-12
92	X15-5-24

Sampled Monday PM 1330-1430



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN 25, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

SAMPLE No. PROFILE No. WPS#

SP-17 - WASTE PILE FOR DISPOSAL OF T#17.
WE INTEND ON MIXING THIS PILE WITH T#3
SOIL FOR DISPOSAL SINCE ALL RESULTS ARE
COMPARABLE.

Very Truly Yours,
Dean Kampey

CC. JAILLOSTELLO
NIROP FILE
DOC. FIVE
IN HENKF

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ALCOHOL RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 0915
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 17
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-17-1.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-21-84 0915
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #119 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-17-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°							
Ash Content, on ignition				Total Alkalinity (P), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Alkalinity (M), as CaCO ₃ , mg/l			
"Acid Scrub," pH/OH/p				Total Hardness, as CaCO ₃ , mg/l			
				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l							
Copper, as Cu, mg/l				Aldrin, mg/l			
Iron, Total as Fe, mg/l				Chlordane, mg/l			
Iron, dissolved, as Fe, mg/l				DDT's, mg/l			
Lead, as Pb, mg/l				Dieldrin, mg/l			
Manganese, as Mn, mg/l				Endrin, mg/l			
Magnesium, as Mg, mg/l				Heptachlor, mg/l			
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitric, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

mg/kg

ethyl benzene
benzene
n-hexane
tetrachloroethylene
1,1,2-trichloroethane
toluene
chloroform
1,1-dichloroethane
1,1-dichloroethylene
1,2-dichloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,1-trichloroethane

*analytical
more precise
results for
this*

<150

0053-02

(120)

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 0915
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-17-2
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 0915
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: #120 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-17-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
*Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Hesting Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
*Acid Scrub., gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Berium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				1,4-dichlorobenzene	<10		
Selenium, as Se, mg/l				hexane			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,2-trichloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitric, as NO ₃ , mg/l				1,2-dichloroethylene			
Nitric, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1-trichloroethane			
Sulfides, as S, mg/l				1,1,2,2-tetrachloroethane			

0053-03 < 150 OK

W-11-3

(121)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 0915
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-17-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 0915
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE
SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST
EMPLOYER: ENRAC
DATE: 1-21-84

SIGNATURE: Gary Schweers

TITLE: FIELD TECH
EMPLOYER: ENRAC
DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS: ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES CODE

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WASTE PROFILE SHEET CODE

LABORATORY: _____

PROFILE SHEET RECEIVED ON: #121 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-17-3

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Six-valent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l				Ethyl benzene	<10		
Silver, as Ag, mg/l				benzene			
Zinc, as Zn, mg/l				methylene chloride			
				tetrachloroethylene			
				1,1,2,2-tetrachloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1,2-dichloroethane			
Fluorides, as F, mg/l				1,2-dichloroethane			
Nitric, as NO ₃ , mg/l				1,1,1-trichloroethane			
Nitrite, as NO ₂ , mg/l				1,1,2-trichloroethane			
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,2,2-tetrachloroethane			
Sulfides, as S, mg/l				1,1,1-trichloroethane			
				1,1,2-dichloroethane			

L 150 OK

0053-04

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 0915
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #17
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-17-4.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-21-84 0915
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

EMPLOYER: ENRAC

DATE: 1-21-84

SPECIAL WASTE ANALYSIS REPORT

SALES

CODE

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LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: # 122 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-17-4

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Hueing Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," gNaOH/g				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene			
Selenium, as Se, mg/l				hexane			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,2-trichloroethane			
				toluene			
				chloroform			
Bicarbonates, as HCO ₃ , mg/l				1,1-dichloroethane			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethylene			
Chlorides, as Cl, mg/l				1,2-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitrate, as NO ₃ , mg/l				1,1,2-trichloroethane			
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1-trichloroethane			
Sulfides, as S, mg/l				trichloroethylene			

Bottle
 Broken
 upon
 Receipt

No Test Done
 0053-05

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

*Not sample to
obtain sample to
of recharging
water in
hole*

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #12
VOA SAMPLES FROM ONE FOOT DEPTH:
VOA-17-5
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
ACETONE).
4. AMOUNT OF SAMPLE OBTAINED: 3/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1- -84
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schwears

EMPLOYER: ENRAC

DATE: 1- -84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1- -84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

VOA-17-3

131 Duplicates

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE CAN ONLY ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 0915
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 17
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-17-3
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
ACETONE)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 0915
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWERS

TITLE: CHEMIST

SIGNATURE: _____

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC
1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MAZIK KOENIG

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

SAMPLE No. PROFILE No. WPS#

VOA 17-1 PLEASE DISREGARD PREVIOUS
SUBMITTAL ALSO ATTACHED.

Very Truly Yours,
Dean Ramsey

CC. JACQUESTELLO
NIROP FILE
DOC. FILE
M. HENKE

SPECIAL WASTE ANALYSIS REPORT

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: #119 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-17-1

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pH/OH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, Dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				1,4-dichlorobenzene			
Selenium, as Se, mg/l				benzene			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,2-trichloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates, as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				1,1-dichloroethylene			
Fluorides, as F, mg/l				1,1-dichloroethane			
Nitric, as NO ₃ , mg/l				1,1,1-trichloroethane			
Nitric, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,1,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1,2,2-pentachloroethane			
Sulfides, as S, mg/l							

Previous Submit

04/11/8

another one please result please

FW - Intergate

0053-02



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

Feb 3, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE ACTION ARE THE RESULTS FOR THE FOLLOWING SAMPLES. DETAILED SAMPLE DESCRIPTIONS ARE FOUND ON THE ATTACHED FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
SP-17	Results AND certif. of rep. sample, chain of CUSTODY DOC. PLEASE ATTACH TO EARLIER SUBMITTAL JAN. 25, 1984.	

Very Truly Yours,
Dean Ramsey

D. HILDRE - w/ attch
J. RENIKES - w/ attch
cc. JACK COSTELLO - w/ attch
NIROP FILE - w/ attch
DOC. FILE - w/ attch
M. HENKE - w. attch



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

Feb 3, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-002D
ANALYTICAL RESULTS. 2 COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

<u>SAMPLE No.</u>	<u>PROFILE No.</u>	<u>WPS#</u>
SP-17	Results AND Certif. of rep. sample, chain of CUSTODY DOC. PLEASE ATTACH TO EARLIER SUBMITTAL JAN. 25, 1984.	

Very Truly Yours,

Dean Ramsey

D. HILDRE - w/ attach
J. RENIKES - w/o attach
CC. JACK COSTELLO - w/o attach
NIROP FILE - w/ attach
DOC. FILE - w/o attach
M. HENKE - w/ attach

Jan 25

SP-17

A 88609
WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: CHEMICAL MGMT.

150 West 137th St.

RIVERDALE IL 60627

ATTN: JACK KOLOPANIS, TIM CASHEN

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

1. HOUR AND DATE OF SAMPLING: 1-12-84 1530
2. SOURCE FROM WHICH SAMPLE TAKEN: STOCK PILE FROM TRENCH #17
3. EQUIPMENT AND SAMPLING METHOD USED: SCOOP - FROM VARIOUS PARTS
4. AMOUNT OF SAMPLE OBTAINED: 1 QT
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: PLASTIC
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: Nielop - CNM - COE
 SAMPLE HOUR/DATE: 1-12-84 1530
 PROFILE SHEET CODE: A - 88609
 SAMPLER SIGNATURE: [Signature]

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: Larry Bell

SIGNATURE: [Signature]

WITNESS: Mark Henke

TITLE: FIELD TECH

SIGNATURE: [Signature]

EMPLOYER: ENLAC

DATE: 1-12-84

TITLE: CHEMIST

EMPLOYER: ENLAC

DATE: 1-12-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE

VOA-18-1

124

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

To: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 1000
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 18
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-18-1
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOCLEAVE)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-21-84 1000</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

TITLE: CHEMIST

EMPLOYER: ENRAC

DATE: 1-21-84

WITNESS: GARY SCHWEERS

SIGNATURE: Gary Schweers

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL

BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:

ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

SALES _____
 WASTE PROFILE SHEET CODE _____

LABORATORY: _____
 PROFILE SHEET RECEIVED ON: #124 REPRESENTATIVE SAMPLE RECEIVED ON: _____
 CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____
 PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-18-31

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Heating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub." pHNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Chromium, as Cr, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l							
Selenium, as Se, mg/l							
Silver, as Ag, mg/l							
Zinc, as Zn, mg/l							
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrate, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							

W/100
 Ethyl benzene
 benzene
 methylene chloride
 tetrachloroethylene
 1,1,1-trichloroethane
 toluene
 chloroform
 1,1-dichloroethane
 1,1-dichloroethylene
 1,1-dichloroethane
 1,1,2-trichloroethane
 1,1,2,2-tetrachloroethane
 1,1,1,2-tetrachloroethane
 1,1,1-trichloroethane
 trichloroethylene

<10
 ↓

FORM WMI-52 (Rev. 11-5-80)
 ©1980 WASTE MANAGEMENT, INC.

0053-06

VOA-18-2

(125)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

- HOUR AND DATE OF SAMPLING: 1-21-84 1000
- SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #18
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-18-2
- EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave)
- AMOUNT OF SAMPLE OBTAINED: 1/2 VOA BOTTLE
- TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
- THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
- AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84 1000
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

SPECIAL WASTE ANALYSIS REPORT

--	--

LABORATORY: _____

WASTE PROFILE SHEET CODE

PROFILE SHEET RECEIVED ON: 4/25 REPRESENTATIVE SAMPLE RECEIVED ON: _____

CERTIFICATE OF REP. SAMPLE RECEIVED: _____ SAMPLE TAKEN: _____

PROPOSED TREATMENT/DISPOSAL FACILITY: _____

THE ANALYSES BELOW REPORTED WERE SELECTED BY ME, BASED UPON THE GENERATOR'S REPRESENTATIONS IN THE PROFILE SHEET AND ANY APPLICABLE WASTE ANALYSIS PLAN ESTABLISHED BY THE PROPOSED FACILITY FOR WASTE OF THIS TYPE. ANALYSES REQUIRED BY A WASTE ANALYSIS PLAN ARE INDICATED BY AN ASTERISK (*).

DATE OF ANALYSIS: _____ LAB MANAGER: _____

VOA-18-2

Test	As Received	Leachate	Analyst Initials	Test	As Received	Leachate	Analyst Initials
Specific Gravity							
pH							
Acidity, % as							
Alkalinity, % as				Phenols, mg/l			
C O D, mg/l				Cyanides, as CN, Total, mg/l			
B O D, mg/l				Cyanides, as CN, Free, mg/l			
Total Solids @ 105°C							
Total Dissolved Solids, mg/l				Nitrogen, Ammonia, as N, mg/l			
Total Suspended Solids, mg/l				Nitrogen, Organic, as N, mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen, as N, mg/l			
Flash Point, F°				Total Alkalinity (P), as CaCO ₃ , mg/l			
Ash Content, on ignition				Total Alkalinity (M), as CaCO ₃ , mg/l			
Huating Valve, BTU/lb				Total Hardness, as CaCO ₃ , mg/l			
"Acid Scrub," pNaOH/p				Calcium Hardness, as CaCO ₃ , mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as AS, mg/l							
Barium, as Ba, mg/l							
Boron, as B, mg/l				Oil and Grease, mg/l			
Calcium, as Ca, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium @ Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlordane, mg/l			
Iron, Total as Fe, mg/l				DDT's, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l							
Mercury, as Hg, mg/l							
Nickel, as Ni, mg/l				Ethyl benzene	44/149	<10	
Silicium, as Si, mg/l				benzene			
Silver, as Ag, mg/l				methylene chloride			
Zinc, as Zn, mg/l				tetrachloroethylene			
				1,1,2-trichloroethane			
				toluene			
Bicarbonates, as HCO ₃ , mg/l				chloroform			
Carbonates as CO ₃ , mg/l				1,1-dichloroethane			
Chlorides, as Cl, mg/l				cis-1,2-dichloroethylene			
Fluorides, as F, mg/l				trans-1,2-dichloroethylene			
Nitrate, as NO ₃ , mg/l				1,1,1-trichloroethylene			
Nitrite, as NO ₂ , mg/l				1,1,2,2-tetrachloroethane			
Nitric, as NO ₃ , mg/l				1,1,1,2-tetrachloroethane			
Phosphate, as P, mg/l				1,1,2,2-tetrachloroethane			
Sulfate, as SO ₄ , mg/l				1,1,1-trichloroethane			
Sulfides, as S, mg/l				trichloroethylene			

450 ppb

0053-07

OK



Chemical Waste Management, Inc.
Environmental Remedial Action Division
150 W. 137th Street
Riverdale, Illinois 60627
312/841-8600

JAN. 23, 1984

THE DEPARTMENT OF THE ARMY
1135 U.S. POST OFFICE & CUSTOMS HOUSE
ST. PAUL, MN. 55101

ATTN: MR. MARK KOENIG ✓

RE: NIROP SITE CLEANUP, DA-CA-45-84-C-0020
ANALYTICAL RESULTS. 2-COPIES EACH

ATTACHED FOR YOUR REVIEW AND APPROPRIATE
ACTION ARE THE RESULTS FOR THE
FOLLOWING SAMPLES. DETAILED SAMPLE
DESCRIPTIONS ARE FOUND ON THE ATTACHED
FORMS.

SAMPLE No. PROFILE No. WPS#

TRENCH BOTTOM SAMPLES

T# 18, 19 AND 15 per Sample Source Sheets.

Very Truly Yours,
Dean Ramsey

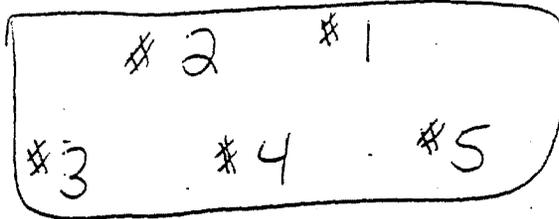
CC. JACQUESTELLO w/ ATTACH
NIROP FILE w/ 10
TRENCH FILE - w/ ATTACH
AS HELD BY ...

1-9-84

T#18

No drums were found on T#18 so only the 5pt-15 sample procedure was completed. Samples sent to Intrepid Lab.

Key



INTERFOL#

Sampled Monday AM 0900-1030

- 48 X18-1-0
- 49 X18-1-12
- 50 X18-1-24

- 51 X18-2-0
- 52 X18-2-12
- 53 X18-2-24

- 54 X18-3-0
- 55 X18-3-12
- 56 X18-3-24

- 57 X18-4-0
- 58 X18-4-12
- 59 X18-4-24

- 60 X18-5-0
- 61 X18-5-12
- 62 X18-5-24

VOA-19-1

(120)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE)

1. HOUR AND DATE OF SAMPLING: 1-21-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
VOA SAMPLES FROM ONE FOOT DEPTH
VOA-19-1
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave)
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-21-84 1030</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET,
I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

CERTIFICATION OF REPRESENTATIVE SAMPLE

FOR DIRECTION: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US. SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A REPRESENTATIVE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF YOUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-21-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-19-2
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
BY INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
6. THE SAMPLING EQUIPMENT USED, AND THE CONTAINER INTO WHICH THE SAMPLE WAS PLACED, WERE THEMSELVES UNCONTAMINATED BEFORE USE.
7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
 SAMPLE HOUR/DATE: 1-21-84 1030
 PROFILE SHEET CODE: _____
 SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
 BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.
 INADEQUATE FOR THE REASONS NOTED HEREON.

VOA-19-1

(120)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING THE SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE RINSE, WATER RINSE).

1. HOUR AND DATE OF SAMPLING: 1-21-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH # 19
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-19-1
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
By INTERPOLE LAB ACCORDING TO EPA PROCEDURES (RINSE, WASH, RINSE,
AUTOClave).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
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7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: CWM-NIROP-COE
SAMPLE HOUR/DATE: 1-21-84. 1030
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: Mark Henke

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

DATE: 1-21-84

TITLE: FIELD TECH

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL. BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
 ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

VOA 11

(121)

WASTE PROFILE SHEET CODE

CERTIFICATION OF REPRESENTATIVE SAMPLE

GENERAL DIRECTIONS: IN ORDER TO DETERMINE WHETHER WE CAN ACCEPT THE SPECIAL WASTE DESCRIBED IN THE ABOVE NUMBERED PROFILE SHEET, WE MUST OBTAIN A REPRESENTATIVE SAMPLE OF THE WASTE. WE WILL ANALYZE THE SAMPLE TO VERIFY THE INFORMATION YOU HAVE PROVIDED US, SO IT IS PARTICULARLY IMPORTANT THAT THE SAMPLE BE TRULY REPRESENTATIVE. IN MOST CIRCUMSTANCES YOU WILL BE OBTAINING A SAMPLE. HOWEVER, IN THOSE CASES IN WHICH WE OBTAIN THE SAMPLE, WE MUST ASK THAT ONE OF OUR EMPLOYEES BE PRESENT TO DIRECT THE PARTICULAR SOURCE TO BE SAMPLED AND TO WITNESS THE SAMPLING. IN SUCH CASE, YOUR EMPLOYEE MUST SIGN THIS CERTIFICATION AS A WITNESS.

THIS CERTIFICATION MUST BE RETURNED, WITH THE REPRESENTATIVE WASTE SAMPLE, TO:

TO: INTERPOLE LAB
4500 BALL ROAD N.E.
CIRCLE PINE, MN 55014

THE UNDERSIGNED CERTIFIES THAT HE/SHE OBTAINED A REPRESENTATIVE SAMPLE OF THE WASTE MATERIAL DESCRIBED IN THE "GENERATOR'S WASTE MATERIAL PROFILE SHEET" ABOVE REFERENCED, AND THAT THE FOLLOWING REPRESENTATIONS ARE TRUE AND CORRECT:

EACH USE (RINSE, WASH, RINSE, ACETONE, RINSE, WATER, RINSE).

1. HOUR AND DATE OF SAMPLING: 1-21-84 1030
2. SOURCE FROM WHICH SAMPLE TAKEN: TRENCH #19
VOA SAMPLES FROM ONE FOOT DEPTH.
VOA-19-2.
3. EQUIPMENT AND SAMPLING METHOD USED: POST HOLE DIGGER, MEASURE TAPE,
STAINLESS STEEL SCOOP, VOA BOTTLES - BOTTLES WERE PREPARED
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ACETONE).
4. AMOUNT OF SAMPLE OBTAINED: 2/3 VOA BOTTLE
5. TYPE OF CONTAINER INTO WHICH SAMPLE WAS PLACED: GLASS
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7. AT THE TIME OF SAMPLING I AFFIXED A LABEL TO THE CONTAINER IN THE FOLLOWING FORM WITH THE FOLLOWING INFORMATION (FILL IN THIS PORTION, INCLUDING YOUR SIGNATURE, JUST AS IT APPEARS ON THE LABEL YOU PREPARED):

GENERATOR: <u>CWM-NIROP-COE</u>
SAMPLE HOUR/DATE: <u>1-21-84 1030</u>
PROFILE SHEET CODE: _____
SAMPLER SIGNATURE: <u>Mark Henke</u>

WITNESS VERIFICATION. I WAS PERSONALLY PRESENT DURING THE SAMPLING DESCRIBED; I DIRECTED THE WASTE SOURCE TO BE SAMPLED; AND I VERIFY THE INFORMATION ABOVE NOTED.

SAMPLER NAME: MARK HENKE

SIGNATURE: Mark Henke

WITNESS: GARY SCHWEERS

TITLE: CHEMIST

SIGNATURE: Gary Schweers

EMPLOYER: ENRAC

TITLE: FIELD TECH

DATE: 1-21-84

EMPLOYER: ENRAC

DATE: 1-21-84

LABORATORY REVIEW OF SAMPLING PROTOCOL
BASED UPON MY REVIEW OF THE ABOVE PROFILE SHEET, I CONCLUDE THAT THE ABOVE METHODOLOGY IS:
<input checked="" type="checkbox"/> ADEQUATE FOR YIELDING A REPRESENTATIVE SAMPLE.

**6. RESULTS OF SOIL BORINGS ADVANCED AT
TRENCHES 3 AND 6, JUNE 1985**

DESCRIPTION	DATE	ANALYSIS	CONC.	1	2	3	4	5	6	7	8	9
LAB ID	PROJECT ID	PPH	ZN	NI	PCB016	PCB21	PCB232	PCB242	PCB248	PCB254	ROW	
86907	PC 1-B-3-6/17/85	CONC	1.01	11.0	215	<0.002	<0.002	<0.002	<0.002	<0.002	9	
		ZREC		97	106							
		DUFL		11.1	206							
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86908	PC 1-B-5-6/17/85	CONC	2.57	14.5	345	<0.002	<0.002	<0.002	<0.002	<0.002	10	
		ZREC							96			
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86909	PC 8-B-2-6/14/85	CONC	1.85	9.65	192	<0.002	<0.002	<0.002	<0.002	<0.002	11	
		ZREC										
		DUFL				<0.002	<0.002	<0.002	<0.002	<0.002		
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86910	PC 8-B-5-6/14/85	CONC	2.50	16.2	356	<0.002	<0.002	<0.002	<0.002	<0.002	12	
		ZREC										
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86911	PC 7-B-1-6/14/85	CONC	2.20	13.8	300	<0.002	<0.002	<0.002	<0.002	<0.002	13	
		ZREC										
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86912	PC 7-B-3-6/14/85	CONC	3.61	14.2	370	<0.002	<0.002	<0.002	<0.002	<0.002	14	
		ZREC										
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86913	PC 7-B-5-6/14/85	CONC	2.56	8.05	345	<0.002	<0.002	<0.002	<0.002	<0.002	15	
		ZREC										
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
86914	PC 8-B-1-6/14/85	CONC	2.03	16.2	387	<0.002	<0.002	<0.002	<0.002	<0.002	16	
		ZREC										
		DUFL										
		OTD	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262		
			HGA AU111		HGA AU111							
PCB016	LEAD		ZN	ZINC		NI	MANAGNESE					
PCB242	PCB-1216		PCB221	PCB-1221		PCB232	PCB-1232					
	PCB-1242		PCB248	PCB-1248		PCB254	PCB-1254					

JOB DESCR: FISH HINDP - GAWA

NR0F0000000000

SEDIMENT

JOB FILE: B6899

REPORT DATE: 23 SEP 85

RECEIPT DATE: 19 JUN 85

EST. CORR. DATE: 09 AUG 85

COL 1	COL 2	COL 3	COL 4	COL 5	COL 6	COL 7	COL 8	COL 9			
ANALYSIS.. 9	13	23	53	54	55	56	57	58			
PCB016	PCB221	PCB232	PCB242	PCB248	PCB254	RGM					
04928	P6 8 8 8	CONC 1.86	8.27	268	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		ZREC	96	106							23
		DIFL	8.27	261							
		DID	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262	07975262
			NGA AUTH		NGA AUTH						
04929	P6 8 8 1	CONC 1.86	12.1	253	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		ZREC									26
		DIFL									
		DID	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262	07975262
			NGA AUTH		NGA AUTH						
04930	P6 4 8 1	CONC 1.54	12.1	344	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		ZREC									27
		DIFL									
		DID	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262	07975262
			NGA AUTH		NGA AUTH						
04926	P6 1 8 8	CONC 2.27	16.1	196	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		ZREC									28
		DIFL			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		DID	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262	07975262
			NGA AUTH		NGA AUTH						
04927	P6 1 8 4	CONC 8.80	11.7	521	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
		ZREC							104		29
		DIFL									
		DID	20555217	01845213	01845212	07975262	07975262	07975262	07975262	07975262	07975262
			NGA AUTH		NGA AUTH						
PB	LEAD	ZH	ZINC		IN	MANGANESE					
PCB016	PCB 1016	PCB221	PCB 1221		PCB232	PCB 1232					
PCB242	PCB 1242	PCB248	PCB 1248		PCB254	PCB 1254					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 5 OF 20)

JOB DESCRIPTION: NIROP - OHAMA
 REPORT DATE: 123 SEP 85

NIROP0000000000
 RECEIPT DATE: 19 JUL 85

SEDIMENT
 JOB FILE: 86899
 EST. CDF. DATE: 09 AUG 85

COLLN	10	11	12	13	14	15	16	17	18			
ANALYSIS	59	72	73	74	75	76	77	78	79			
PPM	PCB260	CHL	URNE	VICL	CLF	NECL	DCLTE	TIDCE	DICL			
LAB ID	FRAC	II										
86899	P2-3-D-1	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									1
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86900	P2-3-D-2	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									2
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86901	P2-3-D-3	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									3
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86902	P2-3-D-4	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									4
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86903	P2-3-D-5	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									5
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86904	P2-4-D-5	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									6
			DUPL	<0.002	<0.025	<0.025	<0.025	<0.025	0.037	<0.025	<0.025	
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86905	P2-5-D-5	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	
			XREC									7
			DUPL									
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
86906	P2-1-B-1	6/17/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	0.39	<0.025	<0.025	<0.025
			XREC		83.23	154.75	99.23	93.3		90.75	92.75	93.25
			DUPL									8
			ID	07775262	08935190	08935190	08935190	08935190	08935190	08935190	08935190	
PCB260	PCB-1260		CHL	CHLOROTHENE		URNE	URONETHENE		NECL	NECHLOROTHENE		
VICL	VINYL CHLORIDE		CLF	CHLOROTHENE			CHLOROTHENE			TRIS(1,1-DICHLOROETHYLENE)		
DCLTE	1,1-DICHLOROETHENE		TIDCE	1,1-DICHLOROETHENE						DICL	TRANS-1,2-DICHLOROETHENE	

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 10 OF 20)

JOB DESCRIPTION: NITROP - CIVIL

REC'D: 0000000000

SEDIMENT

JOB FILE: 66899

REPORT DATE: 23 SEP 83

RECEIVED DATE: 17 JUN 83

EST. CORP. DATE: 107 JUL 83

ANALYSIS: 19 20 21 22 23 24 25 26 27
 80 81 82 83 84 85 86 87 88

PHI: CICKL3 12ICE 111ICA C CL 4 11CE2H 11CLPR 11CFRE 11CE 1111CH R14

04907 P6-1-B-2-6/17/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04908 P6-1-B-5-6/17/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04909 P8-8-B-2-6/14/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04910 P8-8-B-5-6/14/65 CONC <0.025 M <0.30 M <0.025 M
 XREC M M M M M M M M M M M
 IAFI <0.025 M <0.11 M <0.025 M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04911 P8-7-B-1-6/14/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04912 P8-7-B-8-6/14/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04913 P8-7-B-8-6/14/65 CONC <0.025 M
 XREC M M M M M M M M M M M
 IAFI M M M M M M M M M M M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

04914 P8-6-B-1-6/14/65 CONC <0.43 M <0.43 M <0.62 M <0.43 M
 XREC M M M M M M M M M M M
 IAFI <0.43 M <0.43 M <0.62 M <0.43 M
 OIB 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K 08935190K

CICKL3 CHLOROFORM 12ICE 1 2 DICHLORODIFLUOROMETHANE 111ICA 1 1 1-TRICHLOROETHANE
 C CL 4 CARBON TETRACHLORIDE BRACHN BRACHN DICHLORODIFLUOROMETHANE DICFPY 1 2 DICHLORODIFLUOROMETHANE
 1111CE TRANS-1 3-DICHLORODIFLUOROMETHANE 11CE TRICHLOROETHENE 1111CH 1 1 1-TRICHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORDER DATA REPORTING SHEET (SHEET 11 OF 20)

JOB DESCRIPTION: MTHOR - DIANA
 RECEIPT DATE: 23-SEP-85
 NINOP0000000000 SEDIMENT
 KOU FILE: 06899
 EST. DATE: 07-AUG-85

COL. NO.	19	20	21	22	23	24	25	26	27	28
ANALYSIS	80	81	82	83	84	85	86	87	88	89
LAB ID	PROJECT ID	CONC	REC	DUP	CONC	REC	DUP	CONC	REC	DUP
04916	P3-6-B-3-6/14/85	10.63	M	M	10.63	M	M	10.63	M	M
04914	P3-6-B-5-6/14/85	10.63	M	M	10.63	M	M	10.63	M	M
04917	P3-6-B-1-6/14/85	10.025	M	M	10.025	M	M	10.025	M	M
04918	P3-6-B-2-6/14/85	10.025	M	M	10.025	M	M	10.025	M	M
04919	P4-2-B-1-6/17/85	10.025	M	M	10.025	M	M	10.025	M	M
04920	P4-4-B-3-6/17/85	10.025	M	M	10.025	M	M	10.025	M	M
04921	P4-2-B-4-6/17/85	10.025	M	M	10.025	M	M	10.025	M	M
04922	P4-3-B-1-6/17/85	10.025	M	M	107.25	M	M	102.5	M	M

CONC 3 CARBON TETRACHLORIDE
 REC 1 2-DICHLOROBENZENE
 DUP 1 1-TRICHLOROETHANE
 CONC 1 1-TRICHLOROETHANE
 REC 1 2-DICHLOROBENZENE
 DUP 1 2-DICHLOROBENZENE
 CONC 1 2-DICHLOROBENZENE
 REC 1 1-TRICHLOROETHANE
 DUP 1 1-TRICHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 13 OF 20)

JOB DESCRIPTION: HIRCP - CIVWA
 HIRCP#0000000000 SEDIMENT JOB FILE: 84877
 ANALYST: J3 SEP 85 RECEIPT DATE: 19 JAN 86 EGT - CALF - DATE: 09 MAR 85

LAB ID	PROJECT ID	PPH	CALFRE	1121CA	BENZEN	CE1NE	CH1N3	TEL1TA	TEL1E	TOLUEN	CL1EN	RU11
84900	P3-3-D-1-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84900	P3-3-D-2-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84901	P3-3-D-3-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84902	P3-4-D-1-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84903	P3-4-D-2-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84904	P3-4-D-3-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.12	<0.025	<0.025	<0.025
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84905	P3-5-D-5-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190
84906	P4-1-D-1-6/17/85	COND	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	88.7821	101.25	92.25	91.25	90.73	103.75	101.25	91.25	84.3	8
		D1FL	M	M	M	M	M	M	M	M	M	M
		D1D	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190	08935190

CALFRE CIS-1,3-DICHLOROPROPYLENE 1121CA 1,1,2-TRICHLOROETHANE BENZEN BENZENE
 CE1NE 2-CHLOROETHYL VINYL ETHER CH1N3 DICHLORODI TOLUEN TOLUENE
 TEL1E TETRACHLOROETHENE TOLUEN TOLUENE CL1EN CHLOROBENZENE

JOB DESCRIPTION: NIROP - OMAHA

NIROP0000000000

SEDIEM

JOB FILE: 86899

REPORT DATE: 12-19-85

ANALYSIS DATE: 12-19-85

EST. CURP. DATE: 107-85

COLLEGE... 28 29 30 31 32 33 34 35 36
 ANALYSIS... 87 90 91 92 93 94 95 96 97

B DENOTES PPS

PPH: CCI PHL 1121CA BENZEN CIBRIS TOLETA TOLENE TOLUEN XGEN

LAB ID PROJECT ID

06993 P4-B-B-3 CONC 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025
 ZREC
 DFL
 DID 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190

06994 P4-B-B-4 CONC 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025
 ZREC
 DFL
 DID 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190

06995 P4-B-B-5 CONC 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025
 ZREC
 DFL
 DID 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190

06996 P4-B-B-6 CONC 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025
 ZREC 103.045 130.25 65.75 103.25 90.5 98.5 111 73.75 105.75 28
 DFL
 DID 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190

06997 P4-B-B-7 CONC 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025 10.025
 ZREC
 DFL
 DID 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190 08933190

CCPRL CIS 1 3-DICHLOROPROLINE 1121CA 1 1 2-TRICHLOROETHANE BENZEN BENZENE
 CETHK 2-CHLOROETHYLVINYL ETHER CIBRIS 1-BROMO-2-ETHANOL TOLETA 1 1 2 2-TETRACHLOROETHANE
 TOLETE TETRACHLOROETHENE TOLUEN TOLUENE CLEN 1 1 2 2-TETRACHLOROETHANE
 CLEN 1 1 2 2-TETRACHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY WORK DATA REPORTING SHEET (SHEET 17 OF 20)

JOB DESCRIPTION: NINOP - ONWA NITROPO000000000 SEDIMENT JOB FILE: 84899
 REPORT DATE: 23 SEP 85 RECEIPT DATE: 12 JAN 85 EST. CNP. DATE: 09 MAR 85

COLLUM. ... 37 38 39 40
 ANALYSIS.. 98 99 100 156
 B - DENOTES PPB PTH.....ETBEN AERO ACRY ETBENH
 LAB ID PROJECT ID

84902 P3-2-D-1-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.0110 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84903 P3-2-D-2-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.037 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84904 P3-2-D-5-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.021 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84905 P3-4-D-1-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.0095 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84906 P3-4-D-2-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.014 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84907 P3-4-D-5-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.029 M
 XREC M M M M
 DUFL 40.025 M 40.5 M 40.5 M 0.032 M
 QID 08935190M 08935190M 08935190M 07973256M

84908 P3-5-D-5-6/14/85 CONC 40.025 M 40.5 M 40.5 M 0.029 M
 XREC M M M M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

84909 P4-1-D-1-6/17/85 CONC 40.025 M 40.5 M 40.5 M 0.031 M
 XREC 90.75 M 91.7/3 M 102.525 M
 DUFL M M M M
 QID 08935190M 08935190M 08935190M 07973256M

ETBEN ETHYL BENZENE ALRO ACRYLONITRILE
 ETBENH DIETHYL-HEXYLPHOSPHAT

JOB DESCRIPTION: HINDP - ONWIA		NIR#0000000000				SEDIMENT	JOB FILE: 86899	
REPORT DATE: 23 SEP 85		RECEIPT DATE: 17 JAN 85				EST. COMP. DATE: 107 AUG 85		
LAB ID	PROJECT ID	CONC	ACRO	ACHY	ETHEN		RM	
06907	PL 1-B-2-4/17/85	CONC <0.025	<0.5	<0.5	0.0017		9	
		ZREC						
		DAFL						
		DID 08933190# 08933190# 08933190# 07975256#						
06908	PL 1-B-2-4/17/85	CONC <0.025	<0.5	<0.5	0.0111		10	
		ZREC						
		DAFL						
		DID 08933190# 08933190# 08933190# 07975256#						
06909	PS 8-B-2-4/14/85	CONC <0.025	<0.5	<0.5	0.0019		11	
		ZREC						
		DAFL			0.0027			
		DID 08933190# 08933190# 08933190# 07975256#						
06910	PS 8-B-2-4/14/85	CONC <0.025	<0.5	<0.5	0.0091		12	
		ZREC						
		DAFL	<0.025	<0.5	<0.5			
		DID 08933190# 08933190# 08933190# 07975256#						
06911	PS 7-B-1-4/14/85	CONC <0.025	<0.5	<0.5	0.0004		13	
		ZREC						
		DAFL						
		DID 08933190# 08933190# 08933190# 07975256#						
06912	PS 7-B-2-4/14/85	CONC <0.025	<0.5	<0.5	0.0002		14	
		ZREC						
		DAFL						
		DID 08933190# 08933190# 08933190# 07975256#						
06913	PS 7-B-2-4/14/85	CONC <0.025	<0.5	<0.5	0.0031		15	
		ZREC						
		DAFL						
		DID 08933190# 08933190# 08933190# 07975256#						
06914	PS 4-B-1-4/14/85	CONC 1.3	<13	<13	0.0002		16	
		ZREC						
		DAFL	1.3	<13	<13			
		DID 08933190# 08933190# 08933190# 07975256#						
ETHEN	ETHYLENENE	ACRO	ACROLEIN	ACHY	ARYLCHLORIDE			
ETHEN	DISETHYL-HEXYL-THIOURAT							

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 12 OF 20)

JOB DESCRIPTION: NIROP - GRAMA
 REPORT DATE: 23 SEP 85
 NINOP0000000000 SEDIMENT
 RECEIPT DATE: 19 JAN 83
 JOB FILE: 06899
 EST. GRAM DATE: 09 AUG 83

CONC... 37 38 39 40
 ANALYSIS... 98 99 100 154
 DENOTE 6-PPH
 LAB ID PROJECT ID PPH... EIDEN AERO ALRY EINHPI

LAB ID	PROJECT ID	CONC	ANALYSIS	CONC	ANALYSIS	CONC	ANALYSIS	CONC	ANALYSIS	ROW
06915	P2-6-D-2-6/14/85	10.4	98	11.0	99	11.0	100	10.0002	154	17
06916	P2-6-D-3-6/14/85	4.1	98	4.3	99	4.3	100	0.016	154	18
06917	P2-6-D-1-6/14/85	10.025	98	10.5	99	10.5	100	10.0002	154	19
06918	P2-6-D-2-6/14/85	10.025	98	10.5	99	10.5	100	10.0002	154	20
06919	P4-2-D-1-6/17/85	10.025	98	10.5	99	10.5	100	0.0297	154	21
06920	P4-2-D-3-6/17/85	10.025	98	10.5	99	10.5	100	0.0217	154	22
06921	P4-2-D-4-6/17/85	10.025	98	10.5	99	10.5	100	0.0297	154	23
06922	P4-2-D-1-6/17/85	10.025	98	10.5	99	10.5	100	0.234	154	24

EIDEN ETHYL BENZENE AERO ACROLEIN ALRY ACRYLONITRILE
 EINHPI DIETHYL-HEXYL-PPHIMALAT

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 20 OF 20)

JOB DESCRIPTION: NIROP - DWWA
 REPORT DATE: 23-SEP-83
 NIDR: 0000000000 SEDIMENT
 JOB FILE: 86699
 RECEIPT DATE: 11-SEP-83
 EST. COMP. DATE: 09-AUG-83

COLLECT... 37 38 39 40
 ANALYSIS... 98 99 100 136
 PTH: ETBEN ACRU ACRY ETBEN
 LAB ID PROJECT ID

04923 P4-3-D-3 CONC 10.025 M 10.5 M 10.5 M 0.0754 M
 XREC M M M M
 DIPL M M M M
 OID 08933190M 08933190M 08933190M 07773256M

04924 P4-3-D-4 CONC 10.025 M 10.5 M 10.5 M 0.0400 M
 XREC M M M M
 DIPL M M M M
 OID 08933190M 08933190M 08933190M 07773256M

04925 P4-4-D-1 CONC 10.025 M 10.5 M 10.5 M 0.0002 M
 XREC M M M M
 DIPL M M M M
 OID 08933190M 08933190M 08933190M 07773256M

04926 P4-4-D-2 CONC 10.025 M 10.5 M 10.5 M 0.0002 M
 XREC M M M M
 DIPL M M M M
 OID 08933190M 08933190M 08933190M 07773256M

04927 P4-4-D-3 CONC 10.025 M 10.5 M 10.5 M 0.0002 M
 XREC M M M M
 DIPL M M M M
 OID 08933190M 08933190M 08933190M 07773256M

ETBEN ETIBL BENZENE ACRU ACIOH EIN ACRY ACRYLONI TRILE

ETBENH BIS(ETHYLHEXYL)PHOSPHATE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 10)

JOB DESCRIPTION: SHIP - DATA		NIDR:0000000000		SEDIMENT		JOB FILE:06820	
REPORT DATE:05 AUG 85		RECEIPT DATE:17 JUN 85		EST. COMP. DATE:02 AUG 85			
LAB ID	PROJECT ID	CONC	2.44	716	<0.002	<0.002	<0.002
		ZREC	57	102			
		DEI	12.2	756			
		DIR	20555213	01845213	07975213	07975213	07975213
			HGA AUTH	HGA AUTH			
86834	P6-S D-5 /13/85	CONC	2.44	716	<0.002	<0.002	<0.002
		ZREC	57	102			
		DEI	12.2	756			
		DIR	20555213	01845213	07975213	07975213	07975213
			HGA AUTH	HGA AUTH			
86837	P3-10 D-3 /13/85	CONC	1.79	164	<0.002	<0.002	<0.002
		ZREC					
		DEI					
		DIR	20555213	01845213	07975213	07975213	07975213
			HGA AUTH	HGA AUTH			
PCB	LEAD		IN	ZINC		IN	HANOANESE
PCB016	PCB-1016		PCB221	PCB-1221		PCB232	PCB-1232
PCB242	PCB-1242		PCB248	PCB-1248		PCB254	PCB-1254

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY CHICAGO DATA RECEIVING SHEET (SHEET 2 OF 10) *****

JOB DESCRIPTION: NITROF - CHINA		NITROF0000000000 SEDIMENT											JOB FILE: 06828	
REPORT DATE: 05 AUG 85		RECEIPT DATE: 17 JUN 85											EST. COM. DATE: 02 AUG 85	
CONC. 10		11	12	13	14	15	16	17	18					
ANALYSIS: 22		72	73	74	75	76	77	78	79					
0 1 DENOTES PPM	PROJECT ID	PPM..... PCB240	CLHE	BRNE	VICL	CIET	NECL	DCETE	IIICE	IIICE			HOW	
LAB ID									DCLS 7A	DCLS 7A				
86828	P3-1 D-1 8/12/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	1	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86829	P3-1 D-5 8/12/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	2	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86830	P3-2 D-1 8/12/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	0.10	<0.025	<0.025	<0.025	<0.025	3	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86831	P3-2 D-5 8/12/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	4	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86832	P-3-9 D-1 8/13/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	5	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86833	P-3-9 D-5 8/13/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86834	P3-10 D-5 8/13/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	7	
		ZREC												
		IIICE												
		OID	07975213M	08935182M										
86835	P3-11 D-5 8/13/85	CONC	<0.002	<0.025	<0.025	<0.025	<0.025	0.042	<0.025	<0.025	<0.025	<0.025	8	
		ZREC												
		IIICE		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025		
		OID	07975213M	08935182M										

PCB240 PCB-1260 CLHE CHLOROMETHANE BRNE BROMOMETHANE
 VICL VINYL CHLORIDE CIET CHLOROETHANE NECL METHYLENE CHLORIDE
 DCETE 1,1-DICHLOROETHENE IIICE 1,1-DICHLOROETHANE DCIE TRANS-1,2-DICHLOROETHENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (EAL) DATA REPORTING SHEET (SHEET 3 OF 10)

JOB DESCRIPTION: ENHROP -- OMAHA N180P0000000000 SEDIMENT JOB FILE: 86028
 REPORT DATE: 05 AUG 85 RECEIPT DATE: 17 JUN 85 EST. COM. DATE: 02 AUG 85

COLUMN... 19 20 21 22 23 24 25 27
 ANALYSIS... 80 81 82 83 84 85 86 88

B DENOTES PPB PROJECT ID PPM.....CHL3 12DCE 1117CA C Cl. 4 D1CL3M D1CLPR 1CLPRE YCE D1BCLM NON

LAB ID PROJECT ID ~~TEL 573~~ TEL 573 TEL 573

86828 P3-1 D-1 6/12/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86829 P3-1 D-5 6/12/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86830 P3-2 D-1 6/12/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86831 P3-2 D-5 6/12/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86832 P-3-9 D-1 6/13/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86833 P-3-9 D-5 6/13/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86834 P3-10 D-5 6/13/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL M M M M M M M M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

86835 P3-11 D-5 6/13/85 CONC <0.025 M
 ZREC M M M M M M M M
 D1FL <0.025 M
 DID 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M 08935182M

CHL3 CHLOROFORM 12DCE 1 2-DICHLOROETHANE 1117CA 1 1 1-TRICHLOROETHANE
 C Cl. 4 CARBON TETRACHLORIDE D1BCL3M 1 2-DICHLOROETHANE D1CLPR 1 2 DICHLOROPROPANE
 1CLPRE TRANS-1 3-DICHLOROPROPENE YCE TRICHLOROETHANE D1BCLM 1 2-DIBROMOETHANE

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 10) *****

JOB DESCRIPTION: NIROP - OMAHA		NIROP0000000000										SEDIMENT		JOB FILE: 03028		
REPORT DATE: 05 AUG 85		RECEIPT DATE: 17 JUN 85										EST. COM. DATE: 02 AUG 85				
LAB ID	PROJECT ID	ANALYSIS: 60	19	20	21	22	23	24	25	26	27	28	29	30	31	32
		PPH.....CHCL3	12DCE	111TCA	C CL 4	DICL2M	DICLPR	+CLPRE	TCE	DIBCLM	RCM					
86836	P6-S D-5 7/13/85	CONC	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		XREC														
		DUP1														
		QID	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M
86837	P3-10 D-3 7/13/85	CONC	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		XREC	94.25	97.5	99	95.5	97	97.75	134.091	105.25	101.5	10				
		DUP1														
		QID	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M
CHCL3 CHLOROFORM		12DCE		1,2-DICHLOROETHANE			111TCA 1,1,1-TRICHLOROETHANE									
C CL 4 CARBON TETRACHLORIDE		DICL2M		BROMODICHLOROMETHANE			DICLPR 1,2-DICHLOROPROPANE									
+CLPRE TRANS-1,3-DICHLOROPROPENE		TCE		TRICHLOROETHENE			DIBCLM DIBROMODICHLOROMETHANE									

TLL61E3

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY DATA REPORTING SHEET (PAGE 6 OF 10)

JOB DESCRIPTION: NITROB - OMAHA		NITROB0000000000										SEDIMENT		JOB FILE: 84920				
REPORT DATE: 02 AUG 85		RECEIPT DATE: 17 JUN 85										EST. COMP. DATE: 02 AUG 85						
LAB ID	PROJECT ID	PPM.....	COL.PRE	112TCA	BENZEN	CL.ETRE	CHBR3	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA	TCLETA
86836	P6-5 D-5 /13/85	CONC	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		DLEI	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		OTD	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M
86837	P3-10 D-3 /13/85	CONC	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZREC	101.763	99.5	94.75	100.75	96.5	87.75	103.75	94.25	104.5	10						
		DLEI	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		OTD	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M	08935182M
COL.PRE	118-1 3-DICHLOROPROPENE	112TCA	1 1 2-TRICHLOROETHANE					BENZEN	BENZENE									
CL.ETRE	2-DI ETHYL VINYL ETHER	CHBR3	BROMOFORM					TCLETA	1 1 2 -TETRACHLOROETHANE									
TCLETA	TETRACHLOROETHENE	TOLUEN	TOLUENE					CL.BEN	CHLOROBENZENE									

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (SHEET 9 OF 10)

JOB DESCRIPTION: NIROP - OMAHA		NIDB0000000000		SEGMENT		JOB FILE: 186928	
REPORT DATE: 105 AUK 85		RECEIPT DATE: 17 JUN 85		EST. COM. DATE: 102 AUK 85			
B I DENOTES PPB		COLUMN... 37	38	39	40		
LAB ID PROJECT ID		ANALYSIS... 98	99	100	106		
		PPM..... ETBEN	ACRO	ACRY	ETHNPH		
LAB ID	PROJECT ID						ROW
86828	P3-1 D-1 6/12/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		1
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86829	P3-1 D-5 6/12/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		2
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86830	P3-2 D-1 6/12/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		3
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86831	P3-2 D-5 6/12/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		4
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86832	P3-9 D-1 6/13/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		5
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86833	P3-9 D-5 6/13/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		6
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86834	P3-10 D-5 6/13/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		7
		XREC	M	M	M		
		DUP1	M	M	M		
		DID	08935182M	08935182M	08935182M	07975213M	
86835	P3-11 D-5 6/13/85	CONC <0.025	M <0.5	M <0.5	M <0.0002		8
		XREC	M	M	M		
		DUP1	<0.025	<0.5	<0.5		
		DID	08935182M	08935182M	08935182M	07975213M	
ETBEN	ETHYL BENZENE		ACRO	ACROLEIN		ACRY	ACRYLONITRILE
ETHNPH	BIS(ETHYL-HEXYL)PHTHALAT						

7. SOIL CLASSIFICATION RECORD SHEETS

DEPARTMENT OF THE ARMY
MISSOURI RIVER DIVISION, CORPS OF ENGINEERS
DIVISION LABORATORY
OMAHA, NEBRASKA 68102

MRD Lab. No. 85/243

2 AUG 1985

Subject: Classification Tests on Soil

Project: NIROP Wells

Intended Use: _____

Source of Material: Holes 5D, 6D, 9S and 10S

Submitted by: Chief, Engineering Division, Omaha District

Date Sampled: _____, Date Received: _____

Method of Test or Specification: _____

References: (A) Omaha District Request No. S-2104 (Mil) dated 26 June 1985

(B) Unified Soil Classification System, Technical Memorandum
No. S-357, May 1967

Visual classification and mechanical analysis tests have been completed in accordance with Reference (A) on 39 soil samples.

The results of the tests are reported on 2 tables attached.

Classifications are in accordance with Reference (B).

Submitted by:



R. K. SCHLENKER, P.E.
Director, MRD Laboratory

SOIL CLASSIFICATION RECORD SHEET

Project: NIROP Wells												Boring No: 9S and 10S			MRD Lab. No: 85/243								
Station: _____				Range: _____				Surf. Elev: _____				Depth To Water Table: _____		Bottom Of Hole: _____									
Sample No.	Depth To Bottom Of Sample	Moisture (%)	Plasticity (Att. Limits)		Grading (Cumulative Percents Finer)										Gradation Curve Analysis					Classification	Remarks		
					Hyd. Analysis		U. S. Standard Sieve Sizes					Gravel			D ₆₀ (mm)	D ₃₀ (mm)	D ₁₀ (mm)	C _u	C _c				
						005	02mm	200	80	40	20	10	4	3/8	3/4	1 1/2	3 in						
<i>Tech. MEMO 3-357, May 67</i>																							
Hole 9S																							
1	5.9						5	9	19	39	55	63	73	81	100			3.3	0.55	0.23	14.3	0.40	Gravelly sand SP
2	11.5						3	16	72	90	94	97	98	100				0.32	0.24	0.12	2.7	1.5	Sand SP
3	16.5						6	33	88	97	99	99	100					0.26	0.15	0.088	3.0	0.98	Silty sand SM-SP
4	21.5						4	41	97	100								0.20	0.15	0.099	2.0	1.1	Sand SP
5	25.2						9	47	99	100								0.20	0.14	0.074	2.7	1.3	Silty sand SM-SP
6	31.5						6	44	98	100								0.18	0.16	0.10	1.8	1.4	Silty sand SM-SP
Hole 10S																							
1	6.0						6	10	45	70	81	87	94	100				0.60	0.35	0.20	3.0	1.0	Silty sand SM-SP
2	11.0						4	7	47	70	82	90	97	100				0.52	0.30	0.20	2.6	0.87	Sand SP
3	15.8						3	6	39	73	89	96	100					0.58	0.35	0.25	2.3	0.84	Sand SP
4	20.7						4	6	14	52	84	95	100					1.0	0.58	0.30	3.3	1.1	Sand SP
5	26.0						3	6	46	76	90	94	97	100				0.55	0.34	0.25	2.2	0.84	Sand SP
6	31.8						3	7	45	79	95	100						0.50	0.35	0.25	2.1	0.98	Sand SP

8. NIROP MONITORING WELL LOGS AND CONSTRUCTION INFORMATION

NIROP MONITORING WELL DATA FOR
WELLS INSTALLED FROM OCTOBER 1983 TO APRIL 1986

WELL NUMBER	TOP OF CASING ELEVATION	TOP OF SCREEN ELEVATION	BOTTOM OF SCREEN ELEVATION	WELL * DEPTH
1-S	837.14	817.24	802.16	34.98
1-D	836.75	731.31	721.21	115.54
1-PC	837.63	653.97**	628.97	208.66
2-S	836.07	816.62	801.42	34.65
2-D	836.04	733.93	723.74	112.3
2-PC	838.05	679.35**	659.76	178.28
3-S	836.75	817.06	802.00	34.75
3-D	837.48	766.79	756.61	80.87
3-PC	839.21	706.51**	679.81	159.4
4-S	837.45	817.67	802.60	34.85
4-D	834.79	723.94	713.86	120.93
4-PC	834.75	677.42**	652.42	182.33
5-S	835.06	815.38	800.35	34.71
5-D	836.00	729.1	718.9	117.1
6-S	835.73	816.28	801.08	34.65
6-D	835.69	715.71	705.74	129.95
7-S	835.97	816.23	806.03	29.94
7-D	835.63	727.63	717.63	118
8-S	835.76	815.96	805.86	29.9
8-D	834.02	716.02	706.02	128
9-S	836.68	817.38	807.38	29.3
9-D	834.30	720.03	710.30	124
10-S	835.89	814.59	804.59	31.3
11-S	835.89	814.79	804.59	31.3
12-S	838.51	812.61	802.61	35.9
13-S	834.59	810.69	800.69	33.9
14-S	835.99	811.59	801.59	34.4
15-S	834.83	810.33	800.33	34.5
16-S	837.26	811.46	801.46	35.8
17-S	835.75	806.75	796.75	39
18-S	834.08	803.33	793.33	40.75
19-S	834.56	799.56	789.56	45
20-S	837.62	812.02	802.02	35.6
FMC-33	837.05	--	--	--

* From top of casing
** Open hole

(1120.05 139:RPT:fridchAtb)

DRILLING LOG		INSTALLATION	SHEET 1 OF 2 SHEETS
1. PROJECT MUDCO		10. SIZE AND TYPE OF BIT 1 1/2" Dia. Rock Bit	
2. LOCATION (Name of place or Station)		11. DATUM FOR ELEVATION SHOWING ON LOG MS	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on Drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED: None UNDISTURBED: None	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE VERTICAL <input checked="" type="checkbox"/> INCLINED _____ DES. FROM VERT.		15. ELEVATION GROUND WATER 2204	
7. THICKNESS OF OVERBURDEN 30.0' Alluvium		16. DATE HOLE STARTED: 5-20-63 COMPLETED: 5-20-63	
8. DEPTH DRILLED INTO ROCK 0'		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 30'		18. TOTAL CORE RECOVERY FOR BORING 1	
		19. SIGNATURE OF INSPECTOR W. J. [Signature]	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
0.0	0.0		Topsoil (5.4' sand)			Started Drilling w/ 1 1/2" Dia. Rock Rock Bit Started Drilling w/ clear water
0.9	0.9		1. Sh. C.K. No. 10 D. Brown w/ black 1.5' s.s. 2. Sh. C.K. w/ coarse 1.5' s.s. 4. Many root frags			
6.9	6.9		0.5' of Sand Med. Dense Dona. Phos. Sh. C.K. No. 10 Med. Brown 1.5' s.s. 1.5' fine wood Med.			Boring is being logged from Drill Cuttings
6.9	6.9		(Sh. ss) Dirty Clay Med. Dense			
9.9	9.9		Med. Dense Sand to Non-Sand 1.5' s.s. No. 10 Dark 1.5' s.s. Sand Fine Med. Dense Much organic matter Cherty ss. 1.5' s.s.			
10.0	10.0		Change to Sh to 10.0' approx			

DRILLING LOG		DIVISION MRO	INSTALLATION CASHA	SHEET 2 OF 4 SHEETS
1. PROJECT NIRSD Monitoring Well		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FEN - ASL)		
3. DRILLING AGENCY US-CO-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) IS		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		STARTED	COMPLETED	
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
10.0	0.0		U. F. Sand			
10.0	1.0		6000 to 10000 lbs. sandstone			
10.0	2.0		3000 to 5000 lbs. sandstone			
10.0	3.0		3000 to 5000 lbs. sandstone			
10.0	4.0		3000 to 5000 lbs. sandstone			
10.0	5.0		3000 to 5000 lbs. sandstone			
10.0	6.0		3000 to 5000 lbs. sandstone			
10.0	7.0		3000 to 5000 lbs. sandstone			
10.0	8.0		3000 to 5000 lbs. sandstone			
10.0	9.0		3000 to 5000 lbs. sandstone			
10.0	10.0		3000 to 5000 lbs. sandstone			
10.0	11.0		3000 to 5000 lbs. sandstone			
10.0	12.0		3000 to 5000 lbs. sandstone			
10.0	13.0		3000 to 5000 lbs. sandstone			
10.0	14.0		3000 to 5000 lbs. sandstone			
10.0	15.0		3000 to 5000 lbs. sandstone			
10.0	16.0		3000 to 5000 lbs. sandstone			
10.0	17.0		3000 to 5000 lbs. sandstone			
10.0	18.0		3000 to 5000 lbs. sandstone			
10.0	19.0		3000 to 5000 lbs. sandstone			
10.0	20.0		3000 to 5000 lbs. sandstone			
10.0	21.0		3000 to 5000 lbs. sandstone			
10.0	22.0		3000 to 5000 lbs. sandstone			
10.0	23.0		3000 to 5000 lbs. sandstone			
10.0	24.0		3000 to 5000 lbs. sandstone			
10.0	25.0		3000 to 5000 lbs. sandstone			
10.0	26.0		3000 to 5000 lbs. sandstone			
10.0	27.0		3000 to 5000 lbs. sandstone			
10.0	28.0		3000 to 5000 lbs. sandstone			
10.0	29.0		3000 to 5000 lbs. sandstone			
10.0	30.0		3000 to 5000 lbs. sandstone			
10.0	31.0		3000 to 5000 lbs. sandstone			
10.0	32.0		3000 to 5000 lbs. sandstone			
10.0	33.0		3000 to 5000 lbs. sandstone			
10.0	34.0		3000 to 5000 lbs. sandstone			
10.0	35.0		3000 to 5000 lbs. sandstone			
10.0	36.0		3000 to 5000 lbs. sandstone			
10.0	37.0		3000 to 5000 lbs. sandstone			
10.0	38.0		3000 to 5000 lbs. sandstone			
10.0	39.0		3000 to 5000 lbs. sandstone			
10.0	40.0		3000 to 5000 lbs. sandstone			
10.0	41.0		3000 to 5000 lbs. sandstone			
10.0	42.0		3000 to 5000 lbs. sandstone			
10.0	43.0		3000 to 5000 lbs. sandstone			
10.0	44.0		3000 to 5000 lbs. sandstone			
10.0	45.0		3000 to 5000 lbs. sandstone			
10.0	46.0		3000 to 5000 lbs. sandstone			
10.0	47.0		3000 to 5000 lbs. sandstone			
10.0	48.0		3000 to 5000 lbs. sandstone			
10.0	49.0		3000 to 5000 lbs. sandstone			
10.0	50.0		3000 to 5000 lbs. sandstone			

DIVISION MS		INSTALLATION SMANA	SHEET 4 OF 4 SHEETS
1. PROJECT MONITORING WELL		10. SIZE AND TYPE OF BIT	
2. LOCATION (6 coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)	
3. DRILLING AGENCY US-CRIP		12. MANUFACTURER'S DESIGNATION OF DRILL Fairbanks 1500 Holemaster	
4. HOLE NO. (As shown on drawing title and file number) 15		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN None	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE MOLE STARTED _____ COMPLETED 5-26-83	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR [Signature]	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			<p>③</p> <p>1. Very fine Med. Sand Sandstone V. Limestone Coarse particles Med. Sand F. to coarse Med. Sand Med. to coarse Sandstone Med. to coarse Sandstone Med. to coarse Sandstone</p>			<p>Continued to Drill down water</p> <p>Boring being logged by daily cuttings analysis</p> <p>Terminated Boring @ 380' on 5/26/83</p> <p>Used only clear water in drilling hole</p>
			<p>Returned Boring 280'</p>			

DRILLING LOG		DIVISION N. 22	INSTALLATION C. 100	SHEET 1
PROJECT W. 100		NO. SIZE AND TYPE OF BIT 2 1/2" Dia. Intake		
LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOW (TBM or MSL) B.M.		
3. DRILLING AGENCY K. 100		12. MANUFACTURER'S DESIGNATION OF DRILL F. 100		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: UNDISTURBED:		
5. NAME OF DRILLER K. 100		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER 2000		
7. THICKNESS OF OVERBURDEN 20' 0"		16. DATE HOLE STARTED: COMPLETED:		
8. DEPTH DRILLED INTO ROCK 0'		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 20' 0"		18. TOTAL CORE RECOVERY FOR BORING %		
		19. SIGNATURE OF INSPECTOR M. 100		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, overburden, depth of weathering, etc., if significant)
20.0	0.0		6" dia. Steel Protective Casing w/ 1/2" annular			Permanent Setup For 2" dia. Intake next pipe = 1168'
19.0	1.0		Standard 2 1/2" dia. Cased Hole Pipe (Vented)			Casing Painted International Safety Orange
18.0	2.0		Standard 2 1/2" dia. Cased Hole Pipe			Top of Sand
17.0	3.0		Upper Hole = 6"			Top soil
16.0	4.0		Concrete Grout Mixture			Silty Sand (100-140) St. Clayey Sand (100-100) Grout is mixture in 2:1 10:1 ratio of cement to water
15.0	5.0		Standard 2 1/2" dia. Cased Hole Pipe			Silty Sand (100-140) ALCOA - in contact with topsoil
14.0	6.0		Blended Bentonite			Central device consists of 2 1/2" diameter of 2 1/2" steel connected to pipe w/ 2-2 1/2" dia. hose clamps
13.0	7.0		Central Device			
12.0	8.0		Standard 2 1/2" dia. Cased Hole Pipe			
11.0	9.0		Standard 2 1/2" dia. Cased Hole Pipe			
10.0	10.0		Standard 2 1/2" dia. Cased Hole Pipe			
9.0	11.0		Standard 2 1/2" dia. Cased Hole Pipe			
8.0	12.0		Standard 2 1/2" dia. Cased Hole Pipe			
7.0	13.0		Standard 2 1/2" dia. Cased Hole Pipe			
6.0	14.0		Standard 2 1/2" dia. Cased Hole Pipe			
5.0	15.0		Standard 2 1/2" dia. Cased Hole Pipe			
4.0	16.0		Standard 2 1/2" dia. Cased Hole Pipe			
3.0	17.0		Standard 2 1/2" dia. Cased Hole Pipe			
2.0	18.0		Standard 2 1/2" dia. Cased Hole Pipe			
1.0	19.0		Standard 2 1/2" dia. Cased Hole Pipe			
0.0	20.0		Standard 2 1/2" dia. Cased Hole Pipe			

DRILLING LOG		DIVISION	INSTALLATION	SHEET		
1. PROJECT NIPSO Non-Turbine		MED		2 OF 2 SHEETS		
2. LOCATION (Coordinates or Station)			10. SIZE AND TYPE OF BIT			
3. DRILLING AGENCY US-CR-C			11. DATUM FOR ELEVATION SHOWN (TBM or MSL)			
4. HOLE NO. (As shown on drawing title and file number) 15			12. MANUFACTURER'S DESIGNATION OF DRILL			
5. NAME OF DRILLER			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES			
7. THICKNESS OF OVERBURDEN			15. ELEVATION GROUND WATER			
8. DEPTH DRILLED INTO ROCK			16. DATE HOLE	STARTED COMPLETED		
9. TOTAL DEPTH OF HOLE			17. ELEVATION TOP OF HOLE			
			18. TOTAL CORE RECOVERY FOR BORING	%		
			19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
107	0		Surface Soil			
106	1		Gravelly Sand			
105	2		Gravelly Sand			
104	3		Gravelly Sand			
103	4		Gravelly Sand			
102	5		Gravelly Sand			
101	6		Gravelly Sand			
100	7		Gravelly Sand			
99	8		Gravelly Sand			
98	9		Gravelly Sand			
97	10		Gravelly Sand			
96	11		Gravelly Sand			
95	12		Gravelly Sand			
94	13		Gravelly Sand			
93	14		Gravelly Sand			
92	15		Gravelly Sand			
91	16		Gravelly Sand			
90	17		Gravelly Sand			
89	18		Gravelly Sand			
88	19		Gravelly Sand			
87	20		Gravelly Sand			
86	21		Gravelly Sand			
85	22		Gravelly Sand			
84	23		Gravelly Sand			
83	24		Gravelly Sand			
82	25		Gravelly Sand			
81	26		Gravelly Sand			
80	27		Gravelly Sand			
79	28		Gravelly Sand			
78	29		Gravelly Sand			
77	30		Gravelly Sand			
76	31		Gravelly Sand			
75	32		Gravelly Sand			
74	33		Gravelly Sand			
73	34		Gravelly Sand			
72	35		Gravelly Sand			
71	36		Gravelly Sand			
70	37		Gravelly Sand			
69	38		Gravelly Sand			
68	39		Gravelly Sand			
67	40		Gravelly Sand			
66	41		Gravelly Sand			
65	42		Gravelly Sand			
64	43		Gravelly Sand			
63	44		Gravelly Sand			
62	45		Gravelly Sand			
61	46		Gravelly Sand			
60	47		Gravelly Sand			
59	48		Gravelly Sand			
58	49		Gravelly Sand			
57	50		Gravelly Sand			
56	51		Gravelly Sand			
55	52		Gravelly Sand			
54	53		Gravelly Sand			
53	54		Gravelly Sand			
52	55		Gravelly Sand			
51	56		Gravelly Sand			
50	57		Gravelly Sand			
49	58		Gravelly Sand			
48	59		Gravelly Sand			
47	60		Gravelly Sand			
46	61		Gravelly Sand			
45	62		Gravelly Sand			
44	63		Gravelly Sand			
43	64		Gravelly Sand			
42	65		Gravelly Sand			
41	66		Gravelly Sand			
40	67		Gravelly Sand			
39	68		Gravelly Sand			
38	69		Gravelly Sand			
37	70		Gravelly Sand			
36	71		Gravelly Sand			
35	72		Gravelly Sand			
34	73		Gravelly Sand			
33	74		Gravelly Sand			
32	75		Gravelly Sand			
31	76		Gravelly Sand			
30	77		Gravelly Sand			
29	78		Gravelly Sand			
28	79		Gravelly Sand			
27	80		Gravelly Sand			
26	81		Gravelly Sand			
25	82		Gravelly Sand			
24	83		Gravelly Sand			
23	84		Gravelly Sand			
22	85		Gravelly Sand			
21	86		Gravelly Sand			
20	87		Gravelly Sand			
19	88		Gravelly Sand			
18	89		Gravelly Sand			
17	90		Gravelly Sand			
16	91		Gravelly Sand			
15	92		Gravelly Sand			
14	93		Gravelly Sand			
13	94		Gravelly Sand			
12	95		Gravelly Sand			
11	96		Gravelly Sand			
10	97		Gravelly Sand			
9	98		Gravelly Sand			
8	99		Gravelly Sand			
7	100		Gravelly Sand			
6	101		Gravelly Sand			
5	102		Gravelly Sand			
4	103		Gravelly Sand			
3	104		Gravelly Sand			
2	105		Gravelly Sand			
1	106		Gravelly Sand			
0	107		Gravelly Sand			

DRILLING LOG		INSTALLATION	SHEET 1 OF 12 SHEETS
1. PROJECT M20		10. SIZE AND TYPE OF BIT 2 1/2" Dia. Rock Bit	
2. LOCATION (Continent or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or Rock Bit)	
3. DRILLING AGENCY US-CFC		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 10-1		13. TOTAL NO. OF BURDEN SAMPLES TAKEN 30	
5. NAME OF DRILLER KDOM		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> DES. FROM VERT.		15. ELEVATION GROUND WATER 2201'	
7. THICKNESS OF OVERBURDEN 13.6'		16. DATE HOLE STARTED: 7-25-59 COMPLETED: 8-25-59	
8. DEPTH DRILLED INTO ROCK 2.0'		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 116.7'		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
2201.0	0.0		Drilling			Started Drilling
2200.0	1.0		...			2 1/2" Dia. Rock Bit
2199.0	2.0		...			...
2198.0	3.0		...			...
2197.0	4.0		...			...
2196.0	5.0		...			...
2195.0	6.0		...			...
2194.0	7.0		...			...
2193.0	8.0		...			...
2192.0	9.0		...			...
2191.0	10.0		...			...
2190.0	11.0		...			...
2189.0	12.0		...			...
2188.0	13.0		...			...
2187.0	14.0		...			...
2186.0	15.0		...			...
2185.0	16.0		...			...
2184.0	17.0		...			...
2183.0	18.0		...			...
2182.0	19.0		...			...
2181.0	20.0		...			...
2180.0	21.0		...			...
2179.0	22.0		...			...
2178.0	23.0		...			...
2177.0	24.0		...			...
2176.0	25.0		...			...
2175.0	26.0		...			...
2174.0	27.0		...			...
2173.0	28.0		...			...
2172.0	29.0		...			...
2171.0	30.0		...			...
2170.0	31.0		...			...
2169.0	32.0		...			...
2168.0	33.0		...			...
2167.0	34.0		...			...
2166.0	35.0		...			...
2165.0	36.0		...			...
2164.0	37.0		...			...
2163.0	38.0		...			...
2162.0	39.0		...			...
2161.0	40.0		...			...
2160.0	41.0		...			...
2159.0	42.0		...			...
2158.0	43.0		...			...
2157.0	44.0		...			...
2156.0	45.0		...			...
2155.0	46.0		...			...
2154.0	47.0		...			...
2153.0	48.0		...			...
2152.0	49.0		...			...
2151.0	50.0		...			...
2150.0	51.0		...			...
2149.0	52.0		...			...
2148.0	53.0		...			...
2147.0	54.0		...			...
2146.0	55.0		...			...
2145.0	56.0		...			...
2144.0	57.0		...			...
2143.0	58.0		...			...
2142.0	59.0		...			...
2141.0	60.0		...			...
2140.0	61.0		...			...
2139.0	62.0		...			...
2138.0	63.0		...			...
2137.0	64.0		...			...
2136.0	65.0		...			...
2135.0	66.0		...			...
2134.0	67.0		...			...
2133.0	68.0		...			...
2132.0	69.0		...			...
2131.0	70.0		...			...
2130.0	71.0		...			...
2129.0	72.0		...			...
2128.0	73.0		...			...
2127.0	74.0		...			...
2126.0	75.0		...			...
2125.0	76.0		...			...
2124.0	77.0		...			...
2123.0	78.0		...			...
2122.0	79.0		...			...
2121.0	80.0		...			...
2120.0	81.0		...			...
2119.0	82.0		...			...
2118.0	83.0		...			...
2117.0	84.0		...			...
2116.0	85.0		...			...
2115.0	86.0		...			...
2114.0	87.0		...			...
2113.0	88.0		...			...
2112.0	89.0		...			...
2111.0	90.0		...			...
2110.0	91.0		...			...
2109.0	92.0		...			...
2108.0	93.0		...			...
2107.0	94.0		...			...
2106.0	95.0		...			...
2105.0	96.0		...			...
2104.0	97.0		...			...
2103.0	98.0		...			...
2102.0	99.0		...			...
2101.0	100.0		...			...

DRILLING LOG		VISION	INSTALLATION	NO.	SHEET
PROJECT		NO. 100	NAME		OF 12 SHEETS
LOCATION (Coordinates or Station)			10. SIZE AND TYPE OF BIT		
DRILLING AGENCY			11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
MOLE NO. (As shown on drawing title and file number)		11	12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
DIRECTION OF MOLE			14. TOTAL NUMBER CORE BOXES		
THICKNESS OF OVERBURDEN			15. ELEVATION GROUND WATER		
DEPTH DRILLED INTO ROCK			16. DATE HOLE		
TOTAL DEPTH OF MOLE			17. ELEVATION TOP OF HOLE		
			18. TOTAL CORE RECOVERY FOR BORING		
			19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.0	0.0		Silty Sand (SM)		100	Penet. 0.3' @ 10.0'
100.0	10.0		None Present. Moist		106	Penet. 0.3' @ 10.0' - 12.3' Penet. 0.6' @ 12.3' - 13.0'
100.0	15.0		Coarse sand			Rep. 9.0' - 13.0'
100.0	20.0		Medium sand			
100.0	25.0		Coarse sand			
100.0	30.0		Medium sand			
100.0	35.0		Coarse sand			
100.0	40.0		Medium sand			
100.0	45.0		Coarse sand			
100.0	50.0		Medium sand			
100.0	55.0		Coarse sand			
100.0	60.0		Medium sand			
100.0	65.0		Coarse sand			
100.0	70.0		Medium sand			
100.0	75.0		Coarse sand			
100.0	80.0		Medium sand			
100.0	85.0		Coarse sand			
100.0	90.0		Medium sand			
100.0	95.0		Coarse sand			
100.0	100.0		Medium sand			
100.0	105.0		Coarse sand			
100.0	110.0		Medium sand			
100.0	115.0		Coarse sand			
100.0	120.0		Medium sand			
100.0	125.0		Coarse sand			
100.0	130.0		Medium sand			
100.0	135.0		Coarse sand			
100.0	140.0		Medium sand			
100.0	145.0		Coarse sand			
100.0	150.0		Medium sand			
100.0	155.0		Coarse sand			
100.0	160.0		Medium sand			
100.0	165.0		Coarse sand			
100.0	170.0		Medium sand			
100.0	175.0		Coarse sand			
100.0	180.0		Medium sand			
100.0	185.0		Coarse sand			
100.0	190.0		Medium sand			
100.0	195.0		Coarse sand			
100.0	200.0		Medium sand			
100.0	205.0		Coarse sand			
100.0	210.0		Medium sand			
100.0	215.0		Coarse sand			
100.0	220.0		Medium sand			
100.0	225.0		Coarse sand			
100.0	230.0		Medium sand			
100.0	235.0		Coarse sand			
100.0	240.0		Medium sand			
100.0	245.0		Coarse sand			
100.0	250.0		Medium sand			
100.0	255.0		Coarse sand			
100.0	260.0		Medium sand			
100.0	265.0		Coarse sand			
100.0	270.0		Medium sand			
100.0	275.0		Coarse sand			
100.0	280.0		Medium sand			
100.0	285.0		Coarse sand			
100.0	290.0		Medium sand			
100.0	295.0		Coarse sand			
100.0	300.0		Medium sand			
100.0	305.0		Coarse sand			
100.0	310.0		Medium sand			
100.0	315.0		Coarse sand			
100.0	320.0		Medium sand			
100.0	325.0		Coarse sand			
100.0	330.0		Medium sand			
100.0	335.0		Coarse sand			
100.0	340.0		Medium sand			
100.0	345.0		Coarse sand			
100.0	350.0		Medium sand			
100.0	355.0		Coarse sand			
100.0	360.0		Medium sand			
100.0	365.0		Coarse sand			
100.0	370.0		Medium sand			
100.0	375.0		Coarse sand			
100.0	380.0		Medium sand			
100.0	385.0		Coarse sand			
100.0	390.0		Medium sand			
100.0	395.0		Coarse sand			
100.0	400.0		Medium sand			
100.0	405.0		Coarse sand			
100.0	410.0		Medium sand			
100.0	415.0		Coarse sand			
100.0	420.0		Medium sand			
100.0	425.0		Coarse sand			
100.0	430.0		Medium sand			
100.0	435.0		Coarse sand			
100.0	440.0		Medium sand			
100.0	445.0		Coarse sand			
100.0	450.0		Medium sand			
100.0	455.0		Coarse sand			
100.0	460.0		Medium sand			
100.0	465.0		Coarse sand			
100.0	470.0		Medium sand			
100.0	475.0		Coarse sand			
100.0	480.0		Medium sand			
100.0	485.0		Coarse sand			
100.0	490.0		Medium sand			
100.0	495.0		Coarse sand			
100.0	500.0		Medium sand			
100.0	505.0		Coarse sand			
100.0	510.0		Medium sand			
100.0	515.0		Coarse sand			
100.0	520.0		Medium sand			
100.0	525.0		Coarse sand			
100.0	530.0		Medium sand			
100.0	535.0		Coarse sand			
100.0	540.0		Medium sand			
100.0	545.0		Coarse sand			
100.0	550.0		Medium sand			
100.0	555.0		Coarse sand			
100.0	560.0		Medium sand			
100.0	565.0		Coarse sand			
100.0	570.0		Medium sand			
100.0	575.0		Coarse sand			
100.0	580.0		Medium sand			
100.0	585.0		Coarse sand			
100.0	590.0		Medium sand			
100.0	595.0		Coarse sand			
100.0	600.0		Medium sand			
100.0	605.0		Coarse sand			
100.0	610.0		Medium sand			
100.0	615.0		Coarse sand			
100.0	620.0		Medium sand			
100.0	625.0		Coarse sand			
100.0	630.0		Medium sand			
100.0	635.0		Coarse sand			
100.0	640.0		Medium sand			
100.0	645.0		Coarse sand			
100.0	650.0		Medium sand			
100.0	655.0		Coarse sand			
100.0	660.0		Medium sand			
100.0	665.0		Coarse sand			
100.0	670.0		Medium sand			
100.0	675.0		Coarse sand			
100.0	680.0		Medium sand			
100.0	685.0		Coarse sand			
100.0	690.0		Medium sand			
100.0	695.0		Coarse sand			
100.0	700.0		Medium sand			
100.0	705.0		Coarse sand			
100.0	710.0		Medium sand			
100.0	715.0		Coarse sand			
100.0	720.0		Medium sand			
100.0	725.0		Coarse sand			
100.0	730.0		Medium sand			
100.0	735.0		Coarse sand			
100.0	740.0		Medium sand			
100.0	745.0		Coarse sand			
100.0	750.0		Medium sand			
100.0	755.0		Coarse sand			
100.0	760.0		Medium sand			
100.0	765.0		Coarse sand			
100.0	770.0		Medium sand			
100.0	775.0		Coarse sand			
100.0	780.0		Medium sand			
100.0	785.0		Coarse sand			
100.0	790.0		Medium sand			
100.0	795.0		Coarse sand			
100.0	800.0		Medium sand			
100.0	805.0		Coarse sand			
100.0	810.0		Medium sand			
100.0	815.0		Coarse sand			
100.0	820.0		Medium sand			
100.0	825.0		Coarse sand			
100.0	830.0		Medium sand			
100.0	835.0		Coarse sand			
100.0	840.0		Medium sand			
100.0	845.0		Coarse sand			
100.0	850.0		Medium sand			
100.0	855.0		Coarse sand			
100.0	860.0		Medium sand			
100.0	865.0		Coarse sand			
100.0	870.0		Medium sand			
100.0	875.0		Coarse sand			
100.0	880.0		Medium sand			
100.0	885.0		Coarse sand			
100.0	890.0		Medium sand			
100.0	895.0		Coarse sand			
100.0	900.0		Medium sand			
100.0	905.0		Coarse sand			
100.0	910.0		Medium sand			
100.0	915.0		Coarse sand			
100.0	920.0		Medium sand			
100.0	925.0		Coarse sand			
100.0	930.0		Medium sand			
100.0	935.0		Coarse sand			
100.0	940.0		Medium sand			
100.0	945.0		Coarse sand			
100.0	950.0		Medium sand			
100.0	955.0		Coarse sand			
100.0	960.0		Medium sand			
100.0	965.0		Coarse sand			
100.0	970.0		Medium sand			
100.0	975.0		Coarse sand			
100.0	980.0		Medium sand			
100.0	985.0		Coarse sand			
100.0	990.0		Medium sand			
100.0	995.0		Coarse sand			
100.0	1000.0		Medium sand			

DRILLING LOG		1510N	INSTALLATION	SHEET
PROJECT		OF 1 SHEETS		
2. LOCATION (Coordinate or Station)		10. SIZE AND TYPE OF BIT		
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
5. NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, amount of overburden, etc., if significant)
220	0		Gravel (G)			Planned depth 220'
210	10		Med. Sandstone			200'-220'
200	20		Med. Sandstone			Rec'd. 91.
190	30		Med. Sandstone			Rep. 20.0'-22.0'
180	40		Med. Sandstone			0.2 Run to 200'
170	50		Med. Sandstone			Test approx. 60% H ₂ O.
160	60		Med. Sandstone			Drilled to 200'
150	70		Med. Sandstone			Test approx. 60% H ₂ O.
140	80		Med. Sandstone			0.20.0' gravel
130	90		Med. Sandstone			Logging will be positive
120	100		Med. Sandstone			
110	110		Med. Sandstone			
100	120		Med. Sandstone			
90	130		Med. Sandstone			
80	140		Med. Sandstone			
70	150		Med. Sandstone			
60	160		Med. Sandstone			
50	170		Med. Sandstone			
40	180		Med. Sandstone			
30	190		Med. Sandstone			
20	200		Med. Sandstone			
10	210		Med. Sandstone			
0	220		Med. Sandstone			
220	0		Gravelly Silty Sand (GS)			Planned 20.1'-21.1'
210	10		Med. Sandstone			20.1'-21.1'
200	20		Med. Sandstone			20.1'-21.1'
190	30		Med. Sandstone			20.1'-21.1'
180	40		Med. Sandstone			20.1'-21.1'
170	50		Med. Sandstone			20.1'-21.1'
160	60		Med. Sandstone			20.1'-21.1'
150	70		Med. Sandstone			20.1'-21.1'
140	80		Med. Sandstone			20.1'-21.1'
130	90		Med. Sandstone			20.1'-21.1'
120	100		Med. Sandstone			20.1'-21.1'
110	110		Med. Sandstone			20.1'-21.1'
100	120		Med. Sandstone			20.1'-21.1'
90	130		Med. Sandstone			20.1'-21.1'
80	140		Med. Sandstone			20.1'-21.1'
70	150		Med. Sandstone			20.1'-21.1'
60	160		Med. Sandstone			20.1'-21.1'
50	170		Med. Sandstone			20.1'-21.1'
40	180		Med. Sandstone			20.1'-21.1'
30	190		Med. Sandstone			20.1'-21.1'
20	200		Med. Sandstone			20.1'-21.1'
10	210		Med. Sandstone			20.1'-21.1'
0	220		Med. Sandstone			20.1'-21.1'

DRILLING LOG		INSTALLATION	SHEET 5 OF 12 SHEETS
1. PROJECT MAD NIPON Monitoring Unit Installation on 100		10. SIZE AND TYPE OF BIT D.M.A.H.	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.S.)	
3. DRILLING AGENCY K. S. S. C.		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 10		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
40.0			Silty Grey Sand. Silty			Pushed 2 1/2"
41.0			Med. Dense sandstone saturated w. S. calc.			Split core 39.9' - 41.9'
42.0			Med. boundary Silty Sand Fine med. grain coarse			lost sample 0' Rec. Pushed 2 1/2" 42.0' - 44.0' Rec. 1.3' lost 0.3' from bottom of core
43.0			Med. boundary Silty Sand Fine med. grain coarse			Rec. 39.0' - 43.0'
44.0			Med. boundary Silty Sand Fine med. grain coarse			
45.0			Fairly uniform depth silty sandstone w. clay. apper			
46.0			Fairly uniform depth silty sandstone w. clay. apper			
47.0			Fairly uniform depth silty sandstone w. clay. apper			
48.0			Fairly uniform depth silty sandstone w. clay. apper			
49.0			Fairly uniform depth silty sandstone w. clay. apper			
50.0			Fairly uniform depth silty sandstone w. clay. apper			
						Drilled to 50.0'

DRILLING LOG INSTALLATION

PROJECT: W. C. ... OF 12 SHEETS

1. LOCATION (Coordinates or Station): ...

2. DRILLING AGENCY: W. C. ...

3. HOLE NO. (As shown on drawing title and file number): 10

4. NAME OF DRILLER: ...

5. DIRECTION OF HOLE: VERTICAL INCLINED ... DEG. FROM VERT.

6. THICKNESS OF OVERBURDEN: ...

7. DEPTH DRILLED INTO ROCK: ...

8. TOTAL DEPTH OF HOLE: ...

9. SIZE AND TYPE OF BIT: ...

10. DATE FOR ELEVATION SHOWN (TBM or MSL): ...

11. MANUFACTURER'S DESIGNATION OF DRILL: ...

12. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: ... DISTURBED ... UNDISTURBED ...

13. TOTAL NUMBER CORE BOXES: ...

14. ELEVATION GROUND WATER: ...

15. DATE HOLE STARTED: ... COMPLETED: ...

16. ELEVATION TOP OF HOLE: ...

17. TOTAL CORE RECOVERY FOR BORING: ...

18. SIGNATURE OF INSPECTOR: ...

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
40.0	0.0		Gravelly Silty Sand		0-9	...
38.0	2.0		...		10-19	...
36.0	4.0		...		20-29	...
34.0	6.0		...		30-39	...
32.0	8.0		...		40-49	...
30.0	10.0		...		50-59	...
28.0	12.0		...		60-69	...
26.0	14.0		...		70-79	...
24.0	16.0		...		80-89	...
22.0	18.0		...		90-99	...
20.0	20.0		...		100-109	...
18.0	22.0		...		110-119	...
16.0	24.0		...		120-129	...
14.0	26.0		...		130-139	...
12.0	28.0		...		140-149	...
10.0	30.0		...		150-159	...
8.0	32.0		...		160-169	...
6.0	34.0		...		170-179	...
4.0	36.0		...		180-189	...
2.0	38.0		...		190-199	...
0.0	40.0		...		200-209	...

DRILLING LOG		VISION	INSTALLATION	SHEET 8 OF 12 SHEETS
1. PROJECT MONITORING WELL		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		
3. DRILLING AGENCY UC-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 10		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE MOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF MOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
50.0	0.0		Dirty Clay		1	Drilled to 50.0'
49.0	1.0		Clay		2-14	Reamed 88' 50.1'
48.0	2.0		Clay		3-11	52.11
47.0	3.0		Clay			Rec. 1.0'
46.0	4.0		Clay			Lost 0.3' from Bottom of core
45.0	5.0		Clay			Rep. 45.0'-53.0'
44.0	6.0		Clay			
43.0	7.0		Clay			
42.0	8.0		Clay			
41.0	9.0		Clay			
40.0	10.0		Clay			
39.0	11.0		Clay			
38.0	12.0		Clay			
37.0	13.0		Clay			
36.0	14.0		Clay			
35.0	15.0		Clay			
34.0	16.0		Clay			
33.0	17.0		Clay			
32.0	18.0		Clay			
31.0	19.0		Clay			
30.0	20.0		Clay			
29.0	21.0		Clay			
28.0	22.0		Clay			
27.0	23.0		Clay			
26.0	24.0		Clay			
25.0	25.0		Clay			
24.0	26.0		Clay			
23.0	27.0		Clay			
22.0	28.0		Clay			
21.0	29.0		Clay			
20.0	30.0		Clay			
19.0	31.0		Clay			
18.0	32.0		Clay			
17.0	33.0		Clay			
16.0	34.0		Clay			
15.0	35.0		Clay			
14.0	36.0		Clay			
13.0	37.0		Clay			
12.0	38.0		Clay			
11.0	39.0		Clay			
10.0	40.0		Clay			
9.0	41.0		Clay			
8.0	42.0		Clay			
7.0	43.0		Clay			
6.0	44.0		Clay			
5.0	45.0		Clay			
4.0	46.0		Clay			
3.0	47.0		Clay			
2.0	48.0		Clay			
1.0	49.0		Clay			
0.0	50.0		Clay			

DRILLING LOG		VISION MAD	INSTALLATION OMAHA	No. 1 SHEET OF 13 SHEETS
1. PROJECT NIR20 <u>Monticane Well Installation Proj.</u>		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FBN or MSL)		
3. DRILLING AGENCY USACE		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title) and file number: 10		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
60.0			Silty clayey sand (SMSC)			Drilled to 60.0' BSL settled 60.0' Purged 60.1 to 60.1'
61.0			Med. Dense to tough part. 1/2 clayey sand (SMSC)		D16 60.0-60.0'	Rep. 60.0-63.0'
62.0			Med. Dense Sand (SMSC)			
63.0			1/2 coarse. coarse sand and fine gravel			
64.0			1 clayey approx. 1/2 clayey approx.			
65.0			Slight decrease in amt of sand clayey approx. 1/2		D17 65.1-65.1'	Drilled to 65.1' BSL settled 65.1' Purged 65.3-65.5'
66.0					D18 65.6-65.6'	Purged was stopped @ 65.5 bit could go no deeper
67.0						Rep. 63.0-65.6'
68.0						Rep. 65.6-68.0'

DRILLING LOG		STATION MRD	INSTALLATION OMAHA	SHEET 5 of 12 SHEETS
1. PROJECT NRCC Non-Tearing Wren - Installation		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 10		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc. if significant)
80.0	0.0		Gravelly Sand		Box 1	Drilled to 80.0'
81.0	1.0		Red Sandstone Non-plastic 1.2. calc. Silty Red clay Silty Sand fine to med Occasional Small fine Round to sub Max dia 1/2"		Box 2	Placed 80.0'-81.6' Rec. 0.8' Low recovery Overburden Jamming in section Finger bits Rep. 79.2'-81.0'
84.0	4.0		Gravelly Sand Non-plastic 1.2. calc. Silty Red clay Silty Sand fine to med Occasional Small fine Round to sub Max dia 1/2"		Box 3	Drilled to 85.0'
85.0	5.0		Sandy Clay		Box 4	Drilled to 85.0'
86.0	6.0		Sandy Clay		Box 5	Drilled to 86.0'
87.0	7.0		Sandy Clay		Box 6	Drilled to 87.0'
88.0	8.0		Sandy Clay		Box 7	Drilled to 88.0'
89.0	9.0		Sandy Clay		Box 8	Drilled to 89.0'
90.0	10.0		Sandy Clay		Box 9	Drilled to 90.0'
91.0	11.0		Sandy Clay		Box 10	Drilled to 91.0'
92.0	12.0		Sandy Clay		Box 11	Drilled to 92.0'
93.0	13.0		Sandy Clay		Box 12	Drilled to 93.0'
94.0	14.0		Sandy Clay		Box 13	Drilled to 94.0'
95.0	15.0		Sandy Clay		Box 14	Drilled to 95.0'
96.0	16.0		Sandy Clay		Box 15	Drilled to 96.0'
97.0	17.0		Sandy Clay		Box 16	Drilled to 97.0'
98.0	18.0		Sandy Clay		Box 17	Drilled to 98.0'
99.0	19.0		Sandy Clay		Box 18	Drilled to 99.0'
100.0	20.0		Sandy Clay		Box 19	Drilled to 100.0'

DRILLING LOG		STATION	INSTALLATION	SHEET 11
PROJECT		OF 12 SHEETS		
LOCATION (Commerical or Station)		10. SIZE AND TYPE OF BIT	11. DATUM FOR ELEVATION SHOWN (TBM or MSL)	
DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
MOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
DIRECTION OF MOLE		15. ELEVATION GROUND WATER		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		16. DATE MOLE	STARTED	COMPLETED
THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF MOLE		
DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
TOTAL DEPTH OF MOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilled loss, water loss, depth of weathering, etc., if significant)
100.0	0		Gravelly Silty Sand			Drilled to 100.0'
100.0	0.5		1.0' Sand		027	Drilled to 100.5'
100.0	1.0		1.0' Sand		100.0	100.0' - 101.5' w/ 200 lbs Hammer
100.0	1.5		1.0' Sand		100.5	100.5' - 102.0' w/ 200 lbs Hammer
100.0	2.0		1.0' Sand			Rep 100.0' - 103.0'
100.0	3.0		1.0' Sand			
100.0	4.0		1.0' Sand			
100.0	5.0		1.0' Sand			
100.0	6.0		1.0' Sand			
100.0	7.0		1.0' Sand			
100.0	8.0		1.0' Sand			
100.0	9.0		1.0' Sand			
100.0	10.0		1.0' Sand			
100.0	11.0		1.0' Sand			
100.0	12.0		1.0' Sand			
100.0	13.0		1.0' Sand			
100.0	14.0		1.0' Sand			
100.0	15.0		1.0' Sand			
100.0	16.0		1.0' Sand			
100.0	17.0		1.0' Sand			
100.0	18.0		1.0' Sand			
100.0	19.0		1.0' Sand			
100.0	20.0		1.0' Sand			
100.0	21.0		1.0' Sand			
100.0	22.0		1.0' Sand			
100.0	23.0		1.0' Sand			
100.0	24.0		1.0' Sand			
100.0	25.0		1.0' Sand			
100.0	26.0		1.0' Sand			
100.0	27.0		1.0' Sand			
100.0	28.0		1.0' Sand			
100.0	29.0		1.0' Sand			
100.0	30.0		1.0' Sand			
100.0	31.0		1.0' Sand			
100.0	32.0		1.0' Sand			
100.0	33.0		1.0' Sand			
100.0	34.0		1.0' Sand			
100.0	35.0		1.0' Sand			
100.0	36.0		1.0' Sand			
100.0	37.0		1.0' Sand			
100.0	38.0		1.0' Sand			
100.0	39.0		1.0' Sand			
100.0	40.0		1.0' Sand			
100.0	41.0		1.0' Sand			
100.0	42.0		1.0' Sand			
100.0	43.0		1.0' Sand			
100.0	44.0		1.0' Sand			
100.0	45.0		1.0' Sand			
100.0	46.0		1.0' Sand			
100.0	47.0		1.0' Sand			
100.0	48.0		1.0' Sand			
100.0	49.0		1.0' Sand			
100.0	50.0		1.0' Sand			
100.0	51.0		1.0' Sand			
100.0	52.0		1.0' Sand			
100.0	53.0		1.0' Sand			
100.0	54.0		1.0' Sand			
100.0	55.0		1.0' Sand			
100.0	56.0		1.0' Sand			
100.0	57.0		1.0' Sand			
100.0	58.0		1.0' Sand			
100.0	59.0		1.0' Sand			
100.0	60.0		1.0' Sand			
100.0	61.0		1.0' Sand			
100.0	62.0		1.0' Sand			
100.0	63.0		1.0' Sand			
100.0	64.0		1.0' Sand			
100.0	65.0		1.0' Sand			
100.0	66.0		1.0' Sand			
100.0	67.0		1.0' Sand			
100.0	68.0		1.0' Sand			
100.0	69.0		1.0' Sand			
100.0	70.0		1.0' Sand			
100.0	71.0		1.0' Sand			
100.0	72.0		1.0' Sand			
100.0	73.0		1.0' Sand			
100.0	74.0		1.0' Sand			
100.0	75.0		1.0' Sand			
100.0	76.0		1.0' Sand			
100.0	77.0		1.0' Sand			
100.0	78.0		1.0' Sand			
100.0	79.0		1.0' Sand			
100.0	80.0		1.0' Sand			
100.0	81.0		1.0' Sand			
100.0	82.0		1.0' Sand			
100.0	83.0		1.0' Sand			
100.0	84.0		1.0' Sand			
100.0	85.0		1.0' Sand			
100.0	86.0		1.0' Sand			
100.0	87.0		1.0' Sand			
100.0	88.0		1.0' Sand			
100.0	89.0		1.0' Sand			
100.0	90.0		1.0' Sand			
100.0	91.0		1.0' Sand			
100.0	92.0		1.0' Sand			
100.0	93.0		1.0' Sand			
100.0	94.0		1.0' Sand			
100.0	95.0		1.0' Sand			
100.0	96.0		1.0' Sand			
100.0	97.0		1.0' Sand			
100.0	98.0		1.0' Sand			
100.0	99.0		1.0' Sand			
100.0	100.0		1.0' Sand			

DRILLING LOG		INSTALLATION	SHEET OF SHEETS
1. PROJECT M&D Non-ferrous Well		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF MOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE MOLE STARTED _____ COMPLETED _____	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE	
9. TOTAL DEPTH OF MOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
110.0			Silty Sand		529	Drilled to 110.0'
111.0			Med. Sand		110.0-111.1'	Down 2' dia split spoon #109.7-111.5' w/ 300 lbs Hammer
112.0			Non-pet.			Rep. 1.1'
113.0			S. Silty Sand			Rep. 107.0'-114.0'
114.0			Med. Sand			Started encountering increased resistance to drilling @ approx 114.0'
114.0			(Weathered Bedrock)			Bedrock contact @ approx. 114.0'
115.0			Sandstone		520	Drilled to 115.0'
116.0			Thin bedded		116.0-116.7'	Attempted sample w/ no recovery due to v. dense nature of material being very friable and fragments of clay were being encountered
117.0			Med. Sand			Drilled to 116.0'
118.0			Med. Sand			Completed w/ 2' dia split spoon 116.0-116.7'
119.0			Med. Sand			Encountered increased resistance to drilling
120.0			Med. Sand			Terminated drilling @ 116.0' on 5-26-53
121.0			Med. Sand			Recovered 0.1' on 5-26-53 @ 115.5'
122.0			Med. Sand			Below top of ground

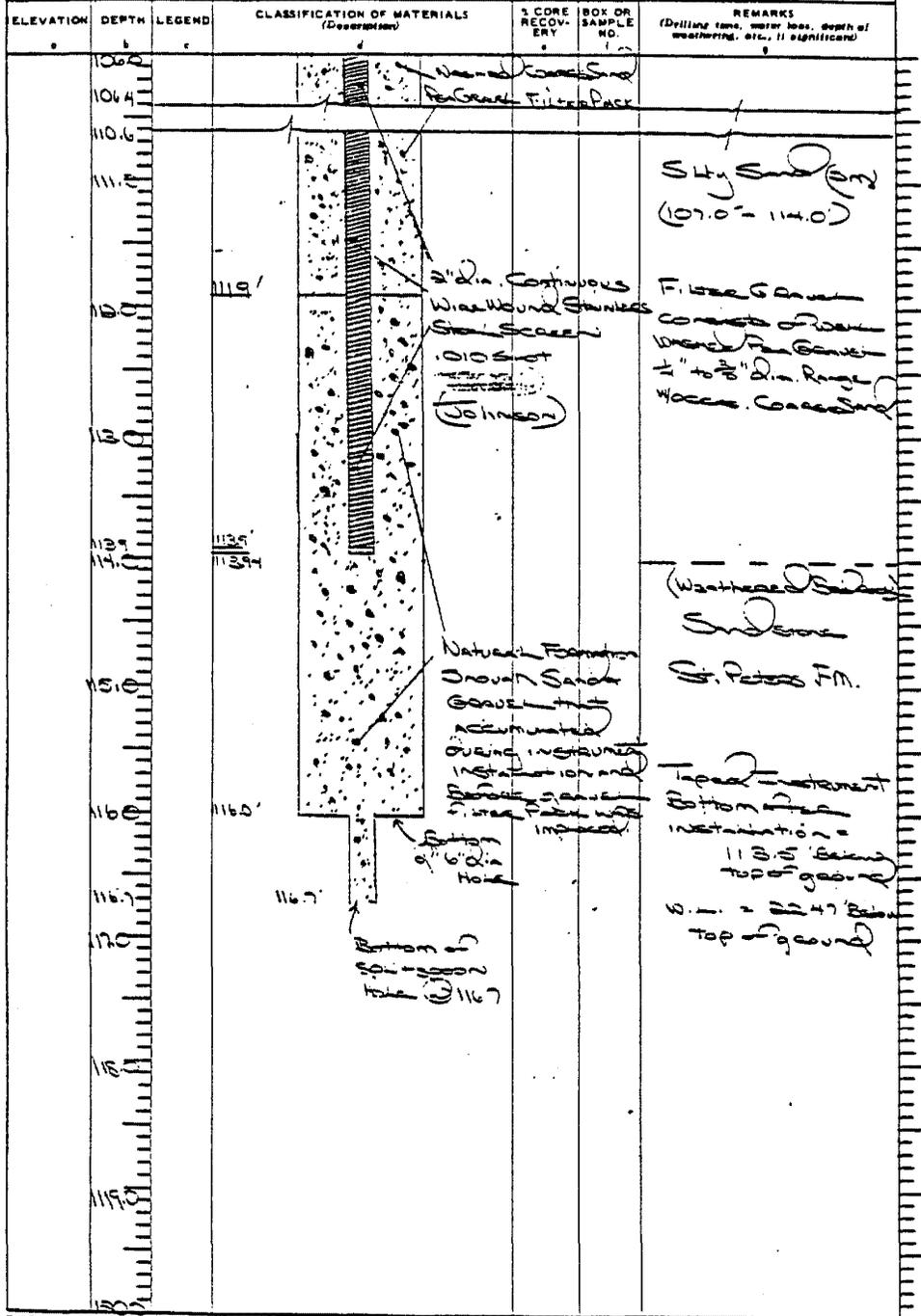
DRILLING LOG		DIVISION MBO	INSTALLATION MBO	SHEET 2
1. PROJECT NIRSD Monitoring Well Installation		10. SIZE AND TYPE OF BIT 1 1/2" Single Flute		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MSL) MSL		
3. DRILLING AGENCY USACE		12. MANUFACTURER'S DESIGNATION OF DRILL Fairbanks 1500		
4. HOLE NO. (As shown on drawing title and file number) 10		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN 20	DISTURBED UNDISTURBED	20
5. NAME OF DRILLER KDDM		14. TOTAL NUMBER CORE BOXES 1		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER 2201'		
7. THICKNESS OF OVERBURDEN 114.5' minimum		16. DATE HOLE STARTED 5-2-73	COMPLETED 6-1-73	
8. DEPTH DRILLED INTO ROCK 27'		17. ELEVATION TOP OF HOLE 2201'		
9. TOTAL DEPTH OF HOLE 142'		18. TOTAL CORE RECOVERY FOR BORING 3		
		19. SIGNATURE OF INSPECTOR M. H. ...		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
2201'	0'		4" dia. Steel Protective Casing w/ casing			
2185'	16'		Standard 2" dia. Galvanized Steel Pipe			2" dia. Instrument Pipe Permanent Struck 1.6'
2170'	31'		Standard 2" dia. Galvanized Steel Pipe			Casing Painted International Safety Orange
2155'	46'		Household 6" Portland Cement			1' below ground
2140'	61'		Household 6" Portland Cement			Topsoil 0.4
2125'	76'		Household 6" Portland Cement			Silty sand 0.4
2110'	91'		Household 6" Portland Cement			Silty clay 0.4
2095'	106'		Household 6" Portland Cement			0.4
2080'	121'		Household 6" Portland Cement			0.4
2065'	136'		Household 6" Portland Cement			0.4
2050'	151'		Household 6" Portland Cement			0.4
2035'	166'		Household 6" Portland Cement			0.4
2020'	181'		Household 6" Portland Cement			0.4
2005'	196'		Household 6" Portland Cement			0.4
1990'	211'		Household 6" Portland Cement			0.4
1975'	226'		Household 6" Portland Cement			0.4
1960'	241'		Household 6" Portland Cement			0.4
1945'	256'		Household 6" Portland Cement			0.4
1930'	271'		Household 6" Portland Cement			0.4
1915'	286'		Household 6" Portland Cement			0.4
1900'	301'		Household 6" Portland Cement			0.4
1885'	316'		Household 6" Portland Cement			0.4
1870'	331'		Household 6" Portland Cement			0.4
1855'	346'		Household 6" Portland Cement			0.4
1840'	361'		Household 6" Portland Cement			0.4
1825'	376'		Household 6" Portland Cement			0.4
1810'	391'		Household 6" Portland Cement			0.4
1795'	406'		Household 6" Portland Cement			0.4
1780'	421'		Household 6" Portland Cement			0.4
1765'	436'		Household 6" Portland Cement			0.4
1750'	451'		Household 6" Portland Cement			0.4
1735'	466'		Household 6" Portland Cement			0.4
1720'	481'		Household 6" Portland Cement			0.4
1705'	496'		Household 6" Portland Cement			0.4
1690'	511'		Household 6" Portland Cement			0.4
1675'	526'		Household 6" Portland Cement			0.4
1660'	541'		Household 6" Portland Cement			0.4
1645'	556'		Household 6" Portland Cement			0.4
1630'	571'		Household 6" Portland Cement			0.4
1615'	586'		Household 6" Portland Cement			0.4
1600'	601'		Household 6" Portland Cement			0.4
1585'	616'		Household 6" Portland Cement			0.4
1570'	631'		Household 6" Portland Cement			0.4
1555'	646'		Household 6" Portland Cement			0.4
1540'	661'		Household 6" Portland Cement			0.4
1525'	676'		Household 6" Portland Cement			0.4
1510'	691'		Household 6" Portland Cement			0.4
1495'	706'		Household 6" Portland Cement			0.4
1480'	721'		Household 6" Portland Cement			0.4
1465'	736'		Household 6" Portland Cement			0.4
1450'	751'		Household 6" Portland Cement			0.4
1435'	766'		Household 6" Portland Cement			0.4
1420'	781'		Household 6" Portland Cement			0.4
1405'	796'		Household 6" Portland Cement			0.4
1390'	811'		Household 6" Portland Cement			0.4
1375'	826'		Household 6" Portland Cement			0.4
1360'	841'		Household 6" Portland Cement			0.4
1345'	856'		Household 6" Portland Cement			0.4
1330'	871'		Household 6" Portland Cement			0.4
1315'	886'		Household 6" Portland Cement			0.4
1300'	901'		Household 6" Portland Cement			0.4
1285'	916'		Household 6" Portland Cement			0.4
1270'	931'		Household 6" Portland Cement			0.4
1255'	946'		Household 6" Portland Cement			0.4
1240'	961'		Household 6" Portland Cement			0.4
1225'	976'		Household 6" Portland Cement			0.4
1210'	991'		Household 6" Portland Cement			0.4
1195'	1006'		Household 6" Portland Cement			0.4
1180'	1021'		Household 6" Portland Cement			0.4
1165'	1036'		Household 6" Portland Cement			0.4
1150'	1051'		Household 6" Portland Cement			0.4
1135'	1066'		Household 6" Portland Cement			0.4
1120'	1081'		Household 6" Portland Cement			0.4
1105'	1096'		Household 6" Portland Cement			0.4
1090'	1111'		Household 6" Portland Cement			0.4
1075'	1126'		Household 6" Portland Cement			0.4
1060'	1141'		Household 6" Portland Cement			0.4
1045'	1156'		Household 6" Portland Cement			0.4
1030'	1171'		Household 6" Portland Cement			0.4
1015'	1186'		Household 6" Portland Cement			0.4
1000'	1201'		Household 6" Portland Cement			0.4
985'	1216'		Household 6" Portland Cement			0.4
970'	1231'		Household 6" Portland Cement			0.4
955'	1246'		Household 6" Portland Cement			0.4
940'	1261'		Household 6" Portland Cement			0.4
925'	1276'		Household 6" Portland Cement			0.4
910'	1291'		Household 6" Portland Cement			0.4
895'	1306'		Household 6" Portland Cement			0.4
880'	1321'		Household 6" Portland Cement			0.4
865'	1336'		Household 6" Portland Cement			0.4
850'	1351'		Household 6" Portland Cement			0.4
835'	1366'		Household 6" Portland Cement			0.4
820'	1381'		Household 6" Portland Cement			0.4
805'	1396'		Household 6" Portland Cement			0.4
790'	1411'		Household 6" Portland Cement			0.4
775'	1426'		Household 6" Portland Cement			0.4

DRILLING LOG		DIVISION <i>M&M</i>	INSTALLATION <i>M&M</i>	SHEET <i>2</i> OF 3 SHEETS
1. PROJECT <i>MONITORING WELL</i>		10. SIZE AND TYPE OF BIT		
2. LOCATION (To <i>Coordinate or Station</i>) <i>N1000</i>		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY <i>US-CE-2</i>		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) <i>10</i>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING	19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE				

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
81.0	0.0					5.4 (2.7) 2.79.2
80.0	1.0					7.2 (3.6) 3.6.0
79.0	2.0					8.1 (4.05) 4.05.0
78.0	3.0					9.0 (4.5) 4.5.0
77.0	4.0					9.9 (4.95) 4.95.0
76.0	5.0					10.8 (5.4) 5.4.0
75.0	6.0					11.7 (5.85) 5.85.0
74.0	7.0					12.6 (6.3) 6.3.0
73.0	8.0					13.5 (6.75) 6.75.0
72.0	9.0					14.4 (7.2) 7.2.0
71.0	10.0					15.3 (7.65) 7.65.0
70.0	11.0					16.2 (8.1) 8.1.0
69.0	12.0					17.1 (8.55) 8.55.0
68.0	13.0					18.0 (9.0) 9.0.0
67.0	14.0					18.9 (9.45) 9.45.0
66.0	15.0					19.8 (9.9) 9.9.0
65.0	16.0					20.7 (10.35) 10.35.0
64.0	17.0					21.6 (10.8) 10.8.0
63.0	18.0					22.5 (11.25) 11.25.0
62.0	19.0					23.4 (11.7) 11.7.0
61.0	20.0					24.3 (12.15) 12.15.0
60.0	21.0					25.2 (12.6) 12.6.0
59.0	22.0					26.1 (13.05) 13.05.0
58.0	23.0					27.0 (13.5) 13.5.0
57.0	24.0					27.9 (13.95) 13.95.0
56.0	25.0					28.8 (14.4) 14.4.0
55.0	26.0					29.7 (14.85) 14.85.0
54.0	27.0					30.6 (15.3) 15.3.0
53.0	28.0					31.5 (15.75) 15.75.0
52.0	29.0					32.4 (16.2) 16.2.0
51.0	30.0					33.3 (16.65) 16.65.0
50.0	31.0					34.2 (17.1) 17.1.0
49.0	32.0					35.1 (17.55) 17.55.0
48.0	33.0					36.0 (18.0) 18.0.0
47.0	34.0					36.9 (18.45) 18.45.0
46.0	35.0					37.8 (18.9) 18.9.0
45.0	36.0					38.7 (19.35) 19.35.0
44.0	37.0					39.6 (19.8) 19.8.0
43.0	38.0					40.5 (20.25) 20.25.0
42.0	39.0					41.4 (20.7) 20.7.0
41.0	40.0					42.3 (21.15) 21.15.0
40.0	41.0					43.2 (21.6) 21.6.0
39.0	42.0					44.1 (22.05) 22.05.0
38.0	43.0					45.0 (22.5) 22.5.0
37.0	44.0					45.9 (22.95) 22.95.0
36.0	45.0					46.8 (23.4) 23.4.0
35.0	46.0					47.7 (23.85) 23.85.0
34.0	47.0					48.6 (24.3) 24.3.0
33.0	48.0					49.5 (24.75) 24.75.0
32.0	49.0					50.4 (25.2) 25.2.0
31.0	50.0					51.3 (25.65) 25.65.0
30.0	51.0					52.2 (26.1) 26.1.0
29.0	52.0					53.1 (26.55) 26.55.0
28.0	53.0					54.0 (27.0) 27.0.0
27.0	54.0					54.9 (27.45) 27.45.0
26.0	55.0					55.8 (27.9) 27.9.0
25.0	56.0					56.7 (28.35) 28.35.0
24.0	57.0					57.6 (28.8) 28.8.0
23.0	58.0					58.5 (29.25) 29.25.0
22.0	59.0					59.4 (29.7) 29.7.0
21.0	60.0					60.3 (30.15) 30.15.0
20.0	61.0					61.2 (30.6) 30.6.0
19.0	62.0					62.1 (31.05) 31.05.0
18.0	63.0					63.0 (31.5) 31.5.0
17.0	64.0					63.9 (31.95) 31.95.0
16.0	65.0					64.8 (32.4) 32.4.0
15.0	66.0					65.7 (32.85) 32.85.0
14.0	67.0					66.6 (33.3) 33.3.0
13.0	68.0					67.5 (33.75) 33.75.0
12.0	69.0					68.4 (34.2) 34.2.0
11.0	70.0					69.3 (34.65) 34.65.0
10.0	71.0					70.2 (35.1) 35.1.0
9.0	72.0					71.1 (35.55) 35.55.0
8.0	73.0					72.0 (36.0) 36.0.0
7.0	74.0					72.9 (36.45) 36.45.0
6.0	75.0					73.8 (36.9) 36.9.0
5.0	76.0					74.7 (37.35) 37.35.0
4.0	77.0					75.6 (37.8) 37.8.0
3.0	78.0					76.5 (38.25) 38.25.0
2.0	79.0					77.4 (38.7) 38.7.0
1.0	80.0					78.3 (39.15) 39.15.0
0.0	81.0					79.2 (39.6) 39.6.0

DRILLING LOG		DIVISION	INSTALLATION	SHEET
PROJECT		MONITORING WELL		OF 3 SHEETS
LOCATION (Coordinates or Station)			10. SIZE AND TYPE OF BIT	
3. DRILLING AGENCY			11. DATUM FOR ELEVATION SHOWN (FBM or MSL)	
4. HOLE NO. (As shown on drawing title and file number)		10	12. MANUFACTURER'S DESIGNATION OF DRILL	
5. NAME OF DRILLER			13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
6. DIRECTION OF HOLE			14. TOTAL NUMBER CORE BOXES	
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE MOLE	STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF MOLE	
9. TOTAL DEPTH OF MOLE			18. TOTAL CORE RECOVERY FOR BORING	1
			19. SIGNATURE OF INSPECTOR	



DRILLING I		DIVISION MRE	INSTALLATION OMAHA	OF 15 SHEETS
1. PROJECT MONITORING WELL NICEP INSTALLATION #203		10. SIZE AND TYPE OF BIT 7/8" DIA. 7/8" LONG 5/16" DIA.		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION MEASUREMENT M.S.L.		
3. DRILLING AGENCY US-CEC		12. MANUFACTURER'S DESIGNATION OF DRILL SOKRAM 44 M-6001 D-53		
4. HOLE NO. (As shown on drawing title and file number) PC-1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED: 0 UNDISTURBED: 0		
5. NAME OF DRILLER DAN KAPOR 1170- At Down East 20-1100 Team trained to 11810'		14. TOTAL NUMBER CORE BOXES 5		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER 202' DEPTH		
7. THICKNESS OF OVERBURDEN 129.4		16. DATE MOLE STARTED: 11/23/73 COMPLETED: 11/23/73		
8. DEPTH DRILLED INTO ROCK 76.6		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 206.0		18. TOTAL CORE RECOVERY FOR BORING 98.1		
		19. SIGNATURE OF INSPECTOR Charles P. [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of penetration, etc., if significant)
110.0	0		GRAVELLY SAND (SP) V. DENSE NO PLASTICITY SILTSTONE TO U.S.C. CALCAREOUS SATURATED MED. GRAY MOTTLED TAN SAND FINE TO MED SILTY W/ LOCAL COARSE SAND GRAVEL FINE TO COARSE MOTTLED FINE			LOG SAME AS D-5 TO 110.4 8-7-73 DRAINAGE PATTERN 0.0-118' W/ A SCHEDULE DRAINAGE USING 7 3/4" I.D. COARSE TUBING REAMED HOLES W/ 1 1/2" I.D. CORE BOXES 7-2-73 RE-GRANDED MOLE TO 112' AT 118' 5' - 118' 1/2" CASING
113.8	38.2		SH. DARK SANDSTONE V. HIGHLY WEATHERED V. DENSE NO PLASTICITY V. SILTY - SILTY POORLY CEMENTED SILTY SANDY SILTY SAND GREEN STAIN (FRESHLY A SHELF)			DRILL CHANGED SANDSTONE 118' TO 113.8' 7-2-73
114.0	40.0		GRAVELLY SAND (SP) V. DENSE NO PLASTICITY SILTSTONE TO U.S.C. CALCAREOUS SATURATED MED. GRAY MOTTLED TAN SAND FINE TO MED SILTY W/ LOCAL COARSE SAND GRAVEL FINE TO COARSE MOTTLED FINE			7-6-73 TRIFOLD CORE SANDSTONE 60' TO 112' 1/2" CAUSING 7-2-73

DRILLING LOG		DIVISION MED	INSTALLATION DAMP	SHEET 2 OF 10 SHEETS
1. PROJECT MONITORING WELL WIND JUSTIFICATION PROJ		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Plot)		11. DATUM FOR ELEVATION SHOWN (Type of Mark)		
3. DRILLING AGENCY MS-CE-C		12. MANUFACTURER'S DENOMINATION OF DRILL		
4. HOLE NO. (As shown on ground map and file number) 7C-1		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE	COMPLETED	
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR Richard P. [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Continuation)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water level, depth of weathering, etc., if applicable)
1200			GRAVELLY SAND (SP) V. DENSE NO PLASTICITY SILTIONS TO V. SL. CALCAREOUS SATURATED MED. GRAY W/ BROWN TINGE SAND: FINE TO MED SILTY			8-7-83 PUSHED 4" DSA CASING TO 1250' USING 2 3/4" DSA 723 CONE ROCK BIT DRILLED TO 1300' HITTING SANDSTONE @ 1274' CONTINUED TO 1300' SWITCHED TO NR 2 3/4" DIA DIAMOND CURE BIT CONTINUED DRILLING W/ WATER LOSS
1210						
1220						
1230			W/ COCS COARSE SAND GRAVEL FINE TO COARSE - MOSTLY FINE			
1240						
1250			ST. PETER SANDSTONE MOD WEATHERED V. DENSE MOD HARD V. SILTIONS - SILTIONS WELL CEMENTED SATURATED MOTTLED RED GRAY AND YELLOW SILTY SAND FINE			
1260						
1270						
1280						
1290						
1300						

DRILLING LOG		DIVISION MRD	INSTALLATION DANA	PHOTO NO.	SHEET 3 OF 10 SHEETS
1. PROJECT MONITORING WELL NTRSD INVESTIGATION PADS			10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Section)			11. DATUM FOR ELEVATION SHOWN (FIM - MSL)		
3. DRILLING AGENCY US-EC-C			12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number) 76-1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN			16. DATE HOLE		STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING		%
			19. SIGNATURE OF INSPECTOR <i>Richard C. [unclear]</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if applicable)
1300			ST. PETER SANDSTONE		Box #3	
			MOD WEATHERED		RW 1	
1304		X	V. DENSE		D 10	
1302		X	MOD HARD		R 015	
1310			V. SILTIONS -		Box 3	
			SILTIONS		RW 2	
			WELL SORTED			
			SATURATED			
1320			FRACTURED -			
1321			V FRACTURED			
			MOTTLED RED,			
1327		FRACT	GRAY, AND YELLOW			
1330						
1335		FRACT	SILT			
1340			FINE SAND			
1345		FRACT	MORE GRANULAR			
1350			YELLOW ORANGE			
1355		FRACT				
1360			MOTTLED RED			
1365		FRACT	GRAY YELLOW			
1370		FRACT	V FINE GRAINED			
1375		FRACT				
1380		FRACT				
1385						
1390		FRACT				
1395						
1400		FRACT				
1405						
1410		FRACT				
1415						
1420		FRACT				
1425						
1430		FRACT				
1435						
1440		FRACT				
						LOST CIRCULATION 2.10 GAL MIN

DRILLING LOG		DIVISION MRD	WE ALLATION DANA H	SHEET 5 OF 10 SHEETS
1. PROJECT ADVERTISING WELL WIRE LOG INSTALLATION PRD		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TYPE OF B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing and also number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>P. J. ...</i>		

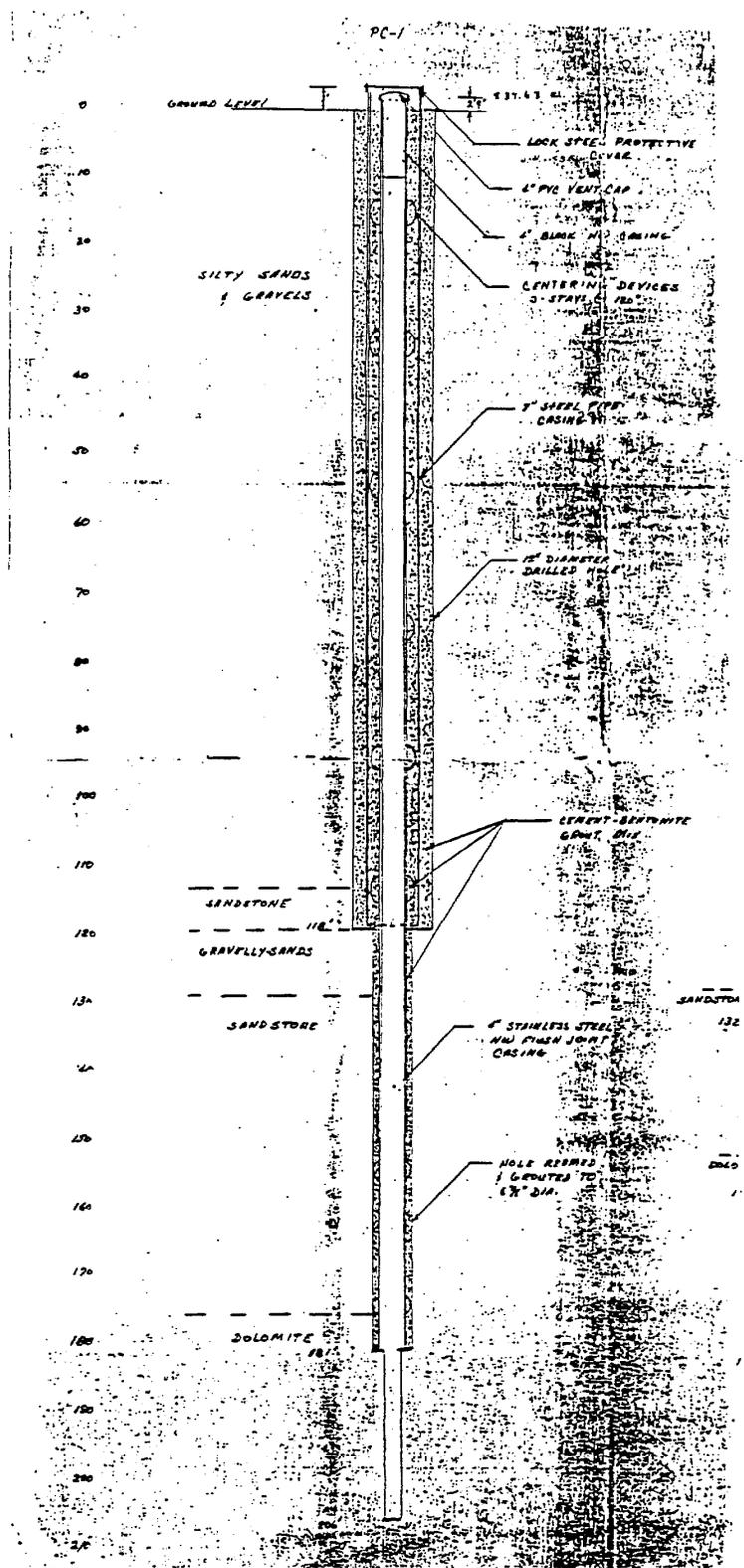
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if applicable)
150.0	150.0	X	ST PETERS SANDSTONE			
150.5	150.5		MOD. WEATHERED			
151.0	151.0		V. DENSE	D50	R4B	
151.5	151.5		MOD. HARD	R26		
152.0	152.0		CON. SILTCLON	B24		
152.5	152.5		SATURATED			
153.0	153.0		FRAGMENTED			
153.5	153.5		V. FRACTURED			
154.0	154.0		MOTTLED RED, GRAY, YELLOW			
154.5	154.5		SILTY			
155.0	155.0		FINE SAND			
155.5	155.5		W/ FRAGMENTS OF HIGHLY WEATHERED SANDY DOLOMITE			
156.0	156.0					
156.5	156.5					
157.0	157.0					
157.5	157.5					
158.0	158.0					
158.5	158.5					
159.0	159.0					
159.5	159.5					
160.0	160.0					
160.5	160.5					
161.0	161.0					
161.5	161.5					
162.0	162.0					
162.5	162.5					
163.0	163.0					
163.5	163.5					
164.0	164.0					
164.5	164.5					
165.0	165.0					
165.5	165.5					
166.0	166.0					
166.5	166.5					
167.0	167.0					
167.5	167.5					
168.0	168.0					
168.5	168.5					
169.0	169.0					
169.5	169.5					
170.0	170.0					
170.5	170.5					
171.0	171.0					
171.5	171.5					
172.0	172.0					
172.5	172.5					
173.0	173.0					
173.5	173.5					
174.0	174.0					
174.5	174.5					
175.0	175.0					
175.5	175.5					
176.0	176.0					
176.5	176.5					
177.0	177.0					
177.5	177.5					
178.0	178.0					
178.5	178.5					
179.0	179.0					
179.5	179.5					
180.0	180.0					
180.5	180.5					
181.0	181.0					
181.5	181.5					
182.0	182.0					
182.5	182.5					
183.0	183.0					
183.5	183.5					
184.0	184.0					
184.5	184.5					
185.0	185.0					
185.5	185.5					
186.0	186.0					
186.5	186.5					
187.0	187.0					
187.5	187.5					
188.0	188.0					
188.5	188.5					
189.0	189.0					
189.5	189.5					
190.0	190.0					
190.5	190.5					
191.0	191.0					
191.5	191.5					
192.0	192.0					
192.5	192.5					
193.0	193.0					
193.5	193.5					
194.0	194.0					
194.5	194.5					
195.0	195.0					
195.5	195.5					
196.0	196.0					
196.5	196.5					
197.0	197.0					
197.5	197.5					
198.0	198.0					
198.5	198.5					
199.0	199.0					
199.5	199.5					
200.0	200.0					

DRILLING 1		DIVISION ARD	INSTALLATION OAMA	OF 10 SHEETS
1. PROJECT NIEP INVESTIGATION PROJ.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Section)		11. DATUM FOR ELEVATION BROWN (TBM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing and BHA number) PC-1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		5
		19. SIGNATURE OF INSPECTOR Richard P. Dean		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if applicable)
100.0						
100.2						
100.4						
100.6						
100.8				25.0		
101.0				25.0		
101.2						
101.4						
101.6						
101.8						
102.0						
102.2						
102.4						
102.6						
102.8						
103.0						
103.2						
103.4						
103.6						
103.8						
104.0						
104.2						
104.4						
104.6						
104.8						
105.0						
105.2						
105.4						
105.6						
105.8						
106.0						
106.2						
106.4						
106.6						
106.8						
107.0						
107.2						
107.4						
107.6						
107.8						
108.0						
108.2						
108.4						
108.6						
108.8						
109.0						
109.2						
109.4						
109.6						
109.8						
110.0						
110.2						
110.4						
110.6						
110.8						
111.0						
111.2						
111.4						
111.6						
111.8						
112.0						
112.2						
112.4						
112.6						
112.8						
113.0						
113.2						
113.4						
113.6						
113.8						
114.0						
114.2						
114.4						
114.6						
114.8						
115.0						
115.2						
115.4						
115.6						
115.8						
116.0						
116.2						
116.4						
116.6						
116.8						
117.0						
117.2						
117.4						
117.6						
117.8						
118.0						
118.2						
118.4						
118.6						
118.8						
119.0						
119.2						
119.4						
119.6						
119.8						
120.0						

DRILLING LOG		DIVISION M&D	0 HMA NA	OF 10 SHEETS
1. PROJECT NAME M&D INSTALL P&S		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Section)		11. DAY OF YEAR FOR ELEVATION SHOWING (M or BM)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number) PC-1		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE STARTED	COMPLETED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if applicable)
2000						
2005		FRAC	TRAPEZIC GRANITE			
2010		FRAC	MOD. WEATHERED			
2015		FRAC	V. DENSE HARD-V. HARD	D 50 A 50		
2018		FRAC	V. SLIGHTLY CAL.	PWS		
2019		FRAC	SATURATED	S&M		
2020		FRAC	LT GRAY			
2021		FRAC	FRAC. FRAC.			
2022		FRAC	V. FINE GRAINED			
2023		FRAC	MASSIVE			
2024		FRAC				
2025		FRAC				
2026		FRAC				
2027		FRAC				
2028		FRAC				
2029		FRAC				
2030		FRAC				
2031		FRAC				
2032		FRAC				
2033		FRAC				
2034		FRAC				
2035		FRAC				
2036		FRAC				
2037		FRAC				
2038		FRAC				
2039		FRAC				
2040		FRAC				
2041		FRAC				
2042		FRAC				
2043		FRAC				
2044		FRAC				
2045		FRAC				
2046		FRAC				
2047		FRAC				
2048		FRAC				
2049		FRAC				
2050		FRAC				
2051		FRAC				
2052		FRAC				
2053		FRAC				
2054		FRAC				
2055		FRAC				
2056		FRAC				
2057		FRAC				
2058		FRAC				
2059		FRAC				
2060		FRAC				
2061		FRAC				
2062		FRAC				
2063		FRAC				
2064		FRAC				
2065		FRAC				
2066		FRAC				
2067		FRAC				
2068		FRAC				
2069		FRAC				
2070		FRAC				
2071		FRAC				
2072		FRAC				
2073		FRAC				
2074		FRAC				
2075		FRAC				
2076		FRAC				
2077		FRAC				
2078		FRAC				
2079		FRAC				
2080		FRAC				
2081		FRAC				
2082		FRAC				
2083		FRAC				
2084		FRAC				
2085		FRAC				
2086		FRAC				
2087		FRAC				
2088		FRAC				
2089		FRAC				
2090		FRAC				
2091		FRAC				
2092		FRAC				
2093		FRAC				
2094		FRAC				
2095		FRAC				
2096		FRAC				
2097		FRAC				
2098		FRAC				
2099		FRAC				
2100		FRAC				



DRILLING LOG		DIVISION	INSTALLATION	SHEET		
1. PROJECT		NO. 2	OMEGA	OF 2 SHEETS		
2. LOCATION (Continuation of Station)		11. DATUM FOR ELEVATION SHOWN (FBM or BSL)				
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL				
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN				
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES				
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER				
7. THICKNESS OF OVERBURDEN		16. DATE HOLE				
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE				
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING				
		19. SIGNATURE OF INSPECTOR				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
130.0	0.0	BB'	Silt Sand			Silt Sand (39' - 400')
120.0	10.0	BB'	Centering device			Centering device composed of 3" x 2" lengths of steel pipe attached to pipe at 3' intervals. The chip
110.0	20.0	BB'	Silt Sand			Silt Sand (39' - 400')
100.0	30.0	BB'	Silt Sand			Silt Sand (39' - 400')
90.0	40.0	BB'	Silt Sand			Silt Sand (39' - 400')
80.0	50.0	BB'	Silt Sand			Silt Sand (39' - 400')
70.0	60.0	BB'	Silt Sand			Silt Sand (39' - 400')
60.0	70.0	BB'	Silt Sand			Silt Sand (39' - 400')
50.0	80.0	BB'	Silt Sand			Silt Sand (39' - 400')
40.0	90.0	BB'	Silt Sand			Silt Sand (39' - 400')
30.0	100.0	BB'	Silt Sand			Silt Sand (39' - 400')
20.0	110.0	BB'	Silt Sand			Silt Sand (39' - 400')
10.0	120.0	BB'	Silt Sand			Silt Sand (39' - 400')
0.0	130.0	BB'	Silt Sand			Silt Sand (39' - 400')

DRILLING LOG		INSTALLATION	SHEET 2 OF 4 SHEETS
1. PROJECT MND 102-2-10-10 MND 102-2-10-10		10. SIZE AND TYPE OF BIT 27MM	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSL or MSL)	
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 25		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
100	0		Med. Dune Sand			
95	5		Med. Dune Sand			
90	10		Med. Dune Sand			
85	15		Med. Dune Sand			
80	20		Med. Dune Sand			
75	25		Med. Dune Sand			
70	30		Med. Dune Sand			
65	35		Med. Dune Sand			
60	40		Med. Dune Sand			
55	45		Med. Dune Sand			
50	50		Med. Dune Sand			
45	55		Med. Dune Sand			
40	60		Med. Dune Sand			
35	65		Med. Dune Sand			
30	70		Med. Dune Sand			
25	75		Med. Dune Sand			
20	80		Med. Dune Sand			
15	85		Med. Dune Sand			
10	90		Med. Dune Sand			
5	95		Med. Dune Sand			
0	100		Med. Dune Sand			

DRILLING LOG		HON	INSTALLATION	SHEET 1
1. PROJECT		MON		OF 4 SHEETS
2. LOCATION (Coordinates or Street)		10. SIZE AND TYPE OF BIT		
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (FIM or MSL)		
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
5. NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED
6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		STARTED COMPLETED
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		%
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
30.0	0.0		Silty Sand			
31.0	1.0		Med. Dense Sand			
32.0	2.0		Siltstone			
33.0	3.0		Siltstone			
34.0	4.0		Med. Dense Sand			
35.0	5.0		Med. Dense Sand			
36.0	6.0		Med. Dense Sand			
37.0	7.0		Med. Dense Sand			
38.0	8.0		Med. Dense Sand			
39.0	9.0		Med. Dense Sand			
40.0	10.0		Med. Dense Sand			
						30.4' ACROSS
						75 LBS. BEARING
						(Super Gel)
						Calculations
						Measured Mud
						58 sec API
						9.1 lbs gal
						While drilling to
						40.0' encountered
						chatter zones
						(Possible Gavel Zones)
						Drilled to 40.0'
						Terminated Drilling
						(40.0' on 6222)
						Thinned mud w/
						clean clean water
						Before instant
						Installation.
						Total Hole = 39.5'
						After pulling
						logs.

DRILLING LOG		DIVISION	INSTALLATION	SHEET
PROJECT		MRO	MANA	1 OF 2 SHEETS
LOCATION		Mounting Wall	10. SIZE AND TYPE OF BIT	2 1/2" Polished
DRILLING AGENCY		US-RCR	11. DATUM FOR ELEVATION SHOWN (TBM or BSL)	BT
MOLE NO. (As shown on drawing title and file number)		20	12. MANUFACTURER'S DESIGNATION OF DRILL	MSI
NAME OF DRILLER		KRM	13. TOTAL NO. OF BURDEN SAMPLES TAKEN	DISTURBED: 25 UNDISTURBED: None
DIRECTION OF HOLE		<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED	14. TOTAL NUMBER CORE BOXES	---
THICKNESS OF OVERBURDEN		110'	15. ELEVATION GROUND WATER	221.1'
DEPTH DRILLED INTO ROCK		291	16. DATE MOLE	STARTED: 6-14-83 COMPLETED: 6-22-83
TOTAL DEPTH OF HOLE		1139'	17. ELEVATION TOP OF HOLE	---
			18. TOTAL CORE RECOVERY FOR BORING	---
			19. SIGNATURE OF INSPECTOR	M. J. ...

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
0	0		0.0' - 0.5' Dirty Sand	0%		0.0' - 0.5' Dirty Sand
0	0.5		0.5' - 1.0' Fine sand	0%		0.5' - 1.0' Fine sand
0	1.0		1.0' - 1.5' Coarse sand	0%		1.0' - 1.5' Coarse sand
0	1.5		1.5' - 2.0' Medium sand	0%		1.5' - 2.0' Medium sand
0	2.0		2.0' - 2.5' Fine sand	0%		2.0' - 2.5' Fine sand
0	2.5		2.5' - 3.0' Coarse sand	0%		2.5' - 3.0' Coarse sand
0	3.0		3.0' - 3.5' Medium sand	0%		3.0' - 3.5' Medium sand
0	3.5		3.5' - 4.0' Fine sand	0%		3.5' - 4.0' Fine sand
0	4.0		4.0' - 4.5' Coarse sand	0%		4.0' - 4.5' Coarse sand
0	4.5		4.5' - 5.0' Medium sand	0%		4.5' - 5.0' Medium sand
0	5.0		5.0' - 5.5' Fine sand	0%		5.0' - 5.5' Fine sand
0	5.5		5.5' - 6.0' Coarse sand	0%		5.5' - 6.0' Coarse sand
0	6.0		6.0' - 6.5' Medium sand	0%		6.0' - 6.5' Medium sand
0	6.5		6.5' - 7.0' Fine sand	0%		6.5' - 7.0' Fine sand
0	7.0		7.0' - 7.5' Coarse sand	0%		7.0' - 7.5' Coarse sand
0	7.5		7.5' - 8.0' Medium sand	0%		7.5' - 8.0' Medium sand
0	8.0		8.0' - 8.5' Fine sand	0%		8.0' - 8.5' Fine sand
0	8.5		8.5' - 9.0' Coarse sand	0%		8.5' - 9.0' Coarse sand
0	9.0		9.0' - 9.5' Medium sand	0%		9.0' - 9.5' Medium sand
0	9.5		9.5' - 10.0' Fine sand	0%		9.5' - 10.0' Fine sand
0	10.0		10.0' - 10.5' Coarse sand	0%		10.0' - 10.5' Coarse sand
0	10.5		10.5' - 11.0' Medium sand	0%		10.5' - 11.0' Medium sand
0	11.0		11.0' - 11.5' Fine sand	0%		11.0' - 11.5' Fine sand
0	11.5		11.5' - 12.0' Coarse sand	0%		11.5' - 12.0' Coarse sand
0	12.0		12.0' - 12.5' Medium sand	0%		12.0' - 12.5' Medium sand
0	12.5		12.5' - 13.0' Fine sand	0%		12.5' - 13.0' Fine sand
0	13.0		13.0' - 13.5' Coarse sand	0%		13.0' - 13.5' Coarse sand
0	13.5		13.5' - 14.0' Medium sand	0%		13.5' - 14.0' Medium sand
0	14.0		14.0' - 14.5' Fine sand	0%		14.0' - 14.5' Fine sand
0	14.5		14.5' - 15.0' Coarse sand	0%		14.5' - 15.0' Coarse sand
0	15.0		15.0' - 15.5' Medium sand	0%		15.0' - 15.5' Medium sand
0	15.5		15.5' - 16.0' Fine sand	0%		15.5' - 16.0' Fine sand
0	16.0		16.0' - 16.5' Coarse sand	0%		16.0' - 16.5' Coarse sand
0	16.5		16.5' - 17.0' Medium sand	0%		16.5' - 17.0' Medium sand
0	17.0		17.0' - 17.5' Fine sand	0%		17.0' - 17.5' Fine sand
0	17.5		17.5' - 18.0' Coarse sand	0%		17.5' - 18.0' Coarse sand
0	18.0		18.0' - 18.5' Medium sand	0%		18.0' - 18.5' Medium sand
0	18.5		18.5' - 19.0' Fine sand	0%		18.5' - 19.0' Fine sand
0	19.0		19.0' - 19.5' Coarse sand	0%		19.0' - 19.5' Coarse sand
0	19.5		19.5' - 20.0' Medium sand	0%		19.5' - 20.0' Medium sand
0	20.0		20.0' - 20.5' Fine sand	0%		20.0' - 20.5' Fine sand
0	20.5		20.5' - 21.0' Coarse sand	0%		20.5' - 21.0' Coarse sand
0	21.0		21.0' - 21.5' Medium sand	0%		21.0' - 21.5' Medium sand
0	21.5		21.5' - 22.0' Fine sand	0%		21.5' - 22.0' Fine sand
0	22.0		22.0' - 22.5' Coarse sand	0%		22.0' - 22.5' Coarse sand
0	22.5		22.5' - 23.0' Medium sand	0%		22.5' - 23.0' Medium sand
0	23.0		23.0' - 23.5' Fine sand	0%		23.0' - 23.5' Fine sand
0	23.5		23.5' - 24.0' Coarse sand	0%		23.5' - 24.0' Coarse sand
0	24.0		24.0' - 24.5' Medium sand	0%		24.0' - 24.5' Medium sand
0	24.5		24.5' - 25.0' Fine sand	0%		24.5' - 25.0' Fine sand
0	25.0		25.0' - 25.5' Coarse sand	0%		25.0' - 25.5' Coarse sand
0	25.5		25.5' - 26.0' Medium sand	0%		25.5' - 26.0' Medium sand
0	26.0		26.0' - 26.5' Fine sand	0%		26.0' - 26.5' Fine sand
0	26.5		26.5' - 27.0' Coarse sand	0%		26.5' - 27.0' Coarse sand
0	27.0		27.0' - 27.5' Medium sand	0%		27.0' - 27.5' Medium sand
0	27.5		27.5' - 28.0' Fine sand	0%		27.5' - 28.0' Fine sand
0	28.0		28.0' - 28.5' Coarse sand	0%		28.0' - 28.5' Coarse sand
0	28.5		28.5' - 29.0' Medium sand	0%		28.5' - 29.0' Medium sand
0	29.0		29.0' - 29.5' Fine sand	0%		29.0' - 29.5' Fine sand
0	29.5		29.5' - 30.0' Coarse sand	0%		29.5' - 30.0' Coarse sand
0	30.0		30.0' - 30.5' Medium sand	0%		30.0' - 30.5' Medium sand
0	30.5		30.5' - 31.0' Fine sand	0%		30.5' - 31.0' Fine sand
0	31.0		31.0' - 31.5' Coarse sand	0%		31.0' - 31.5' Coarse sand
0	31.5		31.5' - 32.0' Medium sand	0%		31.5' - 32.0' Medium sand
0	32.0		32.0' - 32.5' Fine sand	0%		32.0' - 32.5' Fine sand
0	32.5		32.5' - 33.0' Coarse sand	0%		32.5' - 33.0' Coarse sand
0	33.0		33.0' - 33.5' Medium sand	0%		33.0' - 33.5' Medium sand
0	33.5		33.5' - 34.0' Fine sand	0%		33.5' - 34.0' Fine sand
0	34.0		34.0' - 34.5' Coarse sand	0%		34.0' - 34.5' Coarse sand
0	34.5		34.5' - 35.0' Medium sand	0%		34.5' - 35.0' Medium sand
0	35.0		35.0' - 35.5' Fine sand	0%		35.0' - 35.5' Fine sand
0	35.5		35.5' - 36.0' Coarse sand	0%		35.5' - 36.0' Coarse sand
0	36.0		36.0' - 36.5' Medium sand	0%		36.0' - 36.5' Medium sand
0	36.5		36.5' - 37.0' Fine sand	0%		36.5' - 37.0' Fine sand
0	37.0		37.0' - 37.5' Coarse sand	0%		37.0' - 37.5' Coarse sand
0	37.5		37.5' - 38.0' Medium sand	0%		37.5' - 38.0' Medium sand
0	38.0		38.0' - 38.5' Fine sand	0%		38.0' - 38.5' Fine sand
0	38.5		38.5' - 39.0' Coarse sand	0%		38.5' - 39.0' Coarse sand
0	39.0		39.0' - 39.5' Medium sand	0%		39.0' - 39.5' Medium sand
0	39.5		39.5' - 40.0' Fine sand	0%		39.5' - 40.0' Fine sand
0	40.0		40.0' - 40.5' Coarse sand	0%		40.0' - 40.5' Coarse sand
0	40.5		40.5' - 41.0' Medium sand	0%		40.5' - 41.0' Medium sand
0	41.0		41.0' - 41.5' Fine sand	0%		41.0' - 41.5' Fine sand
0	41.5		41.5' - 42.0' Coarse sand	0%		41.5' - 42.0' Coarse sand
0	42.0		42.0' - 42.5' Medium sand	0%		42.0' - 42.5' Medium sand
0	42.5		42.5' - 43.0' Fine sand	0%		42.5' - 43.0' Fine sand
0	43.0		43.0' - 43.5' Coarse sand	0%		43.0' - 43.5' Coarse sand
0	43.5		43.5' - 44.0' Medium sand	0%		43.5' - 44.0' Medium sand
0	44.0		44.0' - 44.5' Fine sand	0%		44.0' - 44.5' Fine sand
0	44.5		44.5' - 45.0' Coarse sand	0%		44.5' - 45.0' Coarse sand
0	45.0		45.0' - 45.5' Medium sand	0%		45.0' - 45.5' Medium sand
0	45.5		45.5' - 46.0' Fine sand	0%		45.5' - 46.0' Fine sand
0	46.0		46.0' - 46.5' Coarse sand	0%		46.0' - 46.5' Coarse sand
0	46.5		46.5' - 47.0' Medium sand	0%		46.5' - 47.0' Medium sand
0	47.0		47.0' - 47.5' Fine sand	0%		47.0' - 47.5' Fine sand
0	47.5		47.5' - 48.0' Coarse sand	0%		47.5' - 48.0' Coarse sand
0	48.0		48.0' - 48.5' Medium sand	0%		48.0' - 48.5' Medium sand
0	48.5		48.5' - 49.0' Fine sand	0%		48.5' - 49.0' Fine sand
0	49.0		49.0' - 49.5' Coarse sand	0%		49.0' - 49.5' Coarse sand
0	49.5		49.5' - 50.0' Medium sand	0%		49.5' - 50.0' Medium sand
0	50.0		50.0' - 50.5' Fine sand	0%		50.0' - 50.5' Fine sand
0	50.5		50.5' - 51.0' Coarse sand	0%		50.5' - 51.0' Coarse sand
0	51.0		51.0' - 51.5' Medium sand	0%		51.0' - 51.5' Medium sand
0	51.5		51.5' - 52.0' Fine sand	0%		51.5' - 52.0' Fine sand
0	52.0		52.0' - 52.5' Coarse sand	0%		52.0' - 52.5' Coarse sand
0	52.5		52.5' - 53.0' Medium sand	0%		52.5' - 53.0' Medium sand
0	53.0		53.0' - 53.5' Fine sand	0%		53.0' - 53.5' Fine sand
0	53.5		53.5' - 54.0' Coarse sand	0%		53.5' - 54.0' Coarse sand
0	54.0		54.0' - 54.5' Medium sand	0%		54.0' - 54.5' Medium sand
0	54.5		54.5' - 55.0' Fine sand	0%		54.5' - 55.0' Fine sand
0	55.0		55.0' - 55.5' Coarse sand	0%		55.0' - 55.5' Coarse sand
0	55.5		55.5' - 56.0' Medium sand	0%		55.5' - 56.0' Medium sand
0	56.0		56.0' - 56.5' Fine sand	0%		56.0' - 56.5' Fine sand
0	56.5		56.5' - 57.0' Coarse sand	0%		56.5' - 57.0' Coarse sand
0	57.0		57.0' - 57.5' Medium sand	0%		57.0' - 57.5' Medium sand
0	57.5		57.5' - 58.0' Fine sand	0%		57.5' - 58.0' Fine sand
0	58.0		58.0' - 58.5' Coarse sand	0%		58.0' - 58.5' Coarse sand
0	58.5		58.5' - 59.0' Medium sand	0%		58.5' - 59.0' Medium sand
0	59.0		59.0' - 59.5' Fine sand	0%		59.0' - 59.5' Fine sand
0	59.5		59.5' - 60.0' Coarse sand	0%		59.5' - 60.0' Coarse sand
0	60.0		60.0' - 60.5' Medium sand	0%		60.0' - 60.5' Medium sand
0	60.5		60.5' - 61.0' Fine sand	0%		60.5' - 61.0' Fine sand
0	61.0		61.0' - 61.5' Coarse sand	0%		61.0' - 61.5' Coarse sand
0	61.5		61.5' - 62.0' Medium sand	0%		61.5' - 62.0' Medium sand
0	62.0		62.0' - 62.5' Fine sand	0%		62.0' - 62.5' Fine sand
0	62.5		62.5' - 63.0' Coarse sand	0%		62.5' - 63.0' Coarse sand
0	63.0		63.0' - 63.5' Medium sand	0%		63.0' - 63.5' Medium sand
0	63.5		63.5' - 64.0' Fine sand	0%		63.5' - 64.0' Fine sand
0	64.0		64.0' - 64.5' Coarse sand	0%		64.0' - 64.5' Coarse sand
0	64.5		64.5' - 65.0' Medium sand	0%		64.5' - 65.0' Medium sand
0	65.0		65.0' - 65.5' Fine sand	0%		65.0' - 65.5' Fine sand
0	65.5		65.5' - 66.0' Coarse sand	0%		65.5' - 66.0' Coarse sand
0	66.0		66.0' - 66.5' Medium sand	0%		66.0' - 66.5' Medium sand
0	66.5		66.5' - 67.0' Fine sand	0%		66.5' - 67.0' Fine sand
0	67.0		67.0' - 67.5' Coarse sand	0%		67.0' - 67.5' Coarse sand
0	67.5		67.5' - 68.0' Medium sand	0%		67.5' - 68.0' Medium sand
0	68.0		68.0' - 68.5' Fine sand	0%		68.0' - 68.5' Fine sand
0	68.5		68.5' - 69.0' Coarse sand	0%		68.5' - 69.0' Coarse sand
0	69.0		69.0' - 69.5' Medium sand	0%		69.0' - 69.5' Medium sand
0	69.5		69.5' - 70.0' Fine sand	0%		69.5' - 70.0' Fine sand
0	70.0		70.0' - 70.5' Coarse sand	0%		70.0' - 70.5' Coarse sand
0	70.5		70.5' - 71.0' Medium sand	0%		70.5' - 71.0' Medium sand
0	71.0		71.0' - 71.5' Fine sand			

DRILLING LOG		DIVISION MAD	INSTALLATION OMANA	SHEET OF 12 SHEETS
1. PROJECT NIPAD Monitoring Well NIPAD Irrigation Project		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Survey)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 20		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		16. DATE HOLE	STARTED	COMPLETED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drill time, water loss, depth of weathering, etc., if significant)
10.0	0.0		Gravelly Sand		D-3	Down 3' in Split
9.5	0.5		Med Sand		10.2	5000 w/ 30000
9.0	1.0		Med Sand		10.3	hammer down
8.5	1.5		Med Sand		10.4	9.9 (1) down 10.11.0
8.0	2.0		Med Sand			Rec. 0.2' weathering
7.5	2.5		Med Sand			Rep. 8.0 - 13.0'
7.0	3.0		Med Sand			Continued hole
6.5	3.5		Med Sand			blowing required
6.0	4.0		Med Sand			addition of water
5.5	4.5		Med Sand			bottom of hole
5.0	5.0		Med Sand			Wyo. Test
4.5	5.5		Med Sand			200 5000000
4.0	6.0		Med Sand			Wyo. Test
3.5	6.5		Med Sand			Wyo. Test
3.0	7.0		Med Sand			Wyo. Test
2.5	7.5		Med Sand			Wyo. Test
2.0	8.0		Med Sand			Wyo. Test
1.5	8.5		Med Sand			Wyo. Test
1.0	9.0		Med Sand			Wyo. Test
0.5	9.5		Med Sand			Wyo. Test
0.0	10.0		Med Sand			Wyo. Test
	10.5		Med Sand			Wyo. Test
	11.0		Med Sand			Wyo. Test
	11.5		Med Sand			Wyo. Test
	12.0		Med Sand			Wyo. Test
	12.5		Med Sand			Wyo. Test
	13.0		Med Sand			Wyo. Test
	13.5		Med Sand			Wyo. Test
	14.0		Med Sand			Wyo. Test
	14.5		Med Sand			Wyo. Test
	15.0		Med Sand			Wyo. Test
	15.5		Med Sand			Wyo. Test
	16.0		Med Sand			Wyo. Test
	16.5		Med Sand			Wyo. Test
	17.0		Med Sand			Wyo. Test
	17.5		Med Sand			Wyo. Test
	18.0		Med Sand			Wyo. Test
	18.5		Med Sand			Wyo. Test
	19.0		Med Sand			Wyo. Test
	19.5		Med Sand			Wyo. Test
	20.0		Med Sand			Wyo. Test
	20.5		Med Sand			Wyo. Test
	21.0		Med Sand			Wyo. Test
	21.5		Med Sand			Wyo. Test
	22.0		Med Sand			Wyo. Test
	22.5		Med Sand			Wyo. Test
	23.0		Med Sand			Wyo. Test
	23.5		Med Sand			Wyo. Test
	24.0		Med Sand			Wyo. Test
	24.5		Med Sand			Wyo. Test
	25.0		Med Sand			Wyo. Test
	25.5		Med Sand			Wyo. Test
	26.0		Med Sand			Wyo. Test
	26.5		Med Sand			Wyo. Test
	27.0		Med Sand			Wyo. Test
	27.5		Med Sand			Wyo. Test
	28.0		Med Sand			Wyo. Test
	28.5		Med Sand			Wyo. Test
	29.0		Med Sand			Wyo. Test
	29.5		Med Sand			Wyo. Test
	30.0		Med Sand			Wyo. Test
	30.5		Med Sand			Wyo. Test
	31.0		Med Sand			Wyo. Test
	31.5		Med Sand			Wyo. Test
	32.0		Med Sand			Wyo. Test
	32.5		Med Sand			Wyo. Test
	33.0		Med Sand			Wyo. Test
	33.5		Med Sand			Wyo. Test
	34.0		Med Sand			Wyo. Test
	34.5		Med Sand			Wyo. Test
	35.0		Med Sand			Wyo. Test
	35.5		Med Sand			Wyo. Test
	36.0		Med Sand			Wyo. Test
	36.5		Med Sand			Wyo. Test
	37.0		Med Sand			Wyo. Test
	37.5		Med Sand			Wyo. Test
	38.0		Med Sand			Wyo. Test
	38.5		Med Sand			Wyo. Test
	39.0		Med Sand			Wyo. Test
	39.5		Med Sand			Wyo. Test
	40.0		Med Sand			Wyo. Test
	40.5		Med Sand			Wyo. Test
	41.0		Med Sand			Wyo. Test
	41.5		Med Sand			Wyo. Test
	42.0		Med Sand			Wyo. Test
	42.5		Med Sand			Wyo. Test
	43.0		Med Sand			Wyo. Test
	43.5		Med Sand			Wyo. Test
	44.0		Med Sand			Wyo. Test
	44.5		Med Sand			Wyo. Test
	45.0		Med Sand			Wyo. Test
	45.5		Med Sand			Wyo. Test
	46.0		Med Sand			Wyo. Test
	46.5		Med Sand			Wyo. Test
	47.0		Med Sand			Wyo. Test
	47.5		Med Sand			Wyo. Test
	48.0		Med Sand			Wyo. Test
	48.5		Med Sand			Wyo. Test
	49.0		Med Sand			Wyo. Test
	49.5		Med Sand			Wyo. Test
	50.0		Med Sand			Wyo. Test
	50.5		Med Sand			Wyo. Test
	51.0		Med Sand			Wyo. Test
	51.5		Med Sand			Wyo. Test
	52.0		Med Sand			Wyo. Test
	52.5		Med Sand			Wyo. Test
	53.0		Med Sand			Wyo. Test
	53.5		Med Sand			Wyo. Test
	54.0		Med Sand			Wyo. Test
	54.5		Med Sand			Wyo. Test
	55.0		Med Sand			Wyo. Test
	55.5		Med Sand			Wyo. Test
	56.0		Med Sand			Wyo. Test
	56.5		Med Sand			Wyo. Test
	57.0		Med Sand			Wyo. Test
	57.5		Med Sand			Wyo. Test
	58.0		Med Sand			Wyo. Test
	58.5		Med Sand			Wyo. Test
	59.0		Med Sand			Wyo. Test
	59.5		Med Sand			Wyo. Test
	60.0		Med Sand			Wyo. Test
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	61.0		Med Sand			Wyo. Test
	61.5		Med Sand			Wyo. Test
	62.0		Med Sand			Wyo. Test
	62.5		Med Sand			Wyo. Test
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	63.5		Med Sand			Wyo. Test
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	65.5		Med Sand			Wyo. Test
	66.0		Med Sand			Wyo. Test
	66.5		Med Sand			Wyo. Test
	67.0		Med Sand			Wyo. Test
	67.5		Med Sand			Wyo. Test
	68.0		Med Sand			Wyo. Test
	68.5		Med Sand			Wyo. Test
	69.0		Med Sand			Wyo. Test
	69.5		Med Sand			Wyo. Test
	70.0		Med Sand			Wyo. Test
	70.5		Med Sand			Wyo. Test
	71.0		Med Sand			Wyo. Test
	71.5		Med Sand			Wyo. Test
	72.0		Med Sand			Wyo. Test
	72.5		Med Sand			Wyo. Test
	73.0		Med Sand			Wyo. Test
	73.5		Med Sand			Wyo. Test
	74.0		Med Sand			Wyo. Test
	74.5		Med Sand			Wyo. Test
	75.0		Med Sand			Wyo. Test
	75.5		Med Sand			Wyo. Test
	76.0		Med Sand			Wyo. Test
	76.5		Med Sand			Wyo. Test
	77.0		Med Sand			Wyo. Test
	77.5		Med Sand			Wyo. Test
	78.0		Med Sand			Wyo. Test
	78.5		Med Sand			Wyo. Test
	79.0		Med Sand			Wyo. Test
	79.5		Med Sand			Wyo. Test
	80.0		Med Sand			Wyo. Test
	80.5		Med Sand			Wyo. Test
	81.0		Med Sand			Wyo. Test
	81.5		Med Sand			Wyo. Test
	82.0		Med Sand			Wyo. Test
	82.5		Med Sand			Wyo. Test
	83.0		Med Sand			Wyo. Test
	83.5		Med Sand			Wyo. Test
	84.0		Med Sand			Wyo. Test
	84.5		Med Sand			Wyo. Test
	85.0		Med Sand			Wyo. Test
	85.5		Med Sand			Wyo. Test
	86.0		Med Sand			Wyo. Test
	86.5		Med Sand			Wyo. Test
	87.0		Med Sand			Wyo. Test
	87.5		Med Sand			Wyo. Test
	88.0		Med Sand			Wyo. Test
	88.5		Med Sand			Wyo. Test
	89.0		Med Sand			Wyo. Test
	89.5		Med Sand			Wyo. Test
	90.0		Med Sand			Wyo. Test
	90.5		Med Sand			Wyo. Test
	91.0		Med Sand			Wyo. Test
	91.5		Med Sand			Wyo. Test
	92.0		Med Sand			Wyo. Test
	92.5		Med Sand			Wyo. Test
	93.0		Med Sand			Wyo. Test
	93.5		Med Sand			Wyo. Test
	94.0		Med Sand			Wyo. Test
	94.5		Med Sand			Wyo. Test
	95.0		Med Sand			Wyo. Test
	95.5		Med Sand			Wyo. Test
	96.0		Med Sand			Wyo. Test
	96.5		Med Sand			Wyo. Test
	97.0		Med Sand			Wyo. Test
	97.5		Med Sand			Wyo. Test
	98.0		Med Sand			Wyo. Test
	98.5		Med Sand			Wyo. Test
	99.0		Med Sand			Wyo. Test
	99.5		Med Sand			Wyo. Test
	100.0		Med Sand			Wyo. Test

DRILLING LOG		VISION	INSTALLATION	SHEET 2 OF 2 SHEETS
1. PROJECT		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (BM or MLL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
200	0		City Sand			200-000
195	5		Red Clay			200-005
190	10		Red Clay			200-010
185	15		Red Clay			200-015
180	20		Red Clay			200-020
175	25		Red Clay			200-025
170	30		Red Clay			200-030
165	35		Red Clay			200-035
160	40		Red Clay			200-040
155	45		Red Clay			200-045
150	50		Red Clay			200-050
145	55		Red Clay			200-055
140	60		Red Clay			200-060
135	65		Red Clay			200-065
130	70		Red Clay			200-070
125	75		Red Clay			200-075
120	80		Red Clay			200-080
115	85		Red Clay			200-085
110	90		Red Clay			200-090
105	95		Red Clay			200-095
100	100		Red Clay			200-100

DRILLING LOG *MRC* OF 12 SHEETS

1. PROJECT *Monitoring Well*
Missouri State Park

2. LOCATION *(Continuation of Station)*

3. DRILLING AGENCY *USGS*

4. HOLE NO. (As shown on drawing title and this number) *00*

5. NAME OF DRILLER

6. DIRECTION OF HOLE
 VERTICAL INCLINED _____ DEG. FROM VERT.

7. THICKNESS OF OVERBURDEN

8. DEPTH DRILLED INTO ROCK

9. TOTAL DEPTH OF HOLE

10. SIZE AND TYPE OF BIT

11. DATUM FOR ELEVATION SHOWN (FIM or B.M.)

12. MANUFACTURER'S DESIGNATION OF DRILL

13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN

14. TOTAL NUMBER CORE BOXES

15. ELEVATION GROUND WATER

16. DATE HOLE STARTED

17. ELEVATION TOP OF HOLE

18. TOTAL CORE RECOVERY FOR BORING

19. SIGNATURE OF INSPECTOR

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water level, depth of weathering, etc., if significant)
	0					
	10					
	20					
	30					
	40					
	50					
	60					
	70					
	80					
	90					
	100					
	110					
	120					
	130					
	140					
	150					
	160					
	170					
	180					
	190					
	200					
	210					
	220					
	230					
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	340					
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	420					
	430					
	440					
	450					
	460					
	470					
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	770					
	780					
	790					
	800					
	810					
	820					
	830					
	840					
	850					
	860					
	870					
	880					
	890					
	900					
	910					
	920					
	930					
	940					
	950					
	960					
	970					
	980					
	990					
	1000					

DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT		MA	MA	OF SHEETS
2. LOCATION		10. SIZE AND TYPE OF BIT		
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (FIM or B.M.)		
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
5. NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, overburden, nature of weathering, etc., if significant)
48.0	0.0		City Sand		09	Dr. H. J. ...
47.0	1.0		Red ...		104	...
46.0	2.0		...		107	...
45.0	3.0		...			...
44.0	4.0		...			...
43.0	5.0		...			...
42.0	6.0		...			...
41.0	7.0		...			...
40.0	8.0		...			...
39.0	9.0		...			...
38.0	10.0		...			...
37.0	11.0		...			...
36.0	12.0		...			...
35.0	13.0		...			...
34.0	14.0		...			...
33.0	15.0		...			...
32.0	16.0		...			...
31.0	17.0		...			...
30.0	18.0		...			...
29.0	19.0		...			...
28.0	20.0		...			...
27.0	21.0		...			...
26.0	22.0		...			...
25.0	23.0		...			...
24.0	24.0		...			...
23.0	25.0		...			...
22.0	26.0		...			...
21.0	27.0		...			...
20.0	28.0		...			...
19.0	29.0		...			...
18.0	30.0		...			...
17.0	31.0		...			...
16.0	32.0		...			...
15.0	33.0		...			...
14.0	34.0		...			...
13.0	35.0		...			...
12.0	36.0		...			...
11.0	37.0		...			...
10.0	38.0		...			...
9.0	39.0		...			...
8.0	40.0		...			...
7.0	41.0		...			...
6.0	42.0		...			...
5.0	43.0		...			...
4.0	44.0		...			...
3.0	45.0		...			...
2.0	46.0		...			...
1.0	47.0		...			...
0.0	48.0		...			...

DRILLING LOG OF 2 SHEETS

1. PROJECT: *Montana Water*
 2. LOCATION: *Niobrara Irrigation Project*
 3. DRILLING AGENCY: *US - CE - C*
 4. HOLE NO. (As shown on existing title and site number): *20*
 5. NAME OF DRILLER:
 6. DIRECTION OF HOLE: VERTICAL INCLINED _____ DEG. FROM VERT.
 7. THICKNESS OF OVERBURDEN:
 8. DEPTH DRILLED INTO ROCK:
 9. TOTAL DEPTH OF HOLE:
 10. SIZE AND TYPE OF BIT:
 11. DATUM FOR ELEVATION SHOWN (FSS or BSL):
 12. MANUFACTURER'S DESIGNATION OF DRILL:
 13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED _____ UNDISTURBED _____
 14. TOTAL NUMBER CORE BOXES:
 15. ELEVATION GROUND WATER:
 16. DATE HOLE STARTED _____ COMPLETED _____
 17. ELEVATION TOP OF HOLE:
 18. TOTAL CORE RECOVERY FOR BORING: _____ %
 19. SIGNATURE OF INSPECTOR: _____

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
	0		<i>S. 14' Blk</i>		<i>11</i>	<i>Drilled 10' 10"</i>
	1		<i>Blk</i>		<i>12</i>	<i>Drilled 10' 10"</i>
	2		<i>Blk</i>		<i>13</i>	<i>Drilled 10' 10"</i>
	3		<i>Blk</i>		<i>14</i>	<i>Drilled 10' 10"</i>
	4		<i>Blk</i>		<i>15</i>	<i>Drilled 10' 10"</i>
	5		<i>Blk</i>		<i>16</i>	<i>Drilled 10' 10"</i>
	6		<i>Blk</i>		<i>17</i>	<i>Drilled 10' 10"</i>
	7		<i>Blk</i>		<i>18</i>	<i>Drilled 10' 10"</i>
	8		<i>Blk</i>		<i>19</i>	<i>Drilled 10' 10"</i>
	9		<i>Blk</i>		<i>20</i>	<i>Drilled 10' 10"</i>
	10		<i>Blk</i>		<i>21</i>	<i>Drilled 10' 10"</i>
	11		<i>Blk</i>		<i>22</i>	<i>Drilled 10' 10"</i>
	12		<i>Blk</i>		<i>23</i>	<i>Drilled 10' 10"</i>
	13		<i>Blk</i>		<i>24</i>	<i>Drilled 10' 10"</i>
	14		<i>Blk</i>		<i>25</i>	<i>Drilled 10' 10"</i>
	15		<i>Blk</i>		<i>26</i>	<i>Drilled 10' 10"</i>
	16		<i>Blk</i>		<i>27</i>	<i>Drilled 10' 10"</i>
	17		<i>Blk</i>		<i>28</i>	<i>Drilled 10' 10"</i>
	18		<i>Blk</i>		<i>29</i>	<i>Drilled 10' 10"</i>
	19		<i>Blk</i>		<i>30</i>	<i>Drilled 10' 10"</i>
	20		<i>Blk</i>		<i>31</i>	<i>Drilled 10' 10"</i>
	21		<i>Blk</i>		<i>32</i>	<i>Drilled 10' 10"</i>
	22		<i>Blk</i>		<i>33</i>	<i>Drilled 10' 10"</i>
	23		<i>Blk</i>		<i>34</i>	<i>Drilled 10' 10"</i>
	24		<i>Blk</i>		<i>35</i>	<i>Drilled 10' 10"</i>
	25		<i>Blk</i>		<i>36</i>	<i>Drilled 10' 10"</i>
	26		<i>Blk</i>		<i>37</i>	<i>Drilled 10' 10"</i>
	27		<i>Blk</i>		<i>38</i>	<i>Drilled 10' 10"</i>
	28		<i>Blk</i>		<i>39</i>	<i>Drilled 10' 10"</i>
	29		<i>Blk</i>		<i>40</i>	<i>Drilled 10' 10"</i>
	30		<i>Blk</i>		<i>41</i>	<i>Drilled 10' 10"</i>
	31		<i>Blk</i>		<i>42</i>	<i>Drilled 10' 10"</i>
	32		<i>Blk</i>		<i>43</i>	<i>Drilled 10' 10"</i>
	33		<i>Blk</i>		<i>44</i>	<i>Drilled 10' 10"</i>
	34		<i>Blk</i>		<i>45</i>	<i>Drilled 10' 10"</i>
	35		<i>Blk</i>		<i>46</i>	<i>Drilled 10' 10"</i>
	36		<i>Blk</i>		<i>47</i>	<i>Drilled 10' 10"</i>
	37		<i>Blk</i>		<i>48</i>	<i>Drilled 10' 10"</i>
	38		<i>Blk</i>		<i>49</i>	<i>Drilled 10' 10"</i>
	39		<i>Blk</i>		<i>50</i>	<i>Drilled 10' 10"</i>
	40		<i>Blk</i>		<i>51</i>	<i>Drilled 10' 10"</i>
	41		<i>Blk</i>		<i>52</i>	<i>Drilled 10' 10"</i>
	42		<i>Blk</i>		<i>53</i>	<i>Drilled 10' 10"</i>
	43		<i>Blk</i>		<i>54</i>	<i>Drilled 10' 10"</i>
	44		<i>Blk</i>		<i>55</i>	<i>Drilled 10' 10"</i>
	45		<i>Blk</i>		<i>56</i>	<i>Drilled 10' 10"</i>
	46		<i>Blk</i>		<i>57</i>	<i>Drilled 10' 10"</i>
	47		<i>Blk</i>		<i>58</i>	<i>Drilled 10' 10"</i>
	48		<i>Blk</i>		<i>59</i>	<i>Drilled 10' 10"</i>
	49		<i>Blk</i>		<i>60</i>	<i>Drilled 10' 10"</i>
	50		<i>Blk</i>		<i>61</i>	<i>Drilled 10' 10"</i>
	51		<i>Blk</i>		<i>62</i>	<i>Drilled 10' 10"</i>
	52		<i>Blk</i>		<i>63</i>	<i>Drilled 10' 10"</i>
	53		<i>Blk</i>		<i>64</i>	<i>Drilled 10' 10"</i>
	54		<i>Blk</i>		<i>65</i>	<i>Drilled 10' 10"</i>
	55		<i>Blk</i>		<i>66</i>	<i>Drilled 10' 10"</i>
	56		<i>Blk</i>		<i>67</i>	<i>Drilled 10' 10"</i>
	57		<i>Blk</i>		<i>68</i>	<i>Drilled 10' 10"</i>
	58		<i>Blk</i>		<i>69</i>	<i>Drilled 10' 10"</i>
	59		<i>Blk</i>		<i>70</i>	<i>Drilled 10' 10"</i>
	60		<i>Blk</i>		<i>71</i>	<i>Drilled 10' 10"</i>
	61		<i>Blk</i>		<i>72</i>	<i>Drilled 10' 10"</i>
	62		<i>Blk</i>		<i>73</i>	<i>Drilled 10' 10"</i>
	63		<i>Blk</i>		<i>74</i>	<i>Drilled 10' 10"</i>
	64		<i>Blk</i>		<i>75</i>	<i>Drilled 10' 10"</i>
	65		<i>Blk</i>		<i>76</i>	<i>Drilled 10' 10"</i>
	66		<i>Blk</i>		<i>77</i>	<i>Drilled 10' 10"</i>
	67		<i>Blk</i>		<i>78</i>	<i>Drilled 10' 10"</i>
	68		<i>Blk</i>		<i>79</i>	<i>Drilled 10' 10"</i>
	69		<i>Blk</i>		<i>80</i>	<i>Drilled 10' 10"</i>
	70		<i>Blk</i>		<i>81</i>	<i>Drilled 10' 10"</i>
	71		<i>Blk</i>		<i>82</i>	<i>Drilled 10' 10"</i>
	72		<i>Blk</i>		<i>83</i>	<i>Drilled 10' 10"</i>
	73		<i>Blk</i>		<i>84</i>	<i>Drilled 10' 10"</i>
	74		<i>Blk</i>		<i>85</i>	<i>Drilled 10' 10"</i>
	75		<i>Blk</i>		<i>86</i>	<i>Drilled 10' 10"</i>
	76		<i>Blk</i>		<i>87</i>	<i>Drilled 10' 10"</i>
	77		<i>Blk</i>		<i>88</i>	<i>Drilled 10' 10"</i>
	78		<i>Blk</i>		<i>89</i>	<i>Drilled 10' 10"</i>
	79		<i>Blk</i>		<i>90</i>	<i>Drilled 10' 10"</i>
	80		<i>Blk</i>		<i>91</i>	<i>Drilled 10' 10"</i>
	81		<i>Blk</i>		<i>92</i>	<i>Drilled 10' 10"</i>
	82		<i>Blk</i>		<i>93</i>	<i>Drilled 10' 10"</i>
	83		<i>Blk</i>		<i>94</i>	<i>Drilled 10' 10"</i>
	84		<i>Blk</i>		<i>95</i>	<i>Drilled 10' 10"</i>
	85		<i>Blk</i>		<i>96</i>	<i>Drilled 10' 10"</i>
	86		<i>Blk</i>		<i>97</i>	<i>Drilled 10' 10"</i>
	87		<i>Blk</i>		<i>98</i>	<i>Drilled 10' 10"</i>
	88		<i>Blk</i>		<i>99</i>	<i>Drilled 10' 10"</i>
	89		<i>Blk</i>		<i>100</i>	<i>Drilled 10' 10"</i>

No. 27

DRILLING LOG		VISION <u>M2D</u>	INSTALLATION <u>Omaha</u>	SHEET <u>5</u> OF <u>12</u> SHEETS
1. PROJECT <u>Monitoring Well</u>		10. SIZE AND TYPE OF BIT		
2. LOCATION <u>Monitoring Station Project</u>		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		
3. DRILLING AGENCY <u>US-CEC</u>		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) <u>20</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE	18. TOTAL CORE RECOVERY FOR BORING	COMPLETED
8. DEPTH DRILLED INTO ROCK		19. SIGNATURE OF INSPECTOR		
9. TOTAL DEPTH OF HOLE				

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water level, depth of overburden, etc., if significant)
	0					
	1		S. H. S. (SM)			Drilled and went to 60.1'
	2		1. Sand		0-13	Spore 3' dia spit
	3		None Dist.		60.3'	Spore 60.1' - 61.0'
	4		S. L. clay to S. clay		60.3'	4) 300 lbs hammer
	5		Stratified		60.9'	100 L (S) = 53
	6		Med Brown clay			Rec. 0.9'
	7		Light grey			Ref. 60.0' - 64.0'
	8		S. L. clay 10-15%			
	9		Med. clay			
	10		Med. clay			
	11					
	12					
	13					
	14					
	15					
	16					
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	97					
	98					
	99					
	100					

DRILLING LOG

VISION MRQ

PROJECT: Monitor Well

LOCATION: 48-101

DRILLING AGENCY: RECE-2

HOLE NO. (As shown on drawing title and its number): 20

NAME OF DRILLER: _____

DIRECTION OF HOLE: VERTICAL INCLINED _____ DEG. FROM VERT.

THICKNESS OF OVERBURDEN: _____

DEPTH DRILLED INTO ROCK: _____

TOTAL DEPTH OF HOLE: _____

NO. SIZE AND TYPE OF BIT: _____

DATUM FOR ELEVATION SHOWN (TBM or BSL): _____

MANUFACTURER'S DESIGNATION OF DRILL: _____

TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: _____ DISTURBED _____ UNDISTURBED _____

TOTAL NUMBER CORE BOXES: _____

ELEVATION GROUND WATER: _____

DATE MOLE STARTED: _____ COMPLETED: _____

ELEVATION TOP OF HOLE: _____

TOTAL CORE RECOVERY FOR BORING: _____ %

SIGNATURE OF INSPECTOR: _____

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, amount of overburden, etc., if significant)
70.0	0		Dirty (B)		100	Drilled to 70.0'
70.0	0		Very fine sand		101	Spore 3' dia split
70.0	0		Very fine sand		102	Spore 70.0-71.0'
70.0	0		Very fine sand		103	Spore 70.0-71.0'
70.0	0		Very fine sand		104	Spore 70.0-71.0'
70.0	0		Very fine sand		105	Spore 70.0-71.0'
70.0	0		Very fine sand		106	Spore 70.0-71.0'
70.0	0		Very fine sand		107	Spore 70.0-71.0'
70.0	0		Very fine sand		108	Spore 70.0-71.0'
70.0	0		Very fine sand		109	Spore 70.0-71.0'
70.0	0		Very fine sand		110	Spore 70.0-71.0'
70.0	0		Very fine sand		111	Spore 70.0-71.0'
70.0	0		Very fine sand		112	Spore 70.0-71.0'
70.0	0		Very fine sand		113	Spore 70.0-71.0'
70.0	0		Very fine sand		114	Spore 70.0-71.0'
70.0	0		Very fine sand		115	Spore 70.0-71.0'
70.0	0		Very fine sand		116	Spore 70.0-71.0'
70.0	0		Very fine sand		117	Spore 70.0-71.0'
70.0	0		Very fine sand		118	Spore 70.0-71.0'
70.0	0		Very fine sand		119	Spore 70.0-71.0'
70.0	0		Very fine sand		120	Spore 70.0-71.0'
70.0	0		Very fine sand		121	Spore 70.0-71.0'
70.0	0		Very fine sand		122	Spore 70.0-71.0'
70.0	0		Very fine sand		123	Spore 70.0-71.0'
70.0	0		Very fine sand		124	Spore 70.0-71.0'
70.0	0		Very fine sand		125	Spore 70.0-71.0'
70.0	0		Very fine sand		126	Spore 70.0-71.0'
70.0	0		Very fine sand		127	Spore 70.0-71.0'
70.0	0		Very fine sand		128	Spore 70.0-71.0'
70.0	0		Very fine sand		129	Spore 70.0-71.0'
70.0	0		Very fine sand		130	Spore 70.0-71.0'
70.0	0		Very fine sand		131	Spore 70.0-71.0'
70.0	0		Very fine sand		132	Spore 70.0-71.0'
70.0	0		Very fine sand		133	Spore 70.0-71.0'
70.0	0		Very fine sand		134	Spore 70.0-71.0'
70.0	0		Very fine sand		135	Spore 70.0-71.0'
70.0	0		Very fine sand		136	Spore 70.0-71.0'
70.0	0		Very fine sand		137	Spore 70.0-71.0'
70.0	0		Very fine sand		138	Spore 70.0-71.0'
70.0	0		Very fine sand		139	Spore 70.0-71.0'
70.0	0		Very fine sand		140	Spore 70.0-71.0'
70.0	0		Very fine sand		141	Spore 70.0-71.0'
70.0	0		Very fine sand		142	Spore 70.0-71.0'
70.0	0		Very fine sand		143	Spore 70.0-71.0'
70.0	0		Very fine sand		144	Spore 70.0-71.0'
70.0	0		Very fine sand		145	Spore 70.0-71.0'
70.0	0		Very fine sand		146	Spore 70.0-71.0'
70.0	0		Very fine sand		147	Spore 70.0-71.0'
70.0	0		Very fine sand		148	Spore 70.0-71.0'
70.0	0		Very fine sand		149	Spore 70.0-71.0'
70.0	0		Very fine sand		150	Spore 70.0-71.0'
70.0	0		Very fine sand		151	Spore 70.0-71.0'
70.0	0		Very fine sand		152	Spore 70.0-71.0'
70.0	0		Very fine sand		153	Spore 70.0-71.0'
70.0	0		Very fine sand		154	Spore 70.0-71.0'
70.0	0		Very fine sand		155	Spore 70.0-71.0'
70.0	0		Very fine sand		156	Spore 70.0-71.0'
70.0	0		Very fine sand		157	Spore 70.0-71.0'
70.0	0		Very fine sand		158	Spore 70.0-71.0'
70.0	0		Very fine sand		159	Spore 70.0-71.0'
70.0	0		Very fine sand		160	Spore 70.0-71.0'
70.0	0		Very fine sand		161	Spore 70.0-71.0'
70.0	0		Very fine sand		162	Spore 70.0-71.0'
70.0	0		Very fine sand		163	Spore 70.0-71.0'
70.0	0		Very fine sand		164	Spore 70.0-71.0'
70.0	0		Very fine sand		165	Spore 70.0-71.0'
70.0	0		Very fine sand		166	Spore 70.0-71.0'
70.0	0		Very fine sand		167	Spore 70.0-71.0'
70.0	0		Very fine sand		168	Spore 70.0-71.0'
70.0	0		Very fine sand		169	Spore 70.0-71.0'
70.0	0		Very fine sand		170	Spore 70.0-71.0'
70.0	0		Very fine sand		171	Spore 70.0-71.0'
70.0	0		Very fine sand		172	Spore 70.0-71.0'
70.0	0		Very fine sand		173	Spore 70.0-71.0'
70.0	0		Very fine sand		174	Spore 70.0-71.0'
70.0	0		Very fine sand		175	Spore 70.0-71.0'
70.0	0		Very fine sand		176	Spore 70.0-71.0'
70.0	0		Very fine sand		177	Spore 70.0-71.0'
70.0	0		Very fine sand		178	Spore 70.0-71.0'
70.0	0		Very fine sand		179	Spore 70.0-71.0'
70.0	0		Very fine sand		180	Spore 70.0-71.0'
70.0	0		Very fine sand		181	Spore 70.0-71.0'
70.0	0		Very fine sand		182	Spore 70.0-71.0'
70.0	0		Very fine sand		183	Spore 70.0-71.0'
70.0	0		Very fine sand		184	Spore 70.0-71.0'
70.0	0		Very fine sand		185	Spore 70.0-71.0'
70.0	0		Very fine sand		186	Spore 70.0-71.0'
70.0	0		Very fine sand		187	Spore 70.0-71.0'
70.0	0		Very fine sand		188	Spore 70.0-71.0'
70.0	0		Very fine sand		189	Spore 70.0-71.0'
70.0	0		Very fine sand		190	Spore 70.0-71.0'
70.0	0		Very fine sand		191	Spore 70.0-71.0'
70.0	0		Very fine sand		192	Spore 70.0-71.0'
70.0	0		Very fine sand		193	Spore 70.0-71.0'
70.0	0		Very fine sand		194	Spore 70.0-71.0'
70.0	0		Very fine sand		195	Spore 70.0-71.0'
70.0	0		Very fine sand		196	Spore 70.0-71.0'
70.0	0		Very fine sand		197	Spore 70.0-71.0'
70.0	0		Very fine sand		198	Spore 70.0-71.0'
70.0	0		Very fine sand		199	Spore 70.0-71.0'
70.0	0		Very fine sand		200	Spore 70.0-71.0'

DRILLING LOG		SECTION	INSTALLATION	SHEET: 0
PROJECT		OF 12 SHEETS		
LOCATION (Coordinate or Station)		10. SIZE AND TYPE OF BIT		
DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		
HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
THICKNESS OF OVERBURDEN		16. DATE MOLE		
DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE 18. TOTAL CORE RECOVERY FOR BORING		
TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
90.1	0.0					Blind run to 90.1
90.1	0.0					Down 2' in split
90.1	0.0					From 90.1-91.6'
90.1	0.0					Total @ = 50
90.1	0.0					Rec. 0.7'
90.1	0.0					Rec. 90.0'-90.5'
90.1	0.0					Rec. 90.5'-94.0'
90.1	0.0					Mined 50 lbs
90.1	0.0					Reduction in bit
90.1	0.0					(Washed)
90.1	0.0					Reduction in bit
90.1	0.0					Posture cement
90.1	0.0					to be in vicinity
90.1	0.0					4' - 5' section
90.1	0.0					W. L. thinning
90.1	0.0					to become
90.1	0.0					out
90.1	0.0					Drilled and
90.1	0.0					to 90.4'
90.1	0.0					Down 3' in split
90.1	0.0					90.4'-90.7'
90.1	0.0					Total @ = 17
90.1	0.0					Rec. 0.6'
90.1	0.0					Rec. 94.0'-100.0'
90.1	0.0					Drilled and
90.1	0.0					was 8' to 100.0'
90.1	0.0					Thinned up and
90.1	0.0					4' clear water

DRILLING LOG		STATION	INSTALLATION	SHEET 12
1. PROJECT		NO. SIZE AND TYPE OF BIT		
2. LOCATION		11. DATUM FOR ELEVATION SHOWN (TBM or HMA)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
110.0	0.0		Coarsely Sand		024	Drilled and washed to 110.2'
110.0	0.2		V. Dense Non Plast. Shale with silty part. Med gray w/ brown lines		110.2	Down 3" di. split spoon 110.2'-111.7'
110.0	0.4		Silty fine to med. sand		110.6	Shattered to fine V. med. @ 110.9'
110.0	0.6		Gravel fine to coarse mostly fine		110.9	Rec. 0.4 split
110.0	0.8		Vertical shale		111.7	0.8' from stone
110.0	1.0		Vertical shale		111.7	W. L. 4.7'
110.0	1.2		Vertical shale		111.7	Drilled to 110.3'
110.0	1.4		Vertical shale		112.9	Down 2" di. split spoon 112.0'-113.8'
110.0	1.6		Vertical shale		113.8	Rec. 0.7'
110.0	1.8		Vertical shale		113.8	Depth 110.9' - 113.8'
110.0	2.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	2.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	2.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	2.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	2.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	3.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	3.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	3.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	3.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	3.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	4.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	4.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	4.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	4.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	4.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	5.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	5.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	5.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	5.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	5.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	6.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	6.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	6.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	6.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	6.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	7.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	7.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	7.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	7.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	7.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	8.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	8.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	8.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	8.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	8.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	9.0		Vertical shale		113.8	Vertical shale to 113.8'
110.0	9.2		Vertical shale		113.8	Vertical shale to 113.8'
110.0	9.4		Vertical shale		113.8	Vertical shale to 113.8'
110.0	9.6		Vertical shale		113.8	Vertical shale to 113.8'
110.0	9.8		Vertical shale		113.8	Vertical shale to 113.8'
110.0	10.0		Vertical shale		113.8	Vertical shale to 113.8'

DRILLING LOG		DIVISION MRD	INSTALLATION Oman	SHEET OF SHEETS
1. PROJECT N1250 No. 100 W. 100 E		10. SIZE AND TYPE OF BIT 1 1/2" roller		
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION SHOWN (FHA or BBL) BTL		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL Fairing 1500		
4. HOLE NO. (As shown on drawing title and file number) 20		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN Disturbed: 25 Undisturbed: None		
5. NAME OF DRILLER H. R. M.		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER 2 ft		
7. THICKNESS OF OVERBURDEN 1109		16. DATE HOLE STARTED: 6-22-83 COMPLETED: 6-28-83		
8. DEPTH DRILLED INTO ROCK 29		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 1132'		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1132'	0'		2" dia. steel pipe			Permanent Pickup for 2" dia. interior pipe = 1.71'
1128'	4'		2" dia. steel pipe			Protective Seal being painted International Safety Orange Top of Ground
1124'	8'		2" dia. steel pipe			Silt, sand (S) 0.0-1.0'
1120'	12'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1116'	16'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1112'	20'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1108'	24'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1104'	28'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1100'	32'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1096'	36'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1092'	40'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1088'	44'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1084'	48'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1080'	52'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1076'	56'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1072'	60'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1068'	64'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1064'	68'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1060'	72'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1056'	76'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1052'	80'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1048'	84'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1044'	88'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1040'	92'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1036'	96'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1032'	100'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1028'	104'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1024'	108'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal
1020'	112'		2" dia. steel pipe			2" dia. steel pipe seal threads duplex seal only + tape used on non-seal

ENC. FORM 100

PROJECT

HOLE NO.

DRILLING LOG		DIVISION <u>MED</u>	INSTALLATION <u>OPMA 44</u>	SHEET <u>1</u> OF <u>13</u> SHEETS
1. PROJECT MONITORING WELL INSTALLATION <u>ASAP (FC-2)</u>		10. SIZE AND TYPE OF BIT <u>2 3/4" DRILLING RODS</u>		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (Name of Station or Bench Mark) <u>6A. (AS COMPLETED)</u>		
3. DRILLING AGENCY <u>US-CEC</u>		12. MANUFACTURER'S DESIGNATION OF DRILL <u>SCRAM 65 / MODJER 32 54</u>		
4. HOLE NO. (As shown on drawing title and No number) <u>FC-2</u>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN DISTURBED: <u>—</u> UNDISTURBED: <u>—</u>		
5. NAME OF DRILLER <u>DDW WALKER</u>		14. TOTAL NUMBER CORE BOXES <u>3</u>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER <u>70.3</u>		
7. THICKNESS OF OVERBURDEN <u>129.0'</u>		16. DATE HOLE STARTED <u>8-13</u> COMPLETED <u>8-13</u> <u>9-13</u> <u>8-2-13</u>		
8. DEPTH DRILLED INTO ROCK <u>47.55'</u>		17. ELEVATION TOP OF HOLE <u>82.5</u>		
9. TOTAL DEPTH OF HOLE <u>175.75'</u>		18. TOTAL CORE RECOVERY FOR BORING <u>82.5</u>		
		19. SIGNATURE OF INSPECTOR <u>Richard P. Brown</u>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of underflow, etc., if applicable)
82.5	0.0		SILTY SAND (SM) MED DENSE NO PLASTICITY SEASONAL MOIST - SATURATED BLACK - BROWN ORANGE W/ MUCH ORGANIC MATERIAL SAND FINE - MED W/ OCCAS COARSE SAND - FINE GRAVEL SST % 20% SUBANGULAR - SUBANGLED			82.55 BEGAN DRILLING W/ SCRAM 65 DRILLING USING AN 2 3/4" DIAM BIT
	70.0		GRAVELY SAND SP MED DENSE NO PLASTICITY SEASONAL MOIST LT. GRAY SAND MED W/ OCCAS FINE - COARSE GRAVEL FINE - COARSE MOSTLY FINE SUBANGULAR - ROUND SLIGHTLY SILTY			

DRILLING LOG		DIVISION M&O	INSTALLATION D-ANL	SHEET 2 OF 17 SHEETS
1. PROJECT ADDITIONAL WALL ATFD INSTALLATION PROJ		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAY OF ELEVATION BROWN (YR or ME)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) PC-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
19. SIGNATURE OF INSPECTOR <i>Richard A. Bean</i>				

ELEVATION	DEPTH	LEGEND	CLARIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
100			GRAVELLY SAND (SP) MED. DENSE NO PLASTICITY SILICIOUS MOIST LT. GRAY SAND MED W/OCCAS FINE - COARSE GRAVELLY FINE-COARSE SLIGHTLY SILTY S&R ROUNDED - F&W			
80			SILTY SAND (SM) MED. DENSE NO PLASTICITY SILICIOUS MOIST LT. GRAY YELN BRN W SAND FINE-MED. W/OCCAS COARSE SAND SUBROUNDED SILTY 2 10-15%			
170			W/OCCAS FINE GRAVE-			
200						

DRILLING LOG		DIVISION ARD	INSTALLATION O.M.A.N.	SHEET OF 5 SHEETS
1. PROJECT MONITORING WELLS NEW INSTALLATION PROJ.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continent or Section)		11. DATUM FOR ELEVATION SHOWN (TBM - B.M.)		
3. DRILLING AGENCY A.S.C.E.C.		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site map)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>Richard O. [Signature]</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of monitoring, etc., if applicable)
200	0		SILTY SAND (SM)			
210	10		MED DENSE NO PLASTICITY V. SILTY CALC. V. MOIST LT BRN + GRAY SAND FINE-MED W/OCCAS COARSE SAND-FINE GRAIN SUTURAL COARSENESS INCREASES W/ DEPTH			
220	20					
230	30					
240	40					
250	50					
260	60					
270	70					
280	80					
290	90					
300	100					
			DECREASE IN % MED TO COARSE SAND AND GRAVEL SAND FINE W/OCCAS MED SILTY % 20%			

DRILLING LOG		DIVISION M&D	INSTALLATION D.M.A.N.F.	SHEET 4 OF 17 SHEETS
1. PROJECT MONITORING W/LL WELL INSTALLED: 1900.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR Richard P. ...		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
30.0			SILTY SAND (SM) MED-DENSE NO PLASTICITY SLIGHTLY CLAY. SATURATED LIGHT BLuish GRAY SAND FINE W/OLDS MED SAND			
31.0						
32.0						
33.0						
34.0			COARSE CLAY TO MED CLAY SLIGHT INCREASE MED-COARSE SAND WOLDS THEN SAND OF FINER SAND AND FINE CLAY			
35.0						
36.0						
37.0						
38.0			SAND MED W/OLDS FINE TO COARSE SAND WOLDS FINE CLAY WELL SORTED AND SILTY CL 10-15%			
39.0						
40.0						

DRILLING...		DIVISION MRO	INSTALLATION DANA	SHEET 5 OF 7 SHEETS
1. PROJECT Monsieur's wells USING 2" STEEL PIPE		10. SIZE AND TYPE OF BIT		
2. LOCATION (Compass bearing or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>Richard J. Green</i>		

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, amount of mudlogging, etc., if significant) g
400			SILTY SAND (SM) MED DENSE - DENSE NO PLASTICITY USUALLY CLAYEY SATURATED AT DRY SAND MED WELLS FINE - COARSE WELLS AS IS WELLS SI - TO 10% - 15%			
410						
420						
430						
440						
450			SANDY GRAVEL (G) DENSE NO PLASTICITY SILESS SATURATED LINED GRAY SAND FINE TO COARSE GRASS FINE WELLS			
460						
470						
480						
490						
500			SILTY SAND (SM) DENSE NO PLASTICITY SILESS SATURATED MED GRAY SAND FINE TO MED WELLS COARSE SAND WELLS SILTY 10% - 15%			

DRILLING LOG	DIVISION AR0	INSTALLATION C-1-A	SHEET 2 OF 11 SHEETS
1. PROJECT MONITORING WELL 11/20/71 SUNBELT-300-FL05		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinate or Station)		11. DAYON FOR ELEVATION SHOWN (FSM or BSL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) PL-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED | UNDISTURBED	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED | COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR Richard [Signature]	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of monitoring, etc., if significant) g
50.0	0.0		STAY SAND (SM)			
51.0	1.0		DFNSF			
52.0	2.0		NO FLOCCULEY			
53.0	3.0		SATURATED			
54.0	4.0		M/LA SAND			
55.0	5.0		SAND FINE TO MED			
56.0	6.0		W/IRREG CORNER SAND			
57.0	7.0		IRREG SAND			
58.0	8.0		IRREG SAND			
59.0	9.0		IRREG SAND			
60.0	10.0		IRREG SAND			
			--- CORNER CHANGE TO MED SAND ---			

DRILLING LOG		DIVISION M&D	DATE 0-2-48	OF 17 SHEETS
1. PROJECT MONITORING WELL SITE: INDIAN A-1		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) FC-2		13. TOTAL NO. OF OVER- BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE <input type="checkbox"/> STARTED <input type="checkbox"/> COMPLETED		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>Richard O. ...</i>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVER- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
60.0			SIETY SAND 2-1/2' V. DARK NO. PLASTICITY SATURATED MED. GRAYISH BROWN SAND FINE WT DEEP. MED. SAND W. S. M. P. D. SOLTY ≈ 10-15%			
61.0						
62.0						
63.0						
64.0			2 1/2' BIT SWELLING 2 1/2' SWELLING (LOSS PER SP. 1)			
65.0						
66.0						
67.0						
68.0						
69.0						
70.0						

DRILLING		DIVISION AED	INSTALLATION DMA 44	SHEET OF 11 SHEETS
1. PROJECT MONITORING WELL NTEOP - UTILIZATION P225		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (BM or BLL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) PC-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR Richard J. ...		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of monitoring, etc., if significant)
a	b	c	d	e	f	g
700			SANDY GRAVEL (GP) U. DWSE NO PLASTICITY STRAIGHT SATURATED MED GRAY BROWN SAND FINE-GRASS MOSTLY MED W FINE GRASS SAND W/O CLAY LENS WELL FINISHED W/TRACE CLAY			
710						
720						
730			W/ SOME CLAY CLAY CONTENT INCREASE W/ DEPTH			
740			CLAY CONTENT DECREASE			
750			SILTY SAND (SP) U. DWSE NO PLASTICITY STRAIGHT SATURATED MED GRAY BROWN SAND FINE TO MED MOSTLY MED SILTY TO CLAY W/TRACE CLAY			
760						
770						
780						
790						
800						

DRILLING LOG		DIVISION M&P	INSTALLATION OMAHA	SHEET 7 OF 7 SHEETS
1. PROJECT MUNICIPAL WATER NIPOR INSTALLATION #12		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinate or Station)		11. DATUM FOR ELEVATION SHOWN (BM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) PL-2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR R. J. [Signature]		

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY f	BOX OR SAMPLE NO. g	REMARKS (Drilling time, water loss, depth of penetration, etc., if significant) h
880			SILTY SAND (SM) DENSE - V. DENSE NO PLASTICITY SILTIFED SATURATED MED BROWN SILTY SAND FINE-MED W/ OCCAS COARSE SAND SLY			
810						
820						
830			WISCONSIN CLAY			
840			INTERBEDDED LAYERED CLAY AND SAND			
850						
860						
870						
880						
890						
900			SHOWN DECREASE IN CLAY CONTENT			

DRILLING LOG		DIVISION	INSTALLATION	DATE No.	SHEET	
1. PROJECT		MED	OMALW		10 OF 17 SHEETS	
2. LOCATION		MONITORING WELL INSTALL. PROJ.				
3. DRILLING AGENCY						
4. HOLE NO. (As shown on drawing title and file number)		PC-2				
5. NAME OF DRILLER						
6. DIRECTION OF HOLE		<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				
7. THICKNESS OF OVERBURDEN						
8. DEPTH DRILLED INTO ROCK						
9. TOTAL DEPTH OF HOLE						
		10. SIZE AND TYPE OF BIT		11. DATUM FOR ELEVATION SHOWN (TYM or MSL)		
		12. MANUFACTURER'S DESIGNATION OF DRILL				
		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN:		14. TOTAL NUMBER CORE BOXES		
		DISTURBED		UNDISTURBED		
		15. ELEVATION GROUND WATER				
		16. DATE HOLE		17. ELEVATION TOP OF HOLE		
		STARTED		COMPLETED		
		18. TOTAL CORE RECOVERY FOR BORING				
		19. SIGNATURE OF INSPECTOR				
		Richard W. ...				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of penetration, etc. - if significant)
990			Silty clayey sand (SP)			
985			V. DENSE			
980			NO PLASTICITY			
975			V. SL. CLAY.			
970			SANDY CLAY			
965			MED GRAY SAND COARSE			
960			WIDELY MED-FINE			
955			GLAUCO FINE - COARSE			
950			MOSTLY FINE			
945			RDW. FINE			
940			SOLTY CLAY 10-15%			
935			SANDY SAND (SM)			
930			DENSE V. DENSE			
925			NO PLASTICITY			
920			V. SL. CLAY.			
915			MED GRAY SAND FINE-MED			
910			WIDELY COARSE SAND			
905			RDW. FINE			
900			SOLTY CLAY 15%			
895			REMAINER WITH CLAY PARTICLES			
890			WIDELY CLAY			
885						
880						
875						
870						
865						
860						
855						
850						
845						
840						
835						
830						
825						
820						
815						
810						
805						
800						

DRILLING		DIVISION MRD	INSTALLATION DASH	SHEET OF 1 SHEETS
1. PROJECT MONITORING WELL NEW INSTALL. PROJ.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Capitol Hill or Station)		11. DATUM FOR ELEVATION SHOWN (BM or BSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. MOLE NO. (As shown on drawing title and file number) P.C. 2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF MOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE MOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE		
9. TOTAL DEPTH OF MOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

ELEVATION e	DEPTH a b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
100.0			SILTY SAND (SM) V. DENSE TO DENSE NO. PLASTICITY SECTION SATURATED MED BROWNISH GRAY SAND FINE TO MED SM, TO 15% CLAY			
101.0						
102.0						
103.0						
104.0						
105.0						
106.0						
107.0						
108.0						
109.0						
110.0						
111.0						
112.0						
113.0						
114.0						
115.0			GRAVELLY SAND (SP) V. DENSE NO. PLASTICITY SECTION SATURATED MED GRAY BROWN SILTY & 10% SAND FINE - MED W/ CLAY & SILT GRAVEL FINE - COARSE MEDIUM GRAIN ED. SAND			
116.0						
117.0						
118.0						
119.0						
120.0						

DRILLING LOG		DIVISION	INSTALLATION	SHEET 12 OF 12 SHEETS		
1. PROJECT MONITORING WELL P.O. INSTALL. PROC.		M.E.O.	D.O.H.			
2. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT				
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (SEA OR B.M.)				
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL				
5. NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN				
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEC. FROM VERT.		14. TOTAL NUMBER CORE BOXES				
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER				
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE <input type="checkbox"/> STARTED <input type="checkbox"/> COMPLETED				
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE				
		18. TOTAL CORE RECOVERY FOR BORING				
		19. SIGNATURE OF INSPECTOR <i>Richard P. ...</i>				
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
110.0			GENEALY SANDY ST1 V. FINE HYPHENATED SECTIONS TO SL. CALCAREOUS SATURATED MED. GRAY W/			
111.0			BROWNISH TINT SAND-FINE- MED. TO COARSE COARSE			
112.0			DAY GRAVEL COARSE TO FINE MASHY COARSE W/ FINE L.S. CL.			
113.0						
114.0						
115.0						
116.0						
117.0						
118.0						
119.0						
120.0						

DRILLING LOG		DIVISION M&D	INSTALLATION OMAHA	SHEET 3 OF 17 SHEETS
1. PROJECT MONTROSE WELL PROJECT		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Address)		11. DATUM FOR ELEVATION SHOWN (FIM or ICG)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 7C-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE MOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF MOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF MOLE		19. SIGNATURE OF INSPECTOR Charles J. ...		

ELEVATION e	DEPTH d	LEGEND c	CLASSIFICATION OF MATERIALS (Description) f	% CORE RECOVERY g	BOX OR SAMPLE NO. h	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) i
120.0			GRAVELY SAND (ST) V. DENSE NO PLASTICITY SECTIONS IN SANDSTONES SATURATED MED GRAY W/ BROWN TONGS SAND FINE-MED W/ BROWN COARSE SANDY GRAVEL COARSE TO FINE MEDIUM GRAVEL W/ BROWN COARSE			
121.0						
122.0						
123.0						
124.0						
125.0						
126.0						
127.0			ST. PETER SANDSTONE HIGHLY WEATHERED V. DENSE MED HARD SECTIONS - V. DENSE SATURATED LT. GRAY BROWN SAND FINE-MED SANDY			
128.0						
129.0						
130.0						

DRILLING		DIVISION MPO	INSTALLATION OMAHA	SHEET OF 11 SHEETS
1. PROJECT MONITORING WELL IDENTIFICATION MPO-NEOP		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION BROWN (798 or 800)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) PC-2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	STARTED	COMPLETED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR <i>Richard P. [unclear]</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of casing, etc., if significant)
a	b	c	d	e	f	g
1500			ST. PETER SANDSTONE HIGHLY WEATHERED V DENSE MOD HARD SANDSTONE V. SANDSTONE SATURATED LT ORANGE BROWN SAND - FINE-MED SANDY			
1504		FEEL		Final	Box 6	SWITCHED TO 12" DIA TRILONE BIT REACHED HOLE TO 1520 REMOVED HOLE TO 1520 START 1526' OF CASING TO 1520 2-1/2" GROUNDWATER WELL CAPUT, ASSEMBLED BENCH MARK BEGAN DRILLING 1526' 8-1/2" W/ 2 3/4" DIA WD 100M BIT W MOBILE DRILLER 54
1508		FEEL				
1512		FEEL				
1516		FEEL				
1520		FEEL				
1524		FEEL				
1528		FEEL				
1532		FEEL				
1536		FEEL				
1540		FEEL				
1544		FEEL				
1548		FEEL				
1552		FEEL				
1556		FEEL				
1560		FEEL				
1564		FEEL				
1568		FEEL				
1572		FEEL				
1576		FEEL				
1580		FEEL				
1584		FEEL				
1588		FEEL				
1592		FEEL				
1596		FEEL				
1600		FEEL				
1604		FEEL				
1608		FEEL				
1612		FEEL				
1616		FEEL				
1620		FEEL				
1624		FEEL				
1628		FEEL				
1632		FEEL				
1636		FEEL				
1640		FEEL				
1644		FEEL				
1648		FEEL				
1652		FEEL				
1656		FEEL				
1660		FEEL				
1664		FEEL				
1668		FEEL				
1672		FEEL				
1676		FEEL				
1680		FEEL				
1684		FEEL				
1688		FEEL				
1692		FEEL				
1696		FEEL				
1700		FEEL				
1704		FEEL				
1708		FEEL				
1712		FEEL				
1716		FEEL				
1720		FEEL				
1724		FEEL				
1728		FEEL				
1732		FEEL				
1736		FEEL				
1740		FEEL				
1744		FEEL				
1748		FEEL				
1752		FEEL				
1756		FEEL				
1760		FEEL				
1764		FEEL				
1768		FEEL				
1772		FEEL				
1776		FEEL				
1780		FEEL				
1784		FEEL				
1788		FEEL				
1792		FEEL				
1796		FEEL				
1800		FEEL				
1804		FEEL				
1808		FEEL				
1812		FEEL				
1816		FEEL				
1820		FEEL				
1824		FEEL				
1828		FEEL				
1832		FEEL				
1836		FEEL				
1840		FEEL				
1844		FEEL				
1848		FEEL				
1852		FEEL				
1856		FEEL				
1860		FEEL				
1864		FEEL				
1868		FEEL				
1872		FEEL				
1876		FEEL				
1880		FEEL				
1884		FEEL				
1888		FEEL				
1892		FEEL				
1896		FEEL				
1900		FEEL				
1904		FEEL				
1908		FEEL				
1912		FEEL				
1916		FEEL				
1920		FEEL				
1924		FEEL				
1928		FEEL				
1932		FEEL				
1936		FEEL				
1940		FEEL				
1944		FEEL				
1948		FEEL				
1952		FEEL				
1956		FEEL				
1960		FEEL				
1964		FEEL				
1968		FEEL				
1972		FEEL				
1976		FEEL				
1980		FEEL				
1984		FEEL				
1988		FEEL				
1992		FEEL				
1996		FEEL				
2000		FEEL				

DRILLING		DEVISION MRD	INSTALLATION	SHEET <u>1</u> OF 11 SHEETS
1. PROJECT AND INSTALLATION N3247 PRC2		10. SIZE AND TYPE OF BIT		
2. LOCATION (Construction or Station)		11. DATUM FOR ELEVATION SHOWN (BM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drilling title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
1400			ST PETER SANDSTONE			
1400			HIGHLY WEATHERED			
1407			V. DENSE			
1410			MOD. HARD			
1411			SILTSTONE -			
1412			V. SILTY	DSR		
1413			SATURATED	R-240		
1420			LT ORANGE BROWN SAND TYPE - MED	3		
1423			SILTY	304		
1426			FRACTURE DUCHEN DUCTILE			
1427			HIGHLY WEATHERED			
1430			DENSE			
1432			MED SOFT			
1433			SLIGHTLY CALC.			
1434			SATURATED			
1435			MEDIUM			
1436			V. FRACTURED			
1437			WHITISH GRAY			
1438			CRYSTALLINE			
1439			SANDY SILTY			
1440			TEXTURE			
1441			FRACTURE DUCHEN DUCTILE			
1442			DUCTILE			
1443			HIGHLY WEATHERED			
1444			DENSE			
1445			MED HARD			
1446			SLIGHTLY CALCAREOUS			
1447			SATURATED			
1448			RISE			
1449			FRACT. V. FINE			
1450			V. FINE GRAINED			
1451			MASSIVE			
1452			FRACTURE DUCHEN DUCTILE	DSR		
1453			DUCTILE	R-43		
1454			MED WEATHERED	R-44		
1455			DENSE	6016		
1456			MED HARD - MED			
1457			V. SLIGHTLY CALCAREOUS			
1458			SATURATED			
1459			FRACT. V. FINE			
1460			CRYSTALLINE			
1461			MASSIVE			
1462			V. FINE GRAINED			
1463			CONCRETE			
1464			TO ROSE W/ VESDS			
1465						
1466						
1467						
1468						
1469						
1470						
1471						
1472						
1473						
1474						
1475						
1476						
1477						
1478						
1479						
1480						
1481						
1482						
1483						
1484						
1485						
1486						
1487						
1488						
1489						
1490						

DRILLING		med	Small	OF 17 SHEETS
1. PROJECT NO. (As shown on drawing title and No.)	N3200		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)	TRUST		11. DATUM FOR ELEVATION SHOWN (FMR or MSL)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and No.)	PC-2		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED UNDISTURBED	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE MOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF MOLE	
9. TOTAL DEPTH OF MOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR (Signature)	

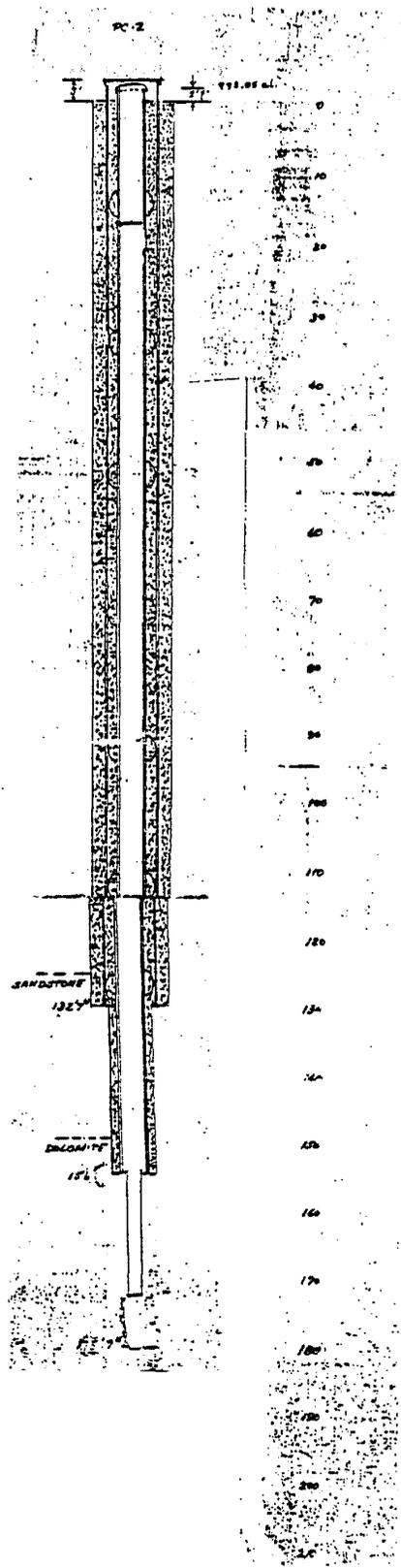
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of monitoring, etc., if significant)
1500		VOID	FRASS PACKING			
1504			PERMITE	2.415		
1507.5			MOD WEATHERED	2.415		
1511			DENSE MOD HARD	RAW		
			VOLCANIC CONCRETE SATURATED	1		
			FRACT. V. FRACT		Box 11	
			LOOSE MASSIVE			
			V. FRACT. GRANULAR			
			W. VOIDS			
1524.5						
1527						
1528.5						
1532						
1545						
1547.5						
1549						
1552						
1555						
1557.5						
1560						
1562.5						
1565						
1567.5						
1570						
1572						
1574						
1576						
1578						
1580						
1582						
1584						
1586						
1588						
1590						
1592						
1594						
1596						
1598						
1600						

DRILLING NEW	DIVISION ARD	INSTALLATION OMAHA	SHEET 17 OF 17 SHEETS
1. PROJECT MONITORING NEW INSTALLATION AT 10 PROJ.		10. SIZE AND TYPE OF BIT	
2. LOCATION (Continuation of Station)		11. DAYON FOR ELEVATION SHOWN (TYP. = REL.)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) PC-2		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR <i>Richard P. Jones</i>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, amount of weathering, etc., if significant) g
1600		V60D	PRAIRIE DUCHESNE DOLOMITE	D 50		
1607			HIGHLY WEATHERED DENSE	R 50		
1610			MOD HARD V. SLIGHTLY CALICREMS SATURATED V. FRACTURED LI. OILY MASSIVE SAUDY FINE WEATHERED GRAINED	R 53 B 511		
1620		V60F				
1630			LESS WEATHERED LT GRAY MOD HARD-HARD			
1640						
1645		V60D				
1650						
1655				D 50		
1657				R 475		
1660				R 474		
1670		V60D		B 511 7015M B 512 F 511 167 25		
1680						
1690						
1700						

DRILLING		M.R.D.	0-AND	OF 1 SHEETS
1. PROJECT AND JUSTIFYING AGENCY WITH JUSTIFICATION		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if applicable)
a	b	c	d	e	f	g
1700		VOID				
1705			PRIME DA CLASH			
1710			DEKIMATE			
1715			HIGHLY WEATHERED	D 50		
1720			DENSE	S 50		
1725			MOD HARD-HARD	R 105		
1730			V. SLIGHTLY CALCAREOUS	R 112		
1735			SATURATED			
1740			V. FRACTURED			
1745			T. GR.			
1750			PRESSURE			
1755			SANDY			
1760			V. FINE GRAINED			
1765			CONCRETE			
1770			CREAM			
1775			V. FINE GRAINED			
1780			WHOLELY WEATHERED			
1785			WIDE CRACKS			
1790						
1795		VOID				
1800				D 50		X 4000 GALLONS WATER LOSS
1805				R 40		
1810						BOTTOM OF HOLE @ 1805'
1815						FLASHED WATER
1820						2: 1000 GALLONS
1825						2: 1000 GALLONS
1830						2: 1000 GALLONS
1835						2: 1000 GALLONS
1840						2: 1000 GALLONS
1845						2: 1000 GALLONS
1850						2: 1000 GALLONS
1855						2: 1000 GALLONS
1860						2: 1000 GALLONS
1865						2: 1000 GALLONS
1870						2: 1000 GALLONS
1875						2: 1000 GALLONS
1880						2: 1000 GALLONS
1885						2: 1000 GALLONS
1890						2: 1000 GALLONS
1895						2: 1000 GALLONS
1900						2: 1000 GALLONS



DRILLING LOG		SECTION	INSTALLATION	SHEET
PROJECT		NO. 22	CONCRETE	OF 4 SHEETS
LOCATION (Continuation of Section)		10. SIZE AND TYPE OF BIT		
DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (FSL or MSL)		
HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER		13. TOTAL NO. OVERBURDEN SAMPLES TAKEN		
DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
DEPTH DRILLED INTO ROCK		16. DATE MOLE		
TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF MOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
0.0	0.0		Silty sand		1-1	Ground water
0.0	0.0		Silty sand		1-1	4' 0" - 5' 0" - 6' 0"
0.0	0.0		Silty sand		1-1	6' 0" - 7' 0"
0.0	0.0		Silty sand		1-1	7' 0" - 8' 0"
0.0	0.0		Silty sand		1-1	8' 0" - 9' 0"
0.0	0.0		Silty sand		1-1	9' 0" - 10' 0"
0.0	0.0		Silty sand		1-1	10' 0" - 11' 0"
0.0	0.0		Silty sand		1-1	11' 0" - 12' 0"
0.0	0.0		Silty sand		1-1	12' 0" - 13' 0"
0.0	0.0		Silty sand		1-1	13' 0" - 14' 0"
0.0	0.0		Silty sand		1-1	14' 0" - 15' 0"
0.0	0.0		Silty sand		1-1	15' 0" - 16' 0"
0.0	0.0		Silty sand		1-1	16' 0" - 17' 0"
0.0	0.0		Silty sand		1-1	17' 0" - 18' 0"
0.0	0.0		Silty sand		1-1	18' 0" - 19' 0"
0.0	0.0		Silty sand		1-1	19' 0" - 20' 0"
0.0	0.0		Silty sand		1-1	20' 0" - 21' 0"
0.0	0.0		Silty sand		1-1	21' 0" - 22' 0"
0.0	0.0		Silty sand		1-1	22' 0" - 23' 0"
0.0	0.0		Silty sand		1-1	23' 0" - 24' 0"
0.0	0.0		Silty sand		1-1	24' 0" - 25' 0"
0.0	0.0		Silty sand		1-1	25' 0" - 26' 0"
0.0	0.0		Silty sand		1-1	26' 0" - 27' 0"
0.0	0.0		Silty sand		1-1	27' 0" - 28' 0"
0.0	0.0		Silty sand		1-1	28' 0" - 29' 0"
0.0	0.0		Silty sand		1-1	29' 0" - 30' 0"
0.0	0.0		Silty sand		1-1	30' 0" - 31' 0"
0.0	0.0		Silty sand		1-1	31' 0" - 32' 0"
0.0	0.0		Silty sand		1-1	32' 0" - 33' 0"
0.0	0.0		Silty sand		1-1	33' 0" - 34' 0"
0.0	0.0		Silty sand		1-1	34' 0" - 35' 0"
0.0	0.0		Silty sand		1-1	35' 0" - 36' 0"
0.0	0.0		Silty sand		1-1	36' 0" - 37' 0"
0.0	0.0		Silty sand		1-1	37' 0" - 38' 0"
0.0	0.0		Silty sand		1-1	38' 0" - 39' 0"
0.0	0.0		Silty sand		1-1	39' 0" - 40' 0"
0.0	0.0		Silty sand		1-1	40' 0" - 41' 0"
0.0	0.0		Silty sand		1-1	41' 0" - 42' 0"
0.0	0.0		Silty sand		1-1	42' 0" - 43' 0"
0.0	0.0		Silty sand		1-1	43' 0" - 44' 0"
0.0	0.0		Silty sand		1-1	44' 0" - 45' 0"
0.0	0.0		Silty sand		1-1	45' 0" - 46' 0"
0.0	0.0		Silty sand		1-1	46' 0" - 47' 0"
0.0	0.0		Silty sand		1-1	47' 0" - 48' 0"
0.0	0.0		Silty sand		1-1	48' 0" - 49' 0"
0.0	0.0		Silty sand		1-1	49' 0" - 50' 0"
0.0	0.0		Silty sand		1-1	50' 0" - 51' 0"
0.0	0.0		Silty sand		1-1	51' 0" - 52' 0"
0.0	0.0		Silty sand		1-1	52' 0" - 53' 0"
0.0	0.0		Silty sand		1-1	53' 0" - 54' 0"
0.0	0.0		Silty sand		1-1	54' 0" - 55' 0"
0.0	0.0		Silty sand		1-1	55' 0" - 56' 0"
0.0	0.0		Silty sand		1-1	56' 0" - 57' 0"
0.0	0.0		Silty sand		1-1	57' 0" - 58' 0"
0.0	0.0		Silty sand		1-1	58' 0" - 59' 0"
0.0	0.0		Silty sand		1-1	59' 0" - 60' 0"
0.0	0.0		Silty sand		1-1	60' 0" - 61' 0"
0.0	0.0		Silty sand		1-1	61' 0" - 62' 0"
0.0	0.0		Silty sand		1-1	62' 0" - 63' 0"
0.0	0.0		Silty sand		1-1	63' 0" - 64' 0"
0.0	0.0		Silty sand		1-1	64' 0" - 65' 0"
0.0	0.0		Silty sand		1-1	65' 0" - 66' 0"
0.0	0.0		Silty sand		1-1	66' 0" - 67' 0"
0.0	0.0		Silty sand		1-1	67' 0" - 68' 0"
0.0	0.0		Silty sand		1-1	68' 0" - 69' 0"
0.0	0.0		Silty sand		1-1	69' 0" - 70' 0"
0.0	0.0		Silty sand		1-1	70' 0" - 71' 0"
0.0	0.0		Silty sand		1-1	71' 0" - 72' 0"
0.0	0.0		Silty sand		1-1	72' 0" - 73' 0"
0.0	0.0		Silty sand		1-1	73' 0" - 74' 0"
0.0	0.0		Silty sand		1-1	74' 0" - 75' 0"
0.0	0.0		Silty sand		1-1	75' 0" - 76' 0"
0.0	0.0		Silty sand		1-1	76' 0" - 77' 0"
0.0	0.0		Silty sand		1-1	77' 0" - 78' 0"
0.0	0.0		Silty sand		1-1	78' 0" - 79' 0"
0.0	0.0		Silty sand		1-1	79' 0" - 80' 0"
0.0	0.0		Silty sand		1-1	80' 0" - 81' 0"
0.0	0.0		Silty sand		1-1	81' 0" - 82' 0"
0.0	0.0		Silty sand		1-1	82' 0" - 83' 0"
0.0	0.0		Silty sand		1-1	83' 0" - 84' 0"
0.0	0.0		Silty sand		1-1	84' 0" - 85' 0"
0.0	0.0		Silty sand		1-1	85' 0" - 86' 0"
0.0	0.0		Silty sand		1-1	86' 0" - 87' 0"
0.0	0.0		Silty sand		1-1	87' 0" - 88' 0"
0.0	0.0		Silty sand		1-1	88' 0" - 89' 0"
0.0	0.0		Silty sand		1-1	89' 0" - 90' 0"
0.0	0.0		Silty sand		1-1	90' 0" - 91' 0"
0.0	0.0		Silty sand		1-1	91' 0" - 92' 0"
0.0	0.0		Silty sand		1-1	92' 0" - 93' 0"
0.0	0.0		Silty sand		1-1	93' 0" - 94' 0"
0.0	0.0		Silty sand		1-1	94' 0" - 95' 0"
0.0	0.0		Silty sand		1-1	95' 0" - 96' 0"
0.0	0.0		Silty sand		1-1	96' 0" - 97' 0"
0.0	0.0		Silty sand		1-1	97' 0" - 98' 0"
0.0	0.0		Silty sand		1-1	98' 0" - 99' 0"
0.0	0.0		Silty sand		1-1	99' 0" - 100' 0"

No. 45

DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT <i>M... ..</i>		10. SIZE AND TYPE OF BIT		OF 4 SHEETS
2. LOCATION (Coordinates or Station)		11. DAY ON FOR ELEVATION SHOWN (FROM ...)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title; and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE MOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, amount of overburden, etc., if applicable)
100.0	0.0		<i>Silty sand</i>			
100.0	1.0		<i>Drone</i>			
100.0	2.0		<i>Drone</i>			
100.0	3.0		<i>Drone</i>			
100.0	4.0		<i>Drone</i>			
100.0	5.0		<i>Drone</i>			
100.0	6.0		<i>Drone</i>			
100.0	7.0		<i>Drone</i>			
100.0	8.0		<i>Drone</i>			
100.0	9.0		<i>Drone</i>			
100.0	10.0		<i>Drone</i>			
100.0	11.0		<i>Drone</i>			
100.0	12.0		<i>Drone</i>			
100.0	13.0		<i>Drone</i>			
100.0	14.0		<i>Drone</i>			
100.0	15.0		<i>Drone</i>			
100.0	16.0		<i>Drone</i>			
100.0	17.0		<i>Drone</i>			
100.0	18.0		<i>Drone</i>			
100.0	19.0		<i>Drone</i>			
100.0	20.0		<i>Drone</i>			
100.0	21.0		<i>Drone</i>			
100.0	22.0		<i>Drone</i>			
100.0	23.0		<i>Drone</i>			
100.0	24.0		<i>Drone</i>			
100.0	25.0		<i>Drone</i>			
100.0	26.0		<i>Drone</i>			
100.0	27.0		<i>Drone</i>			
100.0	28.0		<i>Drone</i>			
100.0	29.0		<i>Drone</i>			
100.0	30.0		<i>Drone</i>			
100.0	31.0		<i>Drone</i>			
100.0	32.0		<i>Drone</i>			
100.0	33.0		<i>Drone</i>			
100.0	34.0		<i>Drone</i>			
100.0	35.0		<i>Drone</i>			
100.0	36.0		<i>Drone</i>			
100.0	37.0		<i>Drone</i>			
100.0	38.0		<i>Drone</i>			
100.0	39.0		<i>Drone</i>			
100.0	40.0		<i>Drone</i>			
100.0	41.0		<i>Drone</i>			
100.0	42.0		<i>Drone</i>			
100.0	43.0		<i>Drone</i>			
100.0	44.0		<i>Drone</i>			
100.0	45.0		<i>Drone</i>			
100.0	46.0		<i>Drone</i>			
100.0	47.0		<i>Drone</i>			
100.0	48.0		<i>Drone</i>			
100.0	49.0		<i>Drone</i>			
100.0	50.0		<i>Drone</i>			
100.0	51.0		<i>Drone</i>			
100.0	52.0		<i>Drone</i>			
100.0	53.0		<i>Drone</i>			
100.0	54.0		<i>Drone</i>			
100.0	55.0		<i>Drone</i>			
100.0	56.0		<i>Drone</i>			
100.0	57.0		<i>Drone</i>			
100.0	58.0		<i>Drone</i>			
100.0	59.0		<i>Drone</i>			
100.0	60.0		<i>Drone</i>			
100.0	61.0		<i>Drone</i>			
100.0	62.0		<i>Drone</i>			
100.0	63.0		<i>Drone</i>			
100.0	64.0		<i>Drone</i>			
100.0	65.0		<i>Drone</i>			
100.0	66.0		<i>Drone</i>			
100.0	67.0		<i>Drone</i>			
100.0	68.0		<i>Drone</i>			
100.0	69.0		<i>Drone</i>			
100.0	70.0		<i>Drone</i>			
100.0	71.0		<i>Drone</i>			
100.0	72.0		<i>Drone</i>			
100.0	73.0		<i>Drone</i>			
100.0	74.0		<i>Drone</i>			
100.0	75.0		<i>Drone</i>			
100.0	76.0		<i>Drone</i>			
100.0	77.0		<i>Drone</i>			
100.0	78.0		<i>Drone</i>			
100.0	79.0		<i>Drone</i>			
100.0	80.0		<i>Drone</i>			
100.0	81.0		<i>Drone</i>			
100.0	82.0		<i>Drone</i>			
100.0	83.0		<i>Drone</i>			
100.0	84.0		<i>Drone</i>			
100.0	85.0		<i>Drone</i>			
100.0	86.0		<i>Drone</i>			
100.0	87.0		<i>Drone</i>			
100.0	88.0		<i>Drone</i>			
100.0	89.0		<i>Drone</i>			
100.0	90.0		<i>Drone</i>			
100.0	91.0		<i>Drone</i>			
100.0	92.0		<i>Drone</i>			
100.0	93.0		<i>Drone</i>			
100.0	94.0		<i>Drone</i>			
100.0	95.0		<i>Drone</i>			
100.0	96.0		<i>Drone</i>			
100.0	97.0		<i>Drone</i>			
100.0	98.0		<i>Drone</i>			
100.0	99.0		<i>Drone</i>			
100.0	100.0		<i>Drone</i>			

DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT		MANA	MANA	OF 1 SHEETS
2. LOCATION (Continent or Station)			10. SIZE AND TYPE OF BIT	
3. DRILLING AGENCY			11. DATUM FOR ELEVATION BROWN (FTM or MSL)	
4. HOLE NO. (As shown on drawing title and file number)			12. MANUFACTURER'S DESIGNATION OF DRILL	
5. NAME OF DRILLER			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES	
7. THICKNESS OF OVERBURDEN			15. ELEVATION GROUND WATER	
8. DEPTH DRILLED INTO ROCK			16. DATE HOLE	STARTED COMPLETED
9. TOTAL DEPTH OF HOLE			17. ELEVATION TOP OF HOLE	
			18. TOTAL CORE RECOVERY FOR BORING	%
			19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
100.00	0.00		Silty Sand			Drilled 100.00
98.00	2.00		Dark Nonchert. 1.5' block. Moist to saturated. 1/4 to 1/2 inch clay. 1/2 inch brown. 1/2 inch fine to med. 1/2 inch coarse. Silty approx 10'			Drilled 98.00 100.00 - 98.00 = 2.00 W/ 300 LBS weight 100.00 - 180.00 = 180.00 100.00 - 108.00 = 92.00
96.00	4.00					
94.00	6.00					
92.00	8.00					
90.00	10.00					
88.00	12.00					
86.00	14.00					
84.00	16.00					
82.00	18.00					
80.00	20.00					
78.00	22.00					
76.00	24.00					
74.00	26.00					
72.00	28.00					
70.00	30.00					
68.00	32.00					
66.00	34.00					
64.00	36.00					
62.00	38.00					
60.00	40.00					
58.00	42.00					
56.00	44.00					
54.00	46.00					
52.00	48.00					
50.00	50.00					

DRILLING LOG		DIVISION MRO	INSTALLATION JMAA	SHEET OF 2 SHEETS
1. PROJECT NIPCO Monitoring Well		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Street)		11. DAY OF YEAR FOR ELEVATION SHOWN (Y.M. or M.S.)		
3. DRILLING AGENCY US-CF-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 25		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: UNDISTURBED:		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE MOLE STARTED: COMPLETED:		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE		
9. TOTAL DEPTH OF MOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	2 CORE RECOV. NO.	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
104.5	0		Perfectly			S. L. (10) (10)
104.0	5		Perfectly			(10) (10)
103.5	10		Perfectly			Containing device
103.0	15		Perfectly			Component of
102.5	20		Perfectly			W. 1/2" x 1/2"
102.0	25		Perfectly			Part of hole
101.5	30		Perfectly			Attached to
101.0	35		Perfectly			1/2" x 1/2"
100.5	40		Perfectly			1/2" x 1/2"
100.0	45		Perfectly			1/2" x 1/2"
99.5	50		Perfectly			1/2" x 1/2"
99.0	55		Perfectly			1/2" x 1/2"
98.5	60		Perfectly			1/2" x 1/2"
98.0	65		Perfectly			1/2" x 1/2"
97.5	70		Perfectly			1/2" x 1/2"
97.0	75		Perfectly			1/2" x 1/2"
96.5	80		Perfectly			1/2" x 1/2"
96.0	85		Perfectly			1/2" x 1/2"
95.5	90		Perfectly			1/2" x 1/2"
95.0	95		Perfectly			1/2" x 1/2"
94.5	100		Perfectly			1/2" x 1/2"
94.0	105		Perfectly			1/2" x 1/2"
93.5	110		Perfectly			1/2" x 1/2"
93.0	115		Perfectly			1/2" x 1/2"
92.5	120		Perfectly			1/2" x 1/2"
92.0	125		Perfectly			1/2" x 1/2"
91.5	130		Perfectly			1/2" x 1/2"
91.0	135		Perfectly			1/2" x 1/2"
90.5	140		Perfectly			1/2" x 1/2"
90.0	145		Perfectly			1/2" x 1/2"

DRILLING LOG		DIVISION	INSTALLATION	SHEET
PROJECT		OF 2 SHEETS		
LOCATION		10. SIZE AND TYPE OF BIT		
DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (TBM or BSL)		
HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
DEPTH DRILLED INTO ROCK		16. DATE MOLE		
TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100	0		Overburden			
90	10		...			
80	20		...			
70	30		...			
60	40		...			
50	50		...			
40	60		...			
30	70		...			
20	80		...			
10	90		...			
0	100		...			

DRILLING LOG		VISION		INSTALLATION		No. SHEET 3 OF 7 SHEETS	
1. PROJECT MON. ...				10. SIZE AND TYPE OF BIT			
2. LOCATION (Coordinates or Station)				11. DATUM FOR ELEVATION SHOWN (FBM or MSL)			
3. DRILLING AGENCY US-CE-C				12. MANUFACTURER'S DESIGNATION OF DRILL			
4. HOLE NO. (As shown on drawing title and file number) 30				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES			
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER		16. DATE MOLE STARTED COMPLETED	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF MOLE			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING %			
9. TOTAL DEPTH OF MOLE				19. SIGNATURE OF INSPECTOR			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of penetration, etc., if significant)	
			<p>1. 1/2" ...</p> <p>2. ...</p> <p>3. ...</p> <p>4. ...</p> <p>5. ...</p> <p>6. ...</p> <p>7. ...</p> <p>8. ...</p> <p>9. ...</p> <p>10. ...</p> <p>11. ...</p> <p>12. ...</p> <p>13. ...</p> <p>14. ...</p> <p>15. ...</p> <p>16. ...</p> <p>17. ...</p> <p>18. ...</p> <p>19. ...</p> <p>20. ...</p> <p>21. ...</p> <p>22. ...</p> <p>23. ...</p> <p>24. ...</p> <p>25. ...</p> <p>26. ...</p> <p>27. ...</p> <p>28. ...</p> <p>29. ...</p> <p>30. ...</p>			<p>1. ...</p> <p>2. ...</p> <p>3. ...</p> <p>4. ...</p> <p>5. ...</p> <p>6. ...</p> <p>7. ...</p> <p>8. ...</p> <p>9. ...</p> <p>10. ...</p> <p>11. ...</p> <p>12. ...</p> <p>13. ...</p> <p>14. ...</p> <p>15. ...</p> <p>16. ...</p> <p>17. ...</p> <p>18. ...</p> <p>19. ...</p> <p>20. ...</p> <p>21. ...</p> <p>22. ...</p> <p>23. ...</p> <p>24. ...</p> <p>25. ...</p> <p>26. ...</p> <p>27. ...</p> <p>28. ...</p> <p>29. ...</p> <p>30. ...</p>	

No. 30

DRILLING LOG	DIVISION <i>MS</i>	INSTALLATION <i>MS</i>	SHEET OF 9 SHEETS
1. PROJECT <i>Niles Nevada & Lake</i>		10. SIZE AND TYPE OF BIT	
2. LOCATION (Continuation of Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY <i>USACE</i>		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) <i>30</i>		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED | UNDISTURBED	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF MOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE MOLE: STARTED | COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE	
9. TOTAL DEPTH OF MOLE		18. TOTAL CORE RECOVERY FOR BORING %	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
	0		<i>Silt Sand</i>			
	10		<i>Dark sand</i>			
	20		<i>Dark sand</i>			
	30		<i>Dark sand</i>			
	40		<i>Dark sand</i>			
	40.1				<i>40.1</i>	<i>Drilled to 40.1'</i>
	40.2				<i>40.2</i>	<i>Down 3' in split spoon 40.1-41.6'</i>
	41.0					<i>Rec. 0.1'</i>
	42.0					<i>Rec. 0.1' 48'</i>
	43.0					<i>to large open hole</i>
	44.0					<i>Rec. 0.1' 48'</i>
	45.0					<i>Rec. 0.1' 48'</i>
	46.0					<i>Rec. 0.1' 48'</i>
	47.0					<i>Rec. 0.1' 48'</i>
	48.0					<i>Rec. 0.1' 48'</i>
	49.0					<i>Rec. 0.1' 48'</i>
	50.0					<i>Rec. 0.1' 48'</i>
	51.0					<i>Rec. 0.1' 48'</i>
	52.0					<i>Rec. 0.1' 48'</i>
	53.0					<i>Rec. 0.1' 48'</i>
	54.0					<i>Rec. 0.1' 48'</i>
	55.0					<i>Rec. 0.1' 48'</i>
	56.0					<i>Rec. 0.1' 48'</i>
	57.0					<i>Rec. 0.1' 48'</i>
	58.0					<i>Rec. 0.1' 48'</i>
	59.0					<i>Rec. 0.1' 48'</i>
	60.0					<i>Rec. 0.1' 48'</i>
	61.0					<i>Rec. 0.1' 48'</i>
	62.0					<i>Rec. 0.1' 48'</i>
	63.0					<i>Rec. 0.1' 48'</i>
	64.0					<i>Rec. 0.1' 48'</i>
	65.0					<i>Rec. 0.1' 48'</i>
	66.0					<i>Rec. 0.1' 48'</i>
	67.0					<i>Rec. 0.1' 48'</i>
	68.0					<i>Rec. 0.1' 48'</i>
	69.0					<i>Rec. 0.1' 48'</i>
	70.0					<i>Rec. 0.1' 48'</i>
	71.0					<i>Rec. 0.1' 48'</i>
	72.0					<i>Rec. 0.1' 48'</i>
	73.0					<i>Rec. 0.1' 48'</i>
	74.0					<i>Rec. 0.1' 48'</i>
	75.0					<i>Rec. 0.1' 48'</i>
	76.0					<i>Rec. 0.1' 48'</i>
	77.0					<i>Rec. 0.1' 48'</i>
	78.0					<i>Rec. 0.1' 48'</i>
	79.0					<i>Rec. 0.1' 48'</i>
	80.0					<i>Rec. 0.1' 48'</i>
	81.0					<i>Rec. 0.1' 48'</i>
	82.0					<i>Rec. 0.1' 48'</i>
	83.0					<i>Rec. 0.1' 48'</i>
	84.0					<i>Rec. 0.1' 48'</i>
	85.0					<i>Rec. 0.1' 48'</i>
	86.0					<i>Rec. 0.1' 48'</i>
	87.0					<i>Rec. 0.1' 48'</i>
	88.0					<i>Rec. 0.1' 48'</i>
	89.0					<i>Rec. 0.1' 48'</i>
	90.0					<i>Rec. 0.1' 48'</i>
	91.0					<i>Rec. 0.1' 48'</i>
	92.0					<i>Rec. 0.1' 48'</i>
	93.0					<i>Rec. 0.1' 48'</i>
	94.0					<i>Rec. 0.1' 48'</i>
	95.0					<i>Rec. 0.1' 48'</i>
	96.0					<i>Rec. 0.1' 48'</i>
	97.0					<i>Rec. 0.1' 48'</i>
	98.0					<i>Rec. 0.1' 48'</i>
	99.0					<i>Rec. 0.1' 48'</i>
	100.0					<i>Rec. 0.1' 48'</i>

No. 30

DRILLING LOG		VISION MAD		INSTALLATION MADA		SHEET 6 OF 9 SHEETS	
1. PROJECT Monitoring Water Treatment				10. SIZE AND TYPE OF BIT			
2. LOCATION (Coordinates or Station)				11. DAYUM FOR ELEVATION SHOWN (TBM or HGL)			
3. DRILLING AGENCY US-CE-C				12. MANUFACTURER'S DESIGNATION OF DRILL			
4. HOLE NO. (As shown on drawing title and file number)				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED	
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES			
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEG. FROM VERT.				15. ELEVATION GROUND WATER		16. DATE HOLE STARTED COMPLETED	
7. THICKNESS OF OVERBURDEN				17. ELEVATION TOP OF HOLE			
8. DEPTH DRILLED INTO ROCK				18. TOTAL CORE RECOVERY FOR BORING			
9. TOTAL DEPTH OF HOLE				19. SIGNATURE OF INSPECTOR			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.00	0.00		City Sand (S)			Drilled to 100.00'
95.00	5.00		Drilled to 95.00'			Drilled to 95.00'
90.00	10.00		Drilled to 90.00'			Drilled to 90.00'
85.00	15.00		Drilled to 85.00'			Drilled to 85.00'
80.00	20.00		Drilled to 80.00'			Drilled to 80.00'
75.00	25.00		Drilled to 75.00'			Drilled to 75.00'
70.00	30.00		Drilled to 70.00'			Drilled to 70.00'
65.00	35.00		Drilled to 65.00'			Drilled to 65.00'
60.00	40.00		Drilled to 60.00'			Drilled to 60.00'
55.00	45.00		Drilled to 55.00'			Drilled to 55.00'
50.00	50.00		Drilled to 50.00'			Drilled to 50.00'
45.00	55.00		Drilled to 45.00'			Drilled to 45.00'
40.00	60.00		Drilled to 40.00'			Drilled to 40.00'
35.00	65.00		Drilled to 35.00'			Drilled to 35.00'
30.00	70.00		Drilled to 30.00'			Drilled to 30.00'
25.00	75.00		Drilled to 25.00'			Drilled to 25.00'
20.00	80.00		Drilled to 20.00'			Drilled to 20.00'
15.00	85.00		Drilled to 15.00'			Drilled to 15.00'
10.00	90.00		Drilled to 10.00'			Drilled to 10.00'
5.00	95.00		Drilled to 5.00'			Drilled to 5.00'
0.00	100.00		Drilled to 0.00'			Drilled to 0.00'

DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT		NO. OF SHEETS		
2. LOCATION		NO. SIZE AND TYPE OF BIT		
3. DRILLING AGENCY		11. DAYUM FOR ELEVATION SHOWN (FPM or MSL)		
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
5. NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
6. DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE		
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
60.0	0.0		Very Sand		1	Drilled and washed to 60.2'
59.9	0.1		Very Sand		2-14	to 60.2'
59.8	0.2		Very Sand		61.1	Drilled 3' 2" spl +
59.7	0.3		Very Sand		61.6	to 60.2' - 61.7'
59.6	0.4		Very Sand			W/ 300 lbs Hammer
59.5	0.5		Very Sand			Rep. 61.5'
59.4	0.6		Very Sand			to 60.0' - 63.0'
59.3	0.7		Very Sand			
59.2	0.8		Very Sand			
59.1	0.9		Very Sand			
59.0	1.0		Very Sand			
58.9	1.1		Very Sand			
58.8	1.2		Very Sand			
58.7	1.3		Very Sand			
58.6	1.4		Very Sand			
58.5	1.5		Very Sand			
58.4	1.6		Very Sand			
58.3	1.7		Very Sand			
58.2	1.8		Very Sand			
58.1	1.9		Very Sand			
58.0	2.0		Very Sand			
57.9	2.1		Very Sand			
57.8	2.2		Very Sand			
57.7	2.3		Very Sand			
57.6	2.4		Very Sand			
57.5	2.5		Very Sand			
57.4	2.6		Very Sand			
57.3	2.7		Very Sand			
57.2	2.8		Very Sand			
57.1	2.9		Very Sand			
57.0	3.0		Very Sand			
56.9	3.1		Very Sand			
56.8	3.2		Very Sand			
56.7	3.3		Very Sand			
56.6	3.4		Very Sand			
56.5	3.5		Very Sand			
56.4	3.6		Very Sand			
56.3	3.7		Very Sand			
56.2	3.8		Very Sand			
56.1	3.9		Very Sand			
56.0	4.0		Very Sand			
55.9	4.1		Very Sand			
55.8	4.2		Very Sand			
55.7	4.3		Very Sand			
55.6	4.4		Very Sand			
55.5	4.5		Very Sand			
55.4	4.6		Very Sand			
55.3	4.7		Very Sand			
55.2	4.8		Very Sand			
55.1	4.9		Very Sand			
55.0	5.0		Very Sand			
54.9	5.1		Very Sand			
54.8	5.2		Very Sand			
54.7	5.3		Very Sand			
54.6	5.4		Very Sand			
54.5	5.5		Very Sand			
54.4	5.6		Very Sand			
54.3	5.7		Very Sand			
54.2	5.8		Very Sand			
54.1	5.9		Very Sand			
54.0	6.0		Very Sand			
53.9	6.1		Very Sand			
53.8	6.2		Very Sand			
53.7	6.3		Very Sand			
53.6	6.4		Very Sand			
53.5	6.5		Very Sand			
53.4	6.6		Very Sand			
53.3	6.7		Very Sand			
53.2	6.8		Very Sand			
53.1	6.9		Very Sand			
53.0	7.0		Very Sand			
52.9	7.1		Very Sand			
52.8	7.2		Very Sand			
52.7	7.3		Very Sand			
52.6	7.4		Very Sand			
52.5	7.5		Very Sand			
52.4	7.6		Very Sand			
52.3	7.7		Very Sand			
52.2	7.8		Very Sand			
52.1	7.9		Very Sand			
52.0	8.0		Very Sand			
51.9	8.1		Very Sand			
51.8	8.2		Very Sand			
51.7	8.3		Very Sand			
51.6	8.4		Very Sand			
51.5	8.5		Very Sand			
51.4	8.6		Very Sand			
51.3	8.7		Very Sand			
51.2	8.8		Very Sand			
51.1	8.9		Very Sand			
51.0	9.0		Very Sand			
50.9	9.1		Very Sand			
50.8	9.2		Very Sand			
50.7	9.3		Very Sand			
50.6	9.4		Very Sand			
50.5	9.5		Very Sand			
50.4	9.6		Very Sand			
50.3	9.7		Very Sand			
50.2	9.8		Very Sand			
50.1	9.9		Very Sand			
50.0	10.0		Very Sand			

DRILLING LOG		VISION	INSTALLATION	No.	SHEET
PROJECT		MDP			OF 0 SHEETS
LOCATION				10. SIZE AND TYPE OF BIT	
DRILLING AGENCY				11. DATUM FOR ELEVATION SHOWN (FBN or MSL)	
HOLE NO. (As shown on drawing title and file number)				12. MANUFACTURER'S DESIGNATION OF DRILL	
NAME OF DRILLER				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				14. TOTAL NUMBER CORE BOXES	
THICKNESS OF OVERBURDEN				15. ELEVATION GROUND WATER	
DEPTH DRILLED INTO ROCK				16. DATE HOLE	STARTED COMPLETED
TOTAL DEPTH OF HOLE				17. ELEVATION TOP OF HOLE	
				18. TOTAL CORE RECOVERY FOR BORING	%
				19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
60.0	0.0		Drilled and washed to 60.2'			
59.0	1.0		Drilled 3' 2" split spoon 60.2-61.7			
58.0	2.0		Drilled 3' 2" split spoon 61.7-64.7			
57.0	3.0		Drilled 3' 2" split spoon 64.7-67.7			
56.0	4.0		Drilled 3' 2" split spoon 67.7-70.7			
55.0	5.0		Drilled 3' 2" split spoon 70.7-73.7			
54.0	6.0		Drilled 3' 2" split spoon 73.7-76.7			
53.0	7.0		Drilled 3' 2" split spoon 76.7-79.7			
52.0	8.0		Drilled 3' 2" split spoon 79.7-82.7			
51.0	9.0		Drilled 3' 2" split spoon 82.7-85.7			
50.0	10.0		Drilled 3' 2" split spoon 85.7-88.7			
49.0	11.0		Drilled 3' 2" split spoon 88.7-91.7			
48.0	12.0		Drilled 3' 2" split spoon 91.7-94.7			
47.0	13.0		Drilled 3' 2" split spoon 94.7-97.7			
46.0	14.0		Drilled 3' 2" split spoon 97.7-100.7			
45.0	15.0		Drilled 3' 2" split spoon 100.7-103.7			
44.0	16.0		Drilled 3' 2" split spoon 103.7-106.7			
43.0	17.0		Drilled 3' 2" split spoon 106.7-109.7			
42.0	18.0		Drilled 3' 2" split spoon 109.7-112.7			
41.0	19.0		Drilled 3' 2" split spoon 112.7-115.7			
40.0	20.0		Drilled 3' 2" split spoon 115.7-118.7			
39.0	21.0		Drilled 3' 2" split spoon 118.7-121.7			
38.0	22.0		Drilled 3' 2" split spoon 121.7-124.7			
37.0	23.0		Drilled 3' 2" split spoon 124.7-127.7			
36.0	24.0		Drilled 3' 2" split spoon 127.7-130.7			
35.0	25.0		Drilled 3' 2" split spoon 130.7-133.7			
34.0	26.0		Drilled 3' 2" split spoon 133.7-136.7			
33.0	27.0		Drilled 3' 2" split spoon 136.7-139.7			
32.0	28.0		Drilled 3' 2" split spoon 139.7-142.7			
31.0	29.0		Drilled 3' 2" split spoon 142.7-145.7			
30.0	30.0		Drilled 3' 2" split spoon 145.7-148.7			
29.0	31.0		Drilled 3' 2" split spoon 148.7-151.7			
28.0	32.0		Drilled 3' 2" split spoon 151.7-154.7			
27.0	33.0		Drilled 3' 2" split spoon 154.7-157.7			
26.0	34.0		Drilled 3' 2" split spoon 157.7-160.7			
25.0	35.0		Drilled 3' 2" split spoon 160.7-163.7			
24.0	36.0		Drilled 3' 2" split spoon 163.7-166.7			
23.0	37.0		Drilled 3' 2" split spoon 166.7-169.7			
22.0	38.0		Drilled 3' 2" split spoon 169.7-172.7			
21.0	39.0		Drilled 3' 2" split spoon 172.7-175.7			
20.0	40.0		Drilled 3' 2" split spoon 175.7-178.7			
19.0	41.0		Drilled 3' 2" split spoon 178.7-181.7			
18.0	42.0		Drilled 3' 2" split spoon 181.7-184.7			
17.0	43.0		Drilled 3' 2" split spoon 184.7-187.7			
16.0	44.0		Drilled 3' 2" split spoon 187.7-190.7			
15.0	45.0		Drilled 3' 2" split spoon 190.7-193.7			
14.0	46.0		Drilled 3' 2" split spoon 193.7-196.7			
13.0	47.0		Drilled 3' 2" split spoon 196.7-199.7			
12.0	48.0		Drilled 3' 2" split spoon 199.7-202.7			
11.0	49.0		Drilled 3' 2" split spoon 202.7-205.7			
10.0	50.0		Drilled 3' 2" split spoon 205.7-208.7			
9.0	51.0		Drilled 3' 2" split spoon 208.7-211.7			
8.0	52.0		Drilled 3' 2" split spoon 211.7-214.7			
7.0	53.0		Drilled 3' 2" split spoon 214.7-217.7			
6.0	54.0		Drilled 3' 2" split spoon 217.7-220.7			
5.0	55.0		Drilled 3' 2" split spoon 220.7-223.7			
4.0	56.0		Drilled 3' 2" split spoon 223.7-226.7			
3.0	57.0		Drilled 3' 2" split spoon 226.7-229.7			
2.0	58.0		Drilled 3' 2" split spoon 229.7-232.7			
1.0	59.0		Drilled 3' 2" split spoon 232.7-235.7			
0.0	60.0		Drilled 3' 2" split spoon 235.7-238.7			

DRILLING LOG		VISION	INSTALLATION	No. 30	SHEET #
1. PROJECT		2. LOCATION (Compass or Station)	10. SIZE AND TYPE OF BIT	OF 0 SHEETS	
3. DRILLING AGENCY		4. HOLE NO. (As shown on drawing title and file number)	11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	12. MANUFACTURER'S DESIGNATION OF DRILL	
5. NAME OF DRILLER		6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
7. THICKNESS OF OVERBURDEN		8. DEPTH DRILLED INTO ROCK	14. TOTAL NUMBER CORE BOXES	15. ELEVATION GROUND WATER	
9. TOTAL DEPTH OF HOLE		16. DATE HOLE	STARTED	COMPLETED	
		17. ELEVATION TOP OF HOLE	18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, amount of weathering, etc., if significant)
			(Weathered sandstone)			Drilled to 80.0'
			Silty sandstone			Drilled to 80.0'
			1. Dark			Drilled to 80.0'
			Hard			Drilled to 80.0'
			1.5' to 2.0' thick			Drilled to 80.0'
			More cemented			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. Brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty approx 10%			Drilled to 80.0'
			Med. Fine med.			Drilled to 80.0'
			Med. sh. cement			Drilled to 80.0'
			Color change to med.			Drilled to 80.0'
			Change brown sh.			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Med. brown sh.			Drilled to 80.0'
			Disintegrated			Drilled to 80.0'
			Silty			Drilled to 80.0'
			Med. fine med			

DRILLING LOG		DIVISION	INSTALLATION	SHEET
1. PROJECT Montana We		MA	MA	OF 2 SHEETS
2. LOCATION (Coordinates or Station)			10. SIZE AND TYPE OF BIT	11. DATUM FOR ELEVATION SHOWN (Top of Well)
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number)		30	13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> OTHER DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		79 ft	16. DATE HOLE	STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK		6 ft	17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		85 ft	18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
85.0	0.0		3" Dia. Steel Protective Casing w/ Locking			Permanently Sticking for 2" Dia. Instrument Pipe = 1.65'
84.0	1.0		Standard 2" Dia. Galvanized Steel Threaded End Cap (used)			Protective Casing Painted International Safety Orange
83.0	2.0		Upper 10' of 2" Dia. Cement Bentonite Grout			Top of Second
82.0	3.0		Standard 2" Dia. Galvanized Steel Rose Pipe			Grouting Sand (11-95)
81.0	4.0		Bottom of Protective Casing @ 3.0'			Grout consists of mixture of Cement and Bentonite in 3:1 Volume Ratio
80.0	5.0		2" Dia. Stainless Steel Threaded Coupling w/ O-ring or Stainless Steel Rose Pipe			Grouting Sand (11-95) Teflon tape only to use at each coupling connection
79.0	6.0		2" Dia. Stainless Steel Rose Pipe			S. L. Sand (11-95) 9.5' @ 3.0'
78.0	7.0		Centering Device			Centering Device is composed of 2 pieces of 3/4" diameter of 3/8" diameter of 1/2" diameter of 1/4" diameter of 1/8" diameter of 1/16" diameter of 1/32" diameter of 1/64" diameter of 1/128" diameter of 1/256" diameter of 1/512" diameter of 1/1024" diameter of 1/2048" diameter of 1/4096" diameter of 1/8192" diameter of 1/16384" diameter of 1/32768" diameter of 1/65536" diameter of 1/131072" diameter of 1/262144" diameter of 1/524288" diameter of 1/1048576" diameter of 1/2097152" diameter of 1/4194304" diameter of 1/8388608" diameter of 1/16777216" diameter of 1/33554432" diameter of 1/67108864" diameter of 1/134217728" diameter of 1/268435456" diameter of 1/536870912" diameter of 1/1073741824" diameter of 1/2147483648" diameter of 1/4294967296" diameter of 1/8589934592" diameter of 1/17179869184" diameter of 1/34359738368" diameter of 1/68719476736" diameter of 1/137438953472" diameter of 1/274877906944" diameter of 1/549755813888" diameter of 1/1099511627776" diameter of 1/2199023255552" diameter of 1/4398046511104" diameter of 1/8796093022208" diameter of 1/17592186044416" diameter of 1/35184372088832" diameter of 1/70368744177664" diameter of 1/140737488355328" diameter of 1/281474976710656" diameter of 1/562949953421312" diameter of 1/1125899906842624" diameter of 1/2251799813685248" diameter of 1/4503599627370496" diameter of 1/9007199254740992" diameter of 1/18014398509481984" diameter of 1/36028797018963968" diameter of 1/72057594037927936" diameter of 1/144115188075855872" diameter of 1/288230376151711744" diameter of 1/576460752303423488" diameter of 1/1152921504606846976" diameter of 1/2305843009213693952" diameter of 1/4611686018427387904" diameter of 1/9223372036854775808" diameter of 1/18446744073709551616" diameter of 1/36893488147419103232" diameter of 1/73786976294838206464" diameter of 1/147573952589676412928" diameter of 1/295147905179352825856" diameter of 1/590295810358705651712" diameter of 1/1180591620717411303424" diameter of 1/2361183241434822606848" diameter of 1/4722366482869645213696" diameter of 1/9444732965739290427392" diameter of 1/18889465931478580854784" diameter of 1/37778931862957161709568" diameter of 1/75557863725914323419136" diameter of 1/151115727451828646838272" diameter of 1/302231454903657293676544" diameter of 1/604462909807314587353088" diameter of 1/1208925819614629174706176" diameter of 1/2417851639229258349412352" diameter of 1/4835703278458516698824704" diameter of 1/9671406556917033397649408" diameter of 1/19342813113834066795298816" diameter of 1/38685626227668133590597632" diameter of 1/77371252455336267181195264" diameter of 1/154742504910672534362390528" diameter of 1/309485009821345068724781056" diameter of 1/618970019642690137449562112" diameter of 1/1237940039285380274899124224" diameter of 1/2475880078570760549798248448" diameter of 1/4951760157141521099596496896" diameter of 1/9903520314283042199192993792" diameter of 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1/1517710072803741824256293432442654444448" diameter of 1/303542014560748364851258686488530888912" diameter of 1/607084029121496729702411732977071777824" diameter of 1/12141680582429935944048226559544355648" diameter of 1/242833611644598718880965311190891111136" diameter of 1/48566722328919743776193062238178222272" diameter of 1/971334446578394875523861244763564444448" diameter of 1/19426688931567897510477224895271111136" diameter of 1/3885337786313579502095444979054222272" diameter of 1/777067557262715900419089995810844444448" diameter of 1/1554135114525431800838179991616888912" diameter of 1/3108270229050863601676359983233777824" diameter of 1/6216540458101727203352719966467555648" diameter of 1/124330809162034544067054399329351111136" diameter of 1/24866161832406908813410879865870222272" diameter of 1/497323236648138176268217597317404444448" diameter of 1/99464647329627635253643519463480888912" diameter of 1/198929294659255270507287038926961777824" diameter of 1/39785858931851054101457407785392355648" diameter of 1/7957171786370210820291481557078471111136" diameter of 1/159143435727404216405829631141568222272" diameter of 1/3182868714548084328116582

PROJECT: *Mon... ..*
 LOCATION: *...*
 DRILLING AGENCY: *US...*
 HOLE NO.: *UD*
 NAME OF DRILLER: *UD*
 DIRECTION OF HOLE: VERTICAL INCLINED _____ DEG. FROM VERT.
 THICKNESS OF OVERBURDEN: _____
 DEPTH DRILLED INTO ROCK: _____
 TOTAL DEPTH OF HOLE: _____
 SIZE AND TYPE OF BIT: _____
 DATUM FOR ELEVATION SHOWN (FTM or MSL): _____
 MANUFACTURER'S DESIGNATION OF DRILL: _____
 TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: _____ DISTURBED _____ UNDISTURBED _____
 TOTAL NUMBER CORE BOXES: _____
 ELEVATION GROUND WATER: _____
 DATE HOLE STARTED: _____ COMPLETED: _____
 ELEVATION TOP OF HOLE: _____
 TOTAL CORE RECOVERY FOR BORING: _____
 SIGNATURE OF INSPECTOR: _____

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
65.0	0.0		Concrete			Silt Sand (53.0)
64.0	1.0		2" dia. gravel			Silt Sand (53.0-60.0)
63.0	2.0		2" dia. gravel			Silt Sand (60.0-70.6)
62.0	3.0		2" dia. gravel			Ground from concrete of weathered pipe at 12" dia 4" core recovered
61.0	4.0		2" dia. gravel			2" dia. coupling @ 53.0, 55.0, 56.0, 58.0
60.0	5.0		2" dia. gravel			Silt Sand (60.0-70.6)
59.0	6.0		2" dia. gravel			Gravel - Cobble Zone (70.6-79.4)
58.0	7.0		2" dia. gravel			Gravel - Cobble Zone (79.4-86.2)
57.0	8.0		2" dia. gravel			Silt Sand (86.2-91.0)

DRILLING PROJECT	DIVISION M&U	INSTALLATION OMAHA	SHEET OF 7 SHEETS
1. PROJECT MONITORING WELLS NTRAP INTRACELL TC-3		10. SIZE AND TYPE OF BIT 7 7/8" P.I. TOOTH NO. 324 DT	
2. LOCATION (Construction or Station)		11. DATUM FOR ELEVATION BROWN TOWN ALL THE NEW REAMS WERE 157.7 AS THEY WERE TO 156.7	
3. DRILLING AGENCY US-262		12. MANUFACTURER'S DESIGNATION OF DRILL SCAM 64-00-977 MOBILE DRILL 57-17.	
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER Drew 44112 773'-156.7		14. TOTAL NUMBER CORE BOXES 4	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DES. FROM VERT.		15. ELEVATION GROUND WATER 20.2 FEET	
7. THICKNESS OF OVERBURDEN 50.0		16. DATE HOLE STARTED 7-26-93 COMPLETED 7-26-93	
8. DEPTH DRILLED INTO ROCK 76.7		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 156.7		18. TOTAL CORE RECOVERY FOR BORING 75%	
		19. SIGNATURE OF INSPECTOR Richard P. [Signature]	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, down hole, depth of overburden, etc., if applicable)
800			V. HIGHLY WEATHERED SANDSTONE SILTY SAND (SM) V. DENSE NO PLASTICITY V. SILTY NON CEMENTED SATURATED MED BROWN W/SC ORANGE TINIC SILTY ~ 10% - 15% SAND FINE - MED ORANGE BROWN W/ FERRIC STAIN - TINIC			
772			SANDSTONE V. HIGHLY WEATHERED V. DENSE NO PLASTICITY V. SILTY NON CEMENTED V. FULLY CEMENTED SATURATED LT. ORANGE BROWN W/DARK BROWN CLAY BANDING SILTY - FINE SAND GREEN SEE NODULES MED SAND SUBANGULAR - SUBROUNDED	LOW = 1 50.1		7-26-93 LOG SAME AS D-3 DRILLED FROM 80.0' TO 76.7' FOR 3.3' WITH FOR 3.3' WITH STAMPED HOLE W/ 12" DIA TIE DOWN ROPE AT 70' 57.2' AND SET 80.0' OF 3" DIA CLOSURE HOPE AND CREATED IN IN GREAT 10 BAGS OF CEMENT 1 BAG PER DIVE W/ 6 BAGS TO 100 LBS CEMENT GREAT CAME UP SURFACE OF CASING CLEANED OUT CASING AND STARTED DIVE 7-26-93 W/ AT 76.7' 2 3/4" DIA W/ 100 LBS DILLER 54

DRILLING		DIVISION MED	INSTALLATION DANA	SHEET 2 OF 8 SHEETS
1. PROJECT MONITORING WELLS NEW INSTALL PEGS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>Richard A. ...</i>		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, amount of sanding, etc., if significant) g
90.0			SANDSTONE V. HIGHLY WEATHERED V. DENSE NO PLASTICITY V. SILTY - SANDS NON CEMENTED V. POORLY CEMENTED SATURATED LT ORANGE BROWN TO CREAM SANDS SILTY - FINE SAND GRAIN SIZE 1/16 TO 1/8 MED SAND	23-35 R D D		
90.25						
91.0						
92.0						
92.45						
93.0						
93.2						
93.5						
94.0						
95.0						
95.2						
95.5						
96.0						
96.2						
96.5						
97.0						
97.15						
97.5						
98.0						
98.5						
99.0						
100.0						

DRILLING		DIVISION		INSTALLATION		
1. PROJECT MONITORING WELLS		MRP		OANA		
2. LOCATION (Coordinate or Station)		3. DRILLING AGENCY		10. SIZE AND TYPE OF BIT		
4. HOLE NO. (As shown on drawing title and file number)		5. NAME OF DRILLER		11. DAYON FOR ELEVATION BROWN (FWH - HLL)		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		7. THICKNESS OF OVERBURDEN		12. MANUFACTURER'S DESIGNATION OF DRILL		
8. DEPTH DRILLED INTO ROCK		9. TOTAL DEPTH OF HOLE		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
				14. TOTAL NUMBER CORE BOXES		
				15. ELEVATION GROUND WATER		
				16. DATE HOLE STARTED COMPLETED		
				17. ELEVATION TOP OF HOLE		
				18. TOTAL CORE RECOVERY FOR BORING		
				19. SIGNATURE OF INSPECTOR		
				20. SIGNATURE OF DRILLER		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.0			SANDSTONE V. HEAVY WEATHERED V. DENSE NO PLASTICITY V. SILTY - SILTY SATURATED TANISH ORANGE V. POORLY CEMENTED NOW CEMENTED SILTY - V. FINE SAND GLASSY	80%	1	
101.0				85%	2	
102.0				80%	3	
103.0				85%	4	
104.0				85%	5	
105.0				85%	6	
106.0				85%	7	
107.0				85%	8	
108.0				85%	9	
109.0				85%	10	
110.0				85%	11	
111.0				85%	12	
112.0				85%	13	
113.0				85%	14	
114.0				85%	15	
115.0				85%	16	
116.0				85%	17	
117.0				85%	18	
118.0				85%	19	
119.0				85%	20	
120.0				85%	21	
121.0				85%	22	
122.0				85%	23	
123.0				85%	24	
124.0				85%	25	
125.0				85%	26	
126.0				85%	27	
127.0				85%	28	
128.0				85%	29	
129.0				85%	30	
130.0				85%	31	
131.0				85%	32	
132.0				85%	33	
133.0				85%	34	
134.0				85%	35	
135.0				85%	36	
136.0				85%	37	
137.0				85%	38	
138.0				85%	39	
139.0				85%	40	
140.0				85%	41	
141.0				85%	42	
142.0				85%	43	
143.0				85%	44	
144.0				85%	45	
145.0				85%	46	
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192.0				85%	93	
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194.0				85%	95	
195.0				85%	96	
196.0				85%	97	
197.0				85%	98	
198.0				85%	99	
199.0				85%	100	

DRILLING DIVISION		INSTALLATION	
PROJECT MONTECALMO WELL		D.M.H.I.	
A.J. LOP JUSTALL PROJ.		SHEET 4 OF 9 SHEETS	
1. LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT	
2. DRILLING AGENCY		11. DATE FOR ELEVATION BROWN (TWA or BKL)	
3. HOLE NO. (As shown on drawing title and Rio number)		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES	
6. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER	
7. DEPTH DRILLED INTO ROCK		16. DATE HOLE	
8. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE	
		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
110.0			SANDSTONE (ST PETER) V. HIGHLY WEATHERED V. DENSE NO PLASTICITY V. SATURATED TANISH ORANGE W/IR ORANGE LADLE BEDDING V. POORLY CEMENTED SILTY-FINE SAND GRASSY SLT	75.11 75.12 75.13	Box 1	
115.0			FRAGILE DR. CHISEL DOLOMITE HIGHLY WEATHERED DENSE RED SOFT SLIGHTLY CALCAREOUS SATURATED MUSTY FINE GRAY CRYSTALLINE SANDY (SUGAR) REFINED	75.14 75.15	Box 2	7.25W LAYERS OF DR. CHISEL FRAGMENTS SUBSTRATE IN YOUNGER ST. PETER SANDSTONE BIT HARDLY DRILLED IN DIRECTION
117.2			ST. PETER SANDSTONE V. HIGHLY WEATHERED DENSE NO PLASTICITY V. SATURATED TANISH ORANGE POORLY CEMENTED SILTY-FINE SAND GRASSY SLT	75.16 75.17	Box 3	7.25W 117.2 IN SD J END SHEET 7.25 EST NOW ON
119.0			(SANDSTONE) HIGHLY WEATHERED DENSE NO PLASTICITY V. SATURATED MUSTY DR. ORANGE ORANGE LADLE BEDDING POORLY CEMENTED SAND DR. M.S.F.	75.18 75.19	Box 4	7.25 CONTINUED IN 7.25 RESUME 7.25 117.2 ON 7.25

DRILLING NO. 1300		DIVISION MPO	INSTALLATION GRAVIM	SHEET 1 OF 4 SHEETS
1. PROJECT ADJUTANT GENERAL'S OFFICE		10. SIZE AND TYPE OF BIT		
2. LOCATION ADJUTANT GENERAL'S OFFICE		11. DATUM FOR ELEVATION SHOWN (FIM - BLM)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR Richard P. [Signature]		

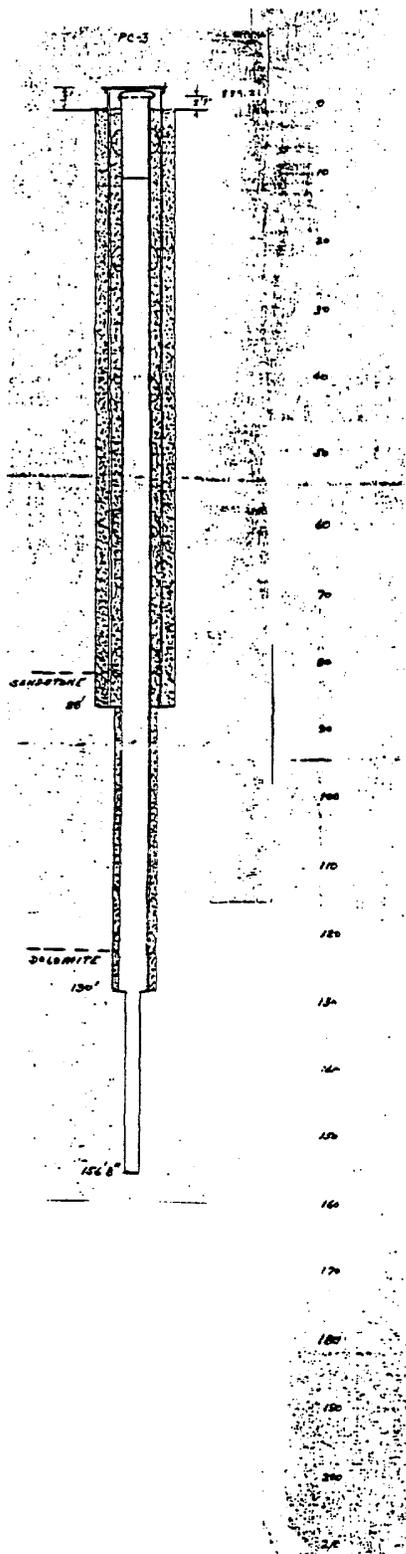
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1300		X	FRAGILE DUCHEMIN DOLomite	D.50		END OF BIT 7-5-13 @ 1500 GAL. H2O MATERIAL
1308		X	HIGHLY WEATHERED DENSE MED SOFT	R.5-5		
1311			SLIGHTLY CALCAREOUS	R.6-1		REMOVED HOLE 11/6
1315			SATURATED	R.6-2		REMOVED HOLE 11/6
1317		X	AGGRESSIVE V. FRACTURED	R.6-5		REMOVED HOLE 11/6
1320			FEW WHITISH GRAY CRISTALLINE	R.6-6		REMOVED HOLE 11/6
1325			SANDY V. FINE	R.6-7		REMOVED HOLE 11/6
1328			CEM. ESTIMATE	R.6-8		REMOVED HOLE 11/6
1330			FRAGILE DUCHEMIN DOLomite	R.6-9		REMOVED HOLE 11/6
1342			HIGHLY WEATHERED DENSE MED HARD SLIGHTLY CALCAREOUS			REMOVED HOLE 11/6
1345		FEW	SATURATED MASSIVE			REMOVED HOLE 11/6
1348		FEW	FRACT. V. FRACT			REMOVED HOLE 11/6
1349		FEW	YELLOW TAW CRISTALLINE			REMOVED HOLE 11/6
1350		FEW	SANDY V. FINE GRAINED			REMOVED HOLE 11/6
1355		FEW				REMOVED HOLE 11/6
1358		FEW				REMOVED HOLE 11/6
1360		FEW				REMOVED HOLE 11/6
1365		X	GLASSY SLT INCREASED TSS WIDENED	D.50		REMOVED HOLE 11/6
1370				R.4-8		REMOVED HOLE 11/6
1372				R.6-3		REMOVED HOLE 11/6
1375				R.6-4		REMOVED HOLE 11/6
1380						REMOVED HOLE 11/6
1385						REMOVED HOLE 11/6
1390						REMOVED HOLE 11/6
1395						REMOVED HOLE 11/6
1400						REMOVED HOLE 11/6

DRILLING		DIVISION MRD	INSTALLATION D.M.A.H.	SHEET 7 OF 8 SHEETS
1. PROJECT Monsieur Well Installation		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station) PK 1		11. DAY OF FOR ELEVATION SHOWN (P.M. or A.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING _____ %		
		19. SIGNATURE OF INSPECTOR Richard P. [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
a	b	c	d	e	f	g
1405			FRASER DR. CHESS DOLOMITE			
			HIGHLY WEATHERED DENSE MED HARD			
1410			SLIGHTLY CONGLOM SATURATED MASCUE FRANT-UPFRAN	0.50 0.50		
1417			YELLOW TAN CRYSTALLINE		R.M.H.	
1420			SANDY-FINE WIDE-SIZED		ED 9	
1425			GLT. SIE DEFIN. 21 U-FINE TAN W/O CAS BLDS OF GRAY			
1428						
1432						
1435						
1438						
1442						
1445						
1448						
1452						
1455						
1458						
1460						
1462.5			FRASER DR. CHESS DOLOMITE	0.50		
			HIGHLY WEATHERED DENSE MED SOFT	0.46		
1470			SLIGHTLY CONG SATURATED MASCUE FRANT-UPFRAN	0.50		
1474			W/MLTSH GRAY CRYSTALLINE SANDY-FINE WIDE-SIZED			
1478			MED HARD YELLOW TAN SLUDGY U-FINE CONGLOM			
1482			MED WEATH FRAS GREEN Y-FINE TO HMA FINE GRANULED W/MLTSH GRAY SANDY-FINE CONGLOM YELLOW TAN W/O CAS BLANK OF GRAY			
1485						
1488						
1492						
1495						
1498						
1500						

DRILLING		DIVISION ALD	DRAWN	OF 8 SHEETS
1. PROJECT MONTIOLING W/ W/ JUSTIFICATION N3607		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or BM)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1500			FRANK D. CHEIN			
1503			DOLD M.S.I.C.			
1505			SHALE MOD. WEATHERED			
			DENSE			
			MED. HARD			
1507			FINE SANDY CALCAREOUS			
1510			SANDY			
1511			FRANK			
1513			FRANK MASSIVE			
1515			FRANK FRACT. V. FINE	75.0		
1517			FRANK YELLOW TAN CRYSTALLINE	74.3		
1519			FRANK SANDY M.S.I.C.	RWS		
1520			FRANK	50.10		
1522			FRANK			
1527			FRANK			
1528			FRANK			
1529			FRANK			
1533			FRANK			
1535			FRANK TRACE FRANK			
1537			FRANK MOD. WEATHERED			
1540			FRANK DENS			
1543			FRANK MED. HARD			
1544			FRANK V. SANDY CALCAREOUS			
1547			FRANK SANDY			
1548			FRANK V. FINE GLAUCOUS			
1550			FRANK REGIONAL TO TALUS FINE GLAUCOUS			
1553			FRANK			
1556			FRANK			
1558			FRANK			
1560			FRANK			
1563			FRANK			
1565			FRANK			
1567			FRANK			
1569			FRANK			
1570			FRANK			
1572			FRANK			
1574			FRANK			
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1578			FRANK			
1580			FRANK			
1582			FRANK			
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1592			FRANK			
1594			FRANK			
1596			FRANK			
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1600			FRANK			
1602			FRANK			
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1606			FRANK			
1608			FRANK			
1610			FRANK			
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1614			FRANK			
1616			FRANK			
1618			FRANK			
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1958			FRANK			
1960			FRANK			
1962			FRANK			
1964			FRANK			
1						



DRILLING LOG		STATION	INSTALLATION	SHEET
PROJECT		10. SIZE AND TYPE OF BIT	OF SHEETS	
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION BROWN (1984 = 100)	12. MANUFACTURER'S DESIGNATION OF DRILL	
3. DRILLING AGENCY		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
4. HOLE NO. (As shown on drawing title and file number)		14. TOTAL NUMBER CORE BOXES	15. ELEVATION GROUND WATER	
5. NAME OF DRILLER		16. DATE MOLE	STARTED	COMPLETED
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> <u> </u> DEG. FROM VERT.		17. ELEVATION TOP OF MOLE	18. TOTAL CORE RECOVERY FOR BORING	
7. THICKNESS OF OVERBURDEN		19. SIGNATURE OF INSPECTOR		
8. DEPTH DRILLED INTO ROCK				
9. TOTAL DEPTH OF MOLE				

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE-BOX OR RECOVERY SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
0	0		Topsoil		Shallow drilling
0	0.5		Light sand		4.5% air penetration
0	1.0		Light sand		Bit
0	1.5		Light sand		Shallow drilling
0	2.0		Light sand		3.5% air penetration
0	2.5		Light sand		Water
0	3.0		Gravelly sand		
0	3.5		Red sand		Being tested
0	4.0		Red sand		Poor at testing
0	4.5		Siliceous		
0	5.0		Dark grey		
0	5.5		Red sand		
0	6.0		Dark grey		
0	6.5		Red sand		
0	7.0		Dark grey		
0	7.5		Red sand		
0	8.0		Dark grey		
0	8.5		Red sand		
0	9.0		Dark grey		
0	9.5		Red sand		
0	10.0		Dark grey		
0	10.5		Red sand		
0	11.0		Dark grey		
0	11.5		Red sand		
0	12.0		Dark grey		
0	12.5		Red sand		
0	13.0		Dark grey		
0	13.5		Red sand		
0	14.0		Dark grey		
0	14.5		Red sand		
0	15.0		Dark grey		
0	15.5		Red sand		
0	16.0		Dark grey		
0	16.5		Red sand		
0	17.0		Dark grey		
0	17.5		Red sand		
0	18.0		Dark grey		
0	18.5		Red sand		
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0	20.0		Dark grey		
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0	40.5		Red sand		
0	41.0		Dark grey		
0	41.5		Red sand		
0	42.0		Dark grey		
0	42.5		Red sand		
0	43.0		Dark grey		
0	43.5		Red sand		
0	44.0		Dark grey		
0	44.5		Red sand		
0	45.0		Dark grey		
0	45.5		Red sand		
0	46.0		Dark grey		
0	46.5		Red sand		
0	47.0		Dark grey		
0	47.5		Red sand		
0	48.0		Dark grey		
0	48.5		Red sand		
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0	49.5		Red sand		
0	50.0		Dark grey		
0	50.5		Red sand		
0	51.0		Dark grey		
0	51.5		Red sand		
0	52.0		Dark grey		
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0	68.5		Red sand		
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0	69.5		Red sand		
0	70.0		Dark grey		
0	70.5		Red sand		
0	71.0		Dark grey		
0	71.5		Red sand		
0	72.0		Dark grey		
0	72.5		Red sand		
0	73.0		Dark grey		
0	73.5		Red sand		
0	74.0		Dark grey		
0	74.5		Red sand		
0	75.0		Dark grey		
0	75.5		Red sand		
0	76.0		Dark grey		
0	76.5		Red sand		
0	77.0		Dark grey		
0	77.5		Red sand		
0	78.0		Dark grey		
0	78.5		Red sand		
0	79.0		Dark grey		
0	79.5		Red sand		
0	80.0		Dark grey		
0	80.5		Red sand		
0	81.0		Dark grey		
0	81.5		Red sand		
0	82.0		Dark grey		
0	82.5		Red sand		
0	83.0		Dark grey		
0	83.5		Red sand		
0	84.0		Dark grey		
0	84.5		Red sand		
0	85.0		Dark grey		
0	85.5		Red sand		
0	86.0		Dark grey		
0	86.5		Red sand		
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0	89.5		Red sand		
0	90.0		Dark grey		
0	90.5		Red sand		
0	91.0		Dark grey		
0	91.5		Red sand		
0	92.0		Dark grey		
0	92.5		Red sand		
0	93.0		Dark grey		
0	93.5		Red sand		
0	94.0		Dark grey		
0	94.5		Red sand		
0	95.0		Dark grey		
0	95.5		Red sand		
0	96.0		Dark grey		
0	96.5		Red sand		
0	97.0		Dark grey		
0	97.5		Red sand		
0	98.0		Dark grey		
0	98.5		Red sand		
0	99.0		Dark grey		
0	99.5		Red sand		
0	100.0		Dark grey		

DRILLING LOG		INSTALLATION	SHEET OF 4 SHEETS
1. PROJECT		10. SIZE AND TYPE OF BIT	
2. LOCATION (Cadastral or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or BSL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if applicable)
10.0			Gravel Contact @ 10.0'			
11.0			Clay			
12.0			Clay			
13.0			Clay			
14.0			Clay			
15.0			Clay			
16.0			Clay			
17.0			Clay			
18.0			Clay			
19.0			Clay			
20.0			Clay			

DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT		10. SIZE AND TYPE OF BIT		OF 4 SHEETS
2. LOCATION (Continuation of Station)		11. DAYUM FOR ELEVATION SHOWN (FBN or RSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		%
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
			<p>③ 0-1.5' Sand 1.5-2.5' Sand 2.5-3.5' Sand 3.5-4.5' Sand 4.5-5.5' Sand 5.5-6.5' Sand 6.5-7.5' Sand 7.5-8.5' Sand 8.5-9.5' Sand 9.5-10.5' Sand 10.5-11.5' Sand 11.5-12.5' Sand 12.5-13.5' Sand 13.5-14.5' Sand 14.5-15.5' Sand 15.5-16.5' Sand 16.5-17.5' Sand 17.5-18.5' Sand 18.5-19.5' Sand 19.5-20.5' Sand 20.5-21.5' Sand 21.5-22.5' Sand 22.5-23.5' Sand 23.5-24.5' Sand 24.5-25.5' Sand 25.5-26.5' Sand 26.5-27.5' Sand 27.5-28.5' Sand 28.5-29.5' Sand 29.5-30.5' Sand 30.5-31.5' Sand 31.5-32.5' Sand 32.5-33.5' Sand 33.5-34.5' Sand 34.5-35.5' Sand 35.5-36.5' Sand 36.5-37.5' Sand 37.5-38.5' Sand 38.5-39.5' Sand 39.5-40.5' Sand 40.5-41.5' Sand 41.5-42.5' Sand 42.5-43.5' Sand 43.5-44.5' Sand 44.5-45.5' Sand 45.5-46.5' Sand 46.5-47.5' Sand 47.5-48.5' Sand 48.5-49.5' Sand 49.5-50.5' Sand 50.5-51.5' Sand 51.5-52.5' Sand 52.5-53.5' Sand 53.5-54.5' Sand 54.5-55.5' Sand 55.5-56.5' Sand 56.5-57.5' Sand 57.5-58.5' Sand 58.5-59.5' Sand 59.5-60.5' Sand 60.5-61.5' Sand 61.5-62.5' Sand 62.5-63.5' Sand 63.5-64.5' Sand 64.5-65.5' Sand 65.5-66.5' Sand 66.5-67.5' Sand 67.5-68.5' Sand 68.5-69.5' Sand 69.5-70.5' Sand 70.5-71.5' Sand 71.5-72.5' Sand 72.5-73.5' Sand 73.5-74.5' Sand 74.5-75.5' Sand 75.5-76.5' Sand 76.5-77.5' Sand 77.5-78.5' Sand 78.5-79.5' Sand 79.5-80.5' Sand 80.5-81.5' Sand 81.5-82.5' Sand 82.5-83.5' Sand 83.5-84.5' Sand 84.5-85.5' Sand 85.5-86.5' Sand 86.5-87.5' Sand 87.5-88.5' Sand 88.5-89.5' Sand 89.5-90.5' Sand 90.5-91.5' Sand 91.5-92.5' Sand 92.5-93.5' Sand 93.5-94.5' Sand 94.5-95.5' Sand 95.5-96.5' Sand 96.5-97.5' Sand 97.5-98.5' Sand 98.5-99.5' Sand 99.5-100.5' Sand 100.5-101.5' Sand 101.5-102.5' Sand 102.5-103.5' Sand 103.5-104.5' Sand 104.5-105.5' Sand 105.5-106.5' Sand 106.5-107.5' Sand 107.5-108.5' Sand 108.5-109.5' Sand 109.5-110.5' Sand 110.5-111.5' Sand 111.5-112.5' Sand 112.5-113.5' Sand 113.5-114.5' Sand 114.5-115.5' Sand 115.5-116.5' Sand 116.5-117.5' Sand 117.5-118.5' Sand 118.5-119.5' Sand 119.5-120.5' Sand 120.5-121.5' Sand 121.5-122.5' Sand 122.5-123.5' Sand 123.5-124.5' Sand 124.5-125.5' Sand 125.5-126.5' Sand 126.5-127.5' Sand 127.5-128.5' Sand 128.5-129.5' Sand 129.5-130.5' Sand 130.5-131.5' Sand 131.5-132.5' Sand 132.5-133.5' Sand 133.5-134.5' Sand 134.5-135.5' Sand 135.5-136.5' Sand 136.5-137.5' Sand 137.5-138.5' Sand 138.5-139.5' Sand 139.5-140.5' Sand 140.5-141.5' Sand 141.5-142.5' Sand 142.5-143.5' Sand 143.5-144.5' Sand 144.5-145.5' Sand 145.5-146.5' Sand 146.5-147.5' Sand 147.5-148.5' Sand 148.5-149.5' Sand 149.5-150.5' Sand 150.5-151.5' Sand 151.5-152.5' Sand 152.5-153.5' Sand 153.5-154.5' Sand 154.5-155.5' Sand 155.5-156.5' Sand 156.5-157.5' Sand 157.5-158.5' Sand 158.5-159.5' Sand 159.5-160.5' Sand 160.5-161.5' Sand 161.5-162.5' Sand 162.5-163.5' Sand 163.5-164.5' Sand 164.5-165.5' Sand 165.5-166.5' Sand 166.5-167.5' Sand 167.5-168.5' Sand 168.5-169.5' Sand 169.5-170.5' Sand 170.5-171.5' Sand 171.5-172.5' Sand 172.5-173.5' Sand 173.5-174.5' Sand 174.5-175.5' Sand 175.5-176.5' Sand 176.5-177.5' Sand 177.5-178.5' Sand 178.5-179.5' Sand 179.5-180.5' Sand 180.5-181.5' Sand 181.5-182.5' Sand 182.5-183.5' Sand 183.5-184.5' Sand 184.5-185.5' Sand 185.5-186.5' Sand 186.5-187.5' Sand 187.5-188.5' Sand 188.5-189.5' Sand 189.5-190.5' Sand 190.5-191.5' Sand 191.5-192.5' Sand 192.5-193.5' Sand 193.5-194.5' Sand 194.5-195.5' Sand 195.5-196.5' Sand 196.5-197.5' Sand 197.5-198.5' Sand 198.5-199.5' Sand 199.5-200.5' Sand 200.5-201.5' Sand 201.5-202.5' Sand 202.5-203.5' Sand 203.5-204.5' Sand 204.5-205.5' Sand 205.5-206.5' Sand 206.5-207.5' Sand 207.5-208.5' Sand 208.5-209.5' Sand 209.5-210.5' Sand 210.5-211.5' Sand 211.5-212.5' Sand 212.5-213.5' Sand 213.5-214.5' Sand 214.5-215.5' Sand 215.5-216.5' Sand 216.5-217.5' Sand 217.5-218.5' Sand 218.5-219.5' Sand 219.5-220.5' Sand 220.5-221.5' Sand 221.5-222.5' Sand 222.5-223.5' Sand 223.5-224.5' Sand 224.5-225.5' Sand 225.5-226.5' Sand 226.5-227.5' Sand 227.5-228.5' Sand 228.5-229.5' Sand 229.5-230.5' Sand 230.5-231.5' Sand 231.5-232.5' Sand 232.5-233.5' Sand 233.5-234.5' Sand 234.5-235.5' Sand 235.5-236.5' Sand 236.5-237.5' Sand 237.5-238.5' Sand 238.5-239.5' Sand 239.5-240.5' Sand 240.5-241.5' Sand 241.5-242.5' Sand 242.5-243.5' Sand 243.5-244.5' Sand 244.5-245.5' Sand 245.5-246.5' Sand 246.5-247.5' Sand 247.5-248.5' Sand 248.5-249.5' Sand 249.5-250.5' Sand 250.5-251.5' Sand 251.5-252.5' Sand 252.5-253.5' Sand 253.5-254.5' Sand 254.5-255.5' Sand 255.5-256.5' Sand 256.5-257.5' Sand 257.5-258.5' Sand 258.5-259.5' Sand 259.5-260.5' Sand 260.5-261.5' Sand 261.5-262.5' Sand 262.5-263.5' Sand 263.5-264.5' Sand 264.5-265.5' Sand 265.5-266.5' Sand 266.5-267.5' Sand 267.5-268.5' Sand 268.5-269.5' Sand 269.5-270.5' Sand 270.5-271.5' Sand 271.5-272.5' Sand 272.5-273.5' Sand 273.5-274.5' Sand 274.5-275.5' Sand 275.5-276.5' Sand 276.5-277.5' Sand 277.5-278.5' Sand 278.5-279.5' Sand 279.5-280.5' Sand 280.5-281.5' Sand 281.5-282.5' Sand 282.5-283.5' Sand 283.5-284.5' Sand 284.5-285.5' Sand 285.5-286.5' Sand 286.5-287.5' Sand 287.5-288.5' Sand 288.5-289.5' Sand 289.5-290.5' Sand 290.5-291.5' Sand 291.5-292.5' Sand 292.5-293.5' Sand 293.5-294.5' Sand 294.5-295.5' Sand 295.5-296.5' Sand 296.5-297.5' Sand 297.5-298.5' Sand 298.5-299.5' Sand 299.5-300.5' Sand 300.5-301.5' Sand 301.5-302.5' Sand 302.5-303.5' Sand 303.5-304.5' Sand 304.5-305.5' Sand 305.5-306.5' Sand 306.5-307.5' Sand 307.5-308.5' Sand 308.5-309.5' Sand 309.5-310.5' Sand 310.5-311.5' Sand 311.5-312.5' Sand 312.5-313.5' Sand 313.5-314.5' Sand 314.5-315.5' Sand 315.5-316.5' Sand 316.5-317.5' Sand 317.5-318.5' Sand 318.5-319.5' Sand 319.5-320.5' Sand 320.5-321.5' Sand 321.5-322.5' Sand 322.5-323.5' Sand 323.5-324.5' Sand 324.5-325.5' Sand 325.5-326.5' Sand 326.5-327.5' Sand 327.5-328.5' Sand 328.5-329.5' Sand 329.5-330.5' Sand 330.5-331.5' Sand 331.5-332.5' Sand 332.5-333.5' Sand 333.5-334.5' Sand 334.5-335.5' Sand 335.5-336.5' Sand 336.5-337.5' Sand 337.5-338.5' Sand 338.5-339.5' Sand 339.5-340.5' Sand 340.5-341.5' Sand 341.5-342.5' Sand 342.5-343.5' Sand 343.5-344.5' Sand 344.5-345.5' Sand 345.5-346.5' Sand 346.5-347.5' Sand 347.5-348.5' Sand 348.5-349.5' Sand 349.5-350.5' Sand 350.5-351.5' Sand 351.5-352.5' Sand 352.5-353.5' Sand 353.5-354.5' Sand 354.5-355.5' Sand 355.5-356.5' Sand 356.5-357.5' Sand 357.5-358.5' Sand 358.5-359.5' Sand 359.5-360.5' Sand 360.5-361.5' Sand 361.5-362.5' Sand 362.5-363.5' Sand 363.5-364.5' Sand 364.5-365.5' Sand 365.5-366.5' Sand 366.5-367.5' Sand 367.5-368.5' Sand 368.5-369.5' Sand 369.5-370.5' Sand 370.5-371.5' Sand 371.5-372.5' Sand 372.5-373.5' Sand 373.5-374.5' Sand 374.5-375.5' Sand 375.5-376.5' Sand 376.5-377.5' Sand 377.5-378.5' Sand 378.5-379.5' Sand 379.5-380.5' Sand 380.5-381.5' Sand 381.5-382.5' Sand 382.5-383.5' Sand 383.5-384.5' Sand 384.5-385.5' Sand 385.5-386.5' Sand 386.5-387.5' Sand 387.5-388.5' Sand 388.5-389.5' Sand 389.5-390.5' Sand 390.5-391.5' Sand 391.5-392.5' Sand 392.5-393.5' Sand 393.5-394.5' Sand 394.5-395.5' Sand 395.5-396.5' Sand 396.5-397.5' Sand 397.5-398.5' Sand 398.5-399.5' Sand 399.5-400.5' Sand 400.5-401.5' Sand 401.5-402.5' Sand 402.5-403.5' Sand 403.5-404.5' Sand 404.5-405.5' Sand 405.5-406.5' Sand 406.5-407.5' Sand 407.5-408.5' Sand 408.5-409.5' Sand 409.5-410.5' Sand 410.5-411.5' Sand 411.5-412.5' Sand 412.5-413.5' Sand 413.5-414.5' Sand 414.5-415.5' Sand 415.5-416.5' Sand 416.5-417.5' Sand 417.5-418.5' Sand 418.5-419.5' Sand 419.5-420.5' Sand 420.5-421.5' Sand 421.5-422.5' Sand 422.5-423.5' Sand 423.5-424.5' Sand 424.5-425.5' Sand 425.5-426.5' Sand 426.5-427.5' Sand 427.5-428.5' Sand 428.5-429.5' Sand 429.5-430.5' Sand 430.5-431.5' Sand 431.5-432.5' Sand 432.5-433.5' Sand 433.5-434.5' Sand 434.5-435.5' Sand 435.5-436.5' Sand 436.5-437.5' Sand 437.5-438.5' Sand 438.5-439.5' Sand 439.5-440.5' Sand 440.5-441.5' Sand 441.5-442.5' Sand 442.5-443.5' Sand 443.5-444.5' Sand 444.5-445.5' Sand 445.5-446.5' Sand 446.5-447.5' Sand 447.5-448.5' Sand 448.5-449.5' Sand 449.5-450.5' Sand 450.5-451.5' Sand 451.5-452.5' Sand 452.5-453.5' Sand 453.5-454.5' Sand 454.5-455.5' Sand 455.5-456.5' Sand 456.5-457.5' Sand 457.5-458.5' Sand 458.5-459.5' Sand 459.5-460.5' Sand 460.5-461.5' Sand 461.5-462.5' Sand 462.5-463.5' Sand 463.5-464.5' Sand 464.5-465.5' Sand 465.5-466.5' Sand 466.5-467.5' Sand 467.5-468.5' Sand 468.5-469.5' Sand 469.5-470.5' Sand 470.5-471.5' Sand 471.5-472.5' Sand 472.5-473.5' Sand 473.5-474.5' Sand 474.5-475.5' Sand 475.5-476.5' Sand 476.5-477.5' Sand 477.5-478.5' Sand 478.5-479.5' Sand 479.5-480.5' Sand 480.5-481.5' Sand 481.5-482.5' Sand 482.5-483.5' Sand 483.5-484.5' Sand 484.5-485.5' Sand 485.5-486.5' Sand 486.5-487.5' Sand 487.5-488.5' Sand 488.5-489.5' Sand 489.5-490.5' Sand 490.5-491.5' Sand 491.5-492.5' Sand 492.5-493.5' Sand 493.5-494.5' Sand 494.5-495.5' Sand 495.5-496.5' Sand 496.5-497.5' Sand 497.5-498.5' Sand 498.5-499.5' Sand 499.5-500.5' Sand 500.5-501.5' Sand 501.5-502.5' Sand 502.5-503.5' Sand 503.5-504.5' Sand 504.5-505.5' Sand 505.5-506.5' Sand 506.5-507.5' Sand 507.5-508.5' Sand 508.5-509.5' Sand 509.5-510.5' Sand 510.5-511.5' Sand 511.5-512.5' Sand 512.5-513.5' Sand 513.5-514.5' Sand 514.5-515.5' Sand 515.5-516.5' Sand 516.5-517.5' Sand 517.5-518.5' Sand 518.5-519.5' Sand 519.5-520.5' Sand 520.5-521.5' Sand 521.5-522.5' Sand 522.5-523.5' Sand 523.5-524.5' Sand 524.5-525.5' Sand 525.5-526.5' Sand 526.5-527.5' Sand 527.5-528.5' Sand 528.5-529.5' Sand 529.5-530.5' Sand 530.5-531.5' Sand 531.5-532.5' Sand 532.5-533.5' Sand 533.5-534.5' Sand 534.5-535.5' Sand 535.5-536.5' Sand 536.5-537.5' Sand 537.5-538.5' Sand 538.5-539.5' Sand 539.5-540.5' Sand 540.5-541.5' Sand 541.5-542.5' Sand 542.5-543.5' Sand 543.5-544.5' Sand 544.5-545.5' Sand 545.5-546.5' Sand 546.5-547.5' Sand 547.5-548.5' Sand 548.5-549.5' Sand 549.5-550.5' Sand 550.5-551.5' Sand 551.5-552.5' Sand 552.5-553.5' Sand 553.5-554.5' Sand 554.5-555.5' Sand 555.5-556.5' Sand 556.5-557.5' Sand 557.5-558.5' Sand 558.5-559.5' Sand 559.5-560.5' Sand 560.5-561.5' Sand 561.5-562.5' Sand 562.5-563.5' Sand 563.5-564.5' Sand 564.5-565.5' Sand 565.5-566.5' Sand 566.5-567.5' Sand 567.5-568.5' Sand 568.5-569.5' Sand 569.5-570.5' Sand 570.5-571.5' Sand 571.5-572.5' Sand 572.5-573.5' Sand 573.5-574.5' Sand 574.5-575.5' Sand 575.5-576.5' Sand 576.5-577.5' Sand 577.5-578.5' Sand 578.5-579.5' Sand 579.5-580.5' Sand 580.5-581.5' Sand 581.5-582.5' Sand 582.5-583.5' Sand 583.5-584.5' Sand 584.5-585.5' Sand 585.5-586.5' Sand 586.5-587.5' Sand 587.5-588.5' Sand 588.5-589.5' Sand 589.5-590.5' Sand 590.5-591.5' Sand 591.5-592.5' Sand 592.5-593.5' Sand 593.5-594.5' Sand 594.5-595.5' Sand 595.5-596.5' Sand 596.5-597.5' Sand 597.5-598.5' Sand 598.5-599.5' Sand 599.5-600.5' Sand 600.5-601.5' Sand 601.5-602.5' Sand 602.5-603.5' Sand 603.5-604.5' Sand 604.5-605.5' Sand 605.5-606.5' Sand 606.5-607.5' Sand 607.5-608.5' Sand 608.5-609.5' Sand 609.5-610.5' Sand 610.5-611.5' Sand 611.5-612.5' Sand 612.5-613.5' Sand 613.5-614.5' Sand 614.5-615.5' Sand 615.5-616.5' Sand 616.5-617.5' Sand 617.5-618.5' Sand 618.5-619.5' Sand 619.5-620.5' Sand 620.5-621.5' Sand 621.5-622.5' Sand 622.5-623.5' Sand 623.5-624.5' Sand 624.5-625.5' Sand 625.5-626.5' Sand 626.5-627.5' Sand 627.5-628.5' Sand 628.5-629.5' Sand 629.5-630.5' Sand 630.5-631.5' Sand 631.5-632.5' Sand 632.5-633.5' Sand 633.5-634.5' Sand 634.5-635.5' Sand 635.5-636.5' Sand 636.5-637.5' Sand 637.5-638.5' Sand 638.5-639.5' Sand 639.5-640.5' Sand 640.5-641.5' Sand 641.5-642.5' Sand 642.5-643.5' Sand 643.5-644.5' Sand 644.5-645.5' Sand 645.5-646.5' Sand 646.5-647.5' Sand 647.5-648.5' Sand 648.5-649.5' Sand 649.5-650.5' Sand 650.5-651.5' Sand 651.5-652.5' Sand 652.5-653.5' Sand 653.5-654.5' Sand 654.5-655.5' Sand 655.5-656.5' Sand 656.5-6</p>			

DRILLING LOG		DIVISION MAD	INSTALLATION DATA	SHEET OF 2 SHEETS
1. PROJECT NIPSS Monitoring Well		10. SIZE AND TYPE OF BIT 1 1/2" DIA		
2. LOCATION (County, Township or Station)		11. DATUM FOR ELEVATION SHOWN (Type of Well)		
3. DRILLING AGENCY IJC-E-C		12. MANUFACTURER'S DESIGNATION OF DRILL Trilux 1500		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN None		
5. NAME OF DRILLER K. B. ...		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> ANGLED DES. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN 400'		16. DATE HOLE STARTED: 6-8-73 COMPLETED: 6-14-73		
8. DEPTH DRILLED INTO ROCK 0'		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 400'		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR W. H. ...		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilled time, water level, amount of overburden, etc., if significant)
100'	0'		2" dia. Protection casing 1 1/2" dia. casing			Permanent dump 2" dia. Protection Pipe = 1.02' x 10' casing
100'	10'		Gravel Sand Silt Clay			Protection casing Partial Interchange Safety Orange
100'	20'		Gravel Sand Silt Clay			Top of ground
100'	30'		Gravel Sand Silt Clay			Top of 1"
100'	40'		Gravel Sand Silt Clay			Silty sand 0.5-1.5'
100'	50'		Gravel Sand Silt Clay			Gravel (0.5-0.75')
100'	60'		Gravel Sand Silt Clay			Gravel consists of mixture of gravel to Bentonite in 5 to 1 Ratio (Yours)
100'	70'		Gravel Sand Silt Clay			
100'	80'		Gravel Sand Silt Clay			
100'	90'		Gravel Sand Silt Clay			
100'	100'		Gravel Sand Silt Clay			

DRILLING LOG		DIVISION M&M	INSTALLATION OMEGA	SHEET OF 2 SHEETS
1. PROJECT New Main Water		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION SHOWN (FSM or MSL)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING	19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE				

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.0	0.0		Standard Concrete Slough			Silty Sand (cm) (100-100)
95.0	5.0		Standard 2" dia. 1/2" thick Steel Pipe			Note! Was Not able to install Bedrock Sample about 100 ft @ 14.7' Water level was pulled to 100 ft But was able to pull Core 10 to 5'. Had to lower concrete pipe through loose about 100 ft Vertical distance
85.0	15.0		Washed Sand Filter Pack 1/2" dia. 1/2" thick Coping to screen			Silty Sand (cm) (100-100) Concrete Pack 1/2" dia. - 1/2" dia. Washed Sand
75.0	25.0		Johnson 2" dia Cut. wire wire wound 0.10" slot screen			Silty Sand (cm) (100-100) Mud Water Water Installation of Pack Present.
65.0	35.0		Bottom of 2" dia Casing @ 35.0'			
55.0	45.0		Natural Sand accumulated during installation			Silty Sand (cm) (100-100) Taped Bottom of casing 29.4' above Apex 35' in Water level 21.49' below top of ground

DRILLING LOG		1510H	INSTALLATION	SHEET 7 OF 12 SHEETS
1. PROJECT N1222		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or BSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE MOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF MOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
10.8	0		Silty Sand (S)			Drilled and washed to 10.8'
11.0	1.0		Loose Non-Plast. V. SL. SAND		04	Pushed 10.8'-12.8'
11.2	2.0		Loose Non-Plast. V. SL. SAND		10.8'	4.000 Rec.
11.4	3.0		Loose Non-Plast. V. SL. SAND		11.2'	Pushed Only 20'
11.6	4.0		Loose Non-Plast. V. SL. SAND			Rep. 04'
11.8	5.0		Loose Non-Plast. V. SL. SAND			Rep. 90'-130'
12.0	6.0		Loose Non-Plast. V. SL. SAND			
12.2	7.0		Loose Non-Plast. V. SL. SAND			
12.4	8.0		Loose Non-Plast. V. SL. SAND			
12.6	9.0		Loose Non-Plast. V. SL. SAND			
12.8	10.0		Loose Non-Plast. V. SL. SAND			
13.0	11.0		Loose Non-Plast. V. SL. SAND			
13.2	12.0		Loose Non-Plast. V. SL. SAND			
13.4	13.0		Loose Non-Plast. V. SL. SAND			
13.6	14.0		Loose Non-Plast. V. SL. SAND			
13.8	15.0		Loose Non-Plast. V. SL. SAND			
14.0	16.0		Loose Non-Plast. V. SL. SAND			
14.2	17.0		Loose Non-Plast. V. SL. SAND			
14.4	18.0		Loose Non-Plast. V. SL. SAND			
14.6	19.0		Loose Non-Plast. V. SL. SAND			
14.8	20.0		Loose Non-Plast. V. SL. SAND			
15.0	21.0		Loose Non-Plast. V. SL. SAND			
15.2	22.0		Loose Non-Plast. V. SL. SAND			
15.4	23.0		Loose Non-Plast. V. SL. SAND			
15.6	24.0		Loose Non-Plast. V. SL. SAND			
15.8	25.0		Loose Non-Plast. V. SL. SAND			
16.0	26.0		Loose Non-Plast. V. SL. SAND			
16.2	27.0		Loose Non-Plast. V. SL. SAND			
16.4	28.0		Loose Non-Plast. V. SL. SAND			
16.6	29.0		Loose Non-Plast. V. SL. SAND			
16.8	30.0		Loose Non-Plast. V. SL. SAND			
17.0	31.0		Loose Non-Plast. V. SL. SAND			
17.2	32.0		Loose Non-Plast. V. SL. SAND			
17.4	33.0		Loose Non-Plast. V. SL. SAND			
17.6	34.0		Loose Non-Plast. V. SL. SAND			
17.8	35.0		Loose Non-Plast. V. SL. SAND			
18.0	36.0		Loose Non-Plast. V. SL. SAND			
18.2	37.0		Loose Non-Plast. V. SL. SAND			
18.4	38.0		Loose Non-Plast. V. SL. SAND			
18.6	39.0		Loose Non-Plast. V. SL. SAND			
18.8	40.0		Loose Non-Plast. V. SL. SAND			
19.0	41.0		Loose Non-Plast. V. SL. SAND			
19.2	42.0		Loose Non-Plast. V. SL. SAND			
19.4	43.0		Loose Non-Plast. V. SL. SAND			
19.6	44.0		Loose Non-Plast. V. SL. SAND			
19.8	45.0		Loose Non-Plast. V. SL. SAND			
20.0	46.0		Loose Non-Plast. V. SL. SAND			
20.2	47.0		Loose Non-Plast. V. SL. SAND			
20.4	48.0		Loose Non-Plast. V. SL. SAND			
20.6	49.0		Loose Non-Plast. V. SL. SAND			
20.8	50.0		Loose Non-Plast. V. SL. SAND			
21.0	51.0		Loose Non-Plast. V. SL. SAND			
21.2	52.0		Loose Non-Plast. V. SL. SAND			
21.4	53.0		Loose Non-Plast. V. SL. SAND			
21.6	54.0		Loose Non-Plast. V. SL. SAND			
21.8	55.0		Loose Non-Plast. V. SL. SAND			
22.0	56.0		Loose Non-Plast. V. SL. SAND			
22.2	57.0		Loose Non-Plast. V. SL. SAND			
22.4	58.0		Loose Non-Plast. V. SL. SAND			
22.6	59.0		Loose Non-Plast. V. SL. SAND			
22.8	60.0		Loose Non-Plast. V. SL. SAND			
23.0	61.0		Loose Non-Plast. V. SL. SAND			
23.2	62.0		Loose Non-Plast. V. SL. SAND			
23.4	63.0		Loose Non-Plast. V. SL. SAND			
23.6	64.0		Loose Non-Plast. V. SL. SAND			
23.8	65.0		Loose Non-Plast. V. SL. SAND			
24.0	66.0		Loose Non-Plast. V. SL. SAND			
24.2	67.0		Loose Non-Plast. V. SL. SAND			
24.4	68.0		Loose Non-Plast. V. SL. SAND			
24.6	69.0		Loose Non-Plast. V. SL. SAND			
24.8	70.0		Loose Non-Plast. V. SL. SAND			
25.0	71.0		Loose Non-Plast. V. SL. SAND			
25.2	72.0		Loose Non-Plast. V. SL. SAND			
25.4	73.0		Loose Non-Plast. V. SL. SAND			
25.6	74.0		Loose Non-Plast. V. SL. SAND			
25.8	75.0		Loose Non-Plast. V. SL. SAND			
26.0	76.0		Loose Non-Plast. V. SL. SAND			
26.2	77.0		Loose Non-Plast. V. SL. SAND			
26.4	78.0		Loose Non-Plast. V. SL. SAND			
26.6	79.0		Loose Non-Plast. V. SL. SAND			
26.8	80.0		Loose Non-Plast. V. SL. SAND			
27.0	81.0		Loose Non-Plast. V. SL. SAND			
27.2	82.0		Loose Non-Plast. V. SL. SAND			
27.4	83.0		Loose Non-Plast. V. SL. SAND			
27.6	84.0		Loose Non-Plast. V. SL. SAND			
27.8	85.0		Loose Non-Plast. V. SL. SAND			
28.0	86.0		Loose Non-Plast. V. SL. SAND			
28.2	87.0		Loose Non-Plast. V. SL. SAND			
28.4	88.0		Loose Non-Plast. V. SL. SAND			
28.6	89.0		Loose Non-Plast. V. SL. SAND			
28.8	90.0		Loose Non-Plast. V. SL. SAND			
29.0	91.0		Loose Non-Plast. V. SL. SAND			
29.2	92.0		Loose Non-Plast. V. SL. SAND			
29.4	93.0		Loose Non-Plast. V. SL. SAND			
29.6	94.0		Loose Non-Plast. V. SL. SAND			
29.8	95.0		Loose Non-Plast. V. SL. SAND			
30.0	96.0		Loose Non-Plast. V. SL. SAND			
30.2	97.0		Loose Non-Plast. V. SL. SAND			
30.4	98.0		Loose Non-Plast. V. SL. SAND			
30.6	99.0		Loose Non-Plast. V. SL. SAND			
30.8	100.0		Loose Non-Plast. V. SL. SAND			

DRILLING LOG		SECTION	INSTALLATION	SHEET
1. PROJECT		NO. SIZE AND TYPE OF BIT		OF SHEETS
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
			Good quality sand			Drilled and washed to 200'
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'
			30' Sand			Rec. 1.0
			30' Sand			Pushed 20' - 222'
			30' Sand			10' - 30' - 200'

DRILLING LOG		VISION M22	INSTALLATION MANS	SHEET 4
1. PROJECT M222 MON TOB. W. W.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY D. C. C.		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and job number)		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Dip, core loss, depth of weathering, etc., if significant)
300			(SM) Silty Sand			Attempted sample @ 30.0' BUT
310			Red Dune			Excess of sand prevented sampling
320			Red Dune			Mixed with Super
330			Red Dune			100% (100% recovery)
340			Red Dune			100% (100% recovery)
350			Red Dune			100% (100% recovery)
360			Red Dune			100% (100% recovery)
370			Red Dune			100% (100% recovery)
380			Red Dune			100% (100% recovery)
390			Red Dune			100% (100% recovery)
400			Red Dune			100% (100% recovery)

DRILLING LOG		LOCATION	INSTALLATION	SHEET
1. PROJECT M... ..		10. SIZE AND TYPE OF BIT		OF 12 SHEETS
2. LOCATION (Continent, State or Station)		11. DAY ON FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		STARTED COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		%
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
40.0'	0.0'		14. Gravelly sand			Drilled and washed to 40.0'
35.0'	5.0'		Med. sand			Drilled to 35.0'
30.0'	10.0'		Med. sand			Drilled to 30.0'
25.0'	15.0'		Med. sand			Drilled to 25.0'
20.0'	20.0'		Med. sand			Drilled to 20.0'
15.0'	25.0'		Med. sand			Drilled to 15.0'
10.0'	30.0'		Med. sand			Drilled to 10.0'
5.0'	35.0'		Med. sand			Drilled to 5.0'
0.0'	40.0'		Med. sand			Drilled to 0.0'

DRILLING LOG		VISOR	INSTALLATION	SHEET
PROJECT				OF 10 SHEETS
LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		
DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (FBN or MSL)		
HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
DIRECTION OF HOLE		14. TOTAL NUMBER CORE BOXES		
THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
DEPTH DRILLED INTO ROCK		16. DATE HOLE		
TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of measuring, etc., if significant)
55.4	0.0		lean clay (C)			Drilled and washed to 55.4'
55.1	0.3		3/4" red sand			Pushed 3' d.
54.9	0.5		1/2" coarse sand			SPL TOP 55.1 - 55.4'
54.7	0.7		1/2" coarse sand			Rec. 1.9'
54.5	0.9		1/2" coarse sand			Rec. 4.0' - 55.0'
54.3	1.1		1/2" coarse sand			
54.1	1.3		1/2" coarse sand			
53.9	1.5		1/2" coarse sand			
53.7	1.7		1/2" coarse sand			
53.5	1.9		1/2" coarse sand			
53.3	2.1		1/2" coarse sand			
53.1	2.3		1/2" coarse sand			
52.9	2.5		1/2" coarse sand			
52.7	2.7		1/2" coarse sand			
52.5	2.9		1/2" coarse sand			
52.3	3.1		1/2" coarse sand			
52.1	3.3		1/2" coarse sand			
51.9	3.5		1/2" coarse sand			
51.7	3.7		1/2" coarse sand			
51.5	3.9		1/2" coarse sand			
51.3	4.1		1/2" coarse sand			
51.1	4.3		1/2" coarse sand			
50.9	4.5		1/2" coarse sand			
50.7	4.7		1/2" coarse sand			
50.5	4.9		1/2" coarse sand			
50.3	5.1		1/2" coarse sand			
50.1	5.3		1/2" coarse sand			
49.9	5.5		1/2" coarse sand			
49.7	5.7		1/2" coarse sand			
49.5	5.9		1/2" coarse sand			
49.3	6.1		1/2" coarse sand			
49.1	6.3		1/2" coarse sand			
48.9	6.5		1/2" coarse sand			
48.7	6.7		1/2" coarse sand			
48.5	6.9		1/2" coarse sand			
48.3	7.1		1/2" coarse sand			
48.1	7.3		1/2" coarse sand			
47.9	7.5		1/2" coarse sand			
47.7	7.7		1/2" coarse sand			
47.5	7.9		1/2" coarse sand			
47.3	8.1		1/2" coarse sand			
47.1	8.3		1/2" coarse sand			
46.9	8.5		1/2" coarse sand			
46.7	8.7		1/2" coarse sand			
46.5	8.9		1/2" coarse sand			
46.3	9.1		1/2" coarse sand			
46.1	9.3		1/2" coarse sand			
45.9	9.5		1/2" coarse sand			
45.7	9.7		1/2" coarse sand			
45.5	9.9		1/2" coarse sand			
45.3	10.1		1/2" coarse sand			
45.1	10.3		1/2" coarse sand			
44.9	10.5		1/2" coarse sand			
44.7	10.7		1/2" coarse sand			
44.5	10.9		1/2" coarse sand			
44.3	11.1		1/2" coarse sand			
44.1	11.3		1/2" coarse sand			
43.9	11.5		1/2" coarse sand			
43.7	11.7		1/2" coarse sand			
43.5	11.9		1/2" coarse sand			
43.3	12.1		1/2" coarse sand			
43.1	12.3		1/2" coarse sand			
42.9	12.5		1/2" coarse sand			
42.7	12.7		1/2" coarse sand			
42.5	12.9		1/2" coarse sand			
42.3	13.1		1/2" coarse sand			
42.1	13.3		1/2" coarse sand			
41.9	13.5		1/2" coarse sand			
41.7	13.7		1/2" coarse sand			
41.5	13.9		1/2" coarse sand			
41.3	14.1		1/2" coarse sand			
41.1	14.3		1/2" coarse sand			
40.9	14.5		1/2" coarse sand			
40.7	14.7		1/2" coarse sand			
40.5	14.9		1/2" coarse sand			
40.3	15.1		1/2" coarse sand			
40.1	15.3		1/2" coarse sand			
39.9	15.5		1/2" coarse sand			
39.7	15.7		1/2" coarse sand			
39.5	15.9		1/2" coarse sand			
39.3	16.1		1/2" coarse sand			
39.1	16.3		1/2" coarse sand			
38.9	16.5		1/2" coarse sand			
38.7	16.7		1/2" coarse sand			
38.5	16.9		1/2" coarse sand			
38.3	17.1		1/2" coarse sand			
38.1	17.3		1/2" coarse sand			
37.9	17.5		1/2" coarse sand			
37.7	17.7		1/2" coarse sand			
37.5	17.9		1/2" coarse sand			
37.3	18.1		1/2" coarse sand			
37.1	18.3		1/2" coarse sand			
36.9	18.5		1/2" coarse sand			
36.7	18.7		1/2" coarse sand			
36.5	18.9		1/2" coarse sand			
36.3	19.1		1/2" coarse sand			
36.1	19.3		1/2" coarse sand			
35.9	19.5		1/2" coarse sand			
35.7	19.7		1/2" coarse sand			
35.5	19.9		1/2" coarse sand			
35.3	20.1		1/2" coarse sand			
35.1	20.3		1/2" coarse sand			
34.9	20.5		1/2" coarse sand			
34.7	20.7		1/2" coarse sand			
34.5	20.9		1/2" coarse sand			
34.3	21.1		1/2" coarse sand			
34.1	21.3		1/2" coarse sand			
33.9	21.5		1/2" coarse sand			
33.7	21.7		1/2" coarse sand			
33.5	21.9		1/2" coarse sand			
33.3	22.1		1/2" coarse sand			
33.1	22.3		1/2" coarse sand			
32.9	22.5		1/2" coarse sand			
32.7	22.7		1/2" coarse sand			
32.5	22.9		1/2" coarse sand			
32.3	23.1		1/2" coarse sand			
32.1	23.3		1/2" coarse sand			
31.9	23.5		1/2" coarse sand			
31.7	23.7		1/2" coarse sand			
31.5	23.9		1/2" coarse sand			
31.3	24.1		1/2" coarse sand			
31.1	24.3		1/2" coarse sand			
30.9	24.5		1/2" coarse sand			
30.7	24.7		1/2" coarse sand			
30.5	24.9		1/2" coarse sand			
30.3	25.1		1/2" coarse sand			
30.1	25.3		1/2" coarse sand			
29.9	25.5		1/2" coarse sand			
29.7	25.7		1/2" coarse sand			
29.5	25.9		1/2" coarse sand			
29.3	26.1		1/2" coarse sand			
29.1	26.3		1/2" coarse sand			
28.9	26.5		1/2" coarse sand			
28.7	26.7		1/2" coarse sand			
28.5	26.9		1/2" coarse sand			
28.3	27.1		1/2" coarse sand			
28.1	27.3		1/2" coarse sand			
27.9	27.5		1/2" coarse sand			
27.7	27.7		1/2" coarse sand			
27.5	27.9		1/2" coarse sand			
27.3	28.1		1/2" coarse sand			
27.1	28.3		1/2" coarse sand			
26.9	28.5		1/2" coarse sand			
26.7	28.7		1/2" coarse sand			
26.5	28.9		1/2" coarse sand			
26.3	29.1		1/2" coarse sand			
26.1	29.3		1/2" coarse sand			
25.9	29.5		1/2" coarse sand			
25.7	29.7		1/2" coarse sand			
25.5	29.9		1/2" coarse sand			
25.3	30.1		1/2" coarse sand			
25.1	30.3		1/2" coarse sand			
24.9	30.5		1/2" coarse sand			
24.7	30.7		1/2" coarse sand			
24.5	30.9		1/2" coarse sand			
24.3	31.1		1/2" coarse sand			
24.1	31.3		1/2" coarse sand			
23.9	31.5		1/2" coarse sand			
23.7	31.7		1/2" coarse sand			
23.5	31.9		1/2" coarse sand			
23.3	32.1		1/2" coarse sand			
23.1	32.3		1/2" coarse sand			
22.9	32.5		1/2" coarse sand			
22.7	32.7		1/2" coarse sand			
22.5	32.9		1/2" coarse sand			
22.3	33.1		1/2" coarse sand			
22.1	33.3		1/2" coarse sand			
21.9	33.5		1/2" coarse sand			
21.7	33.7		1/2" coarse sand			
21.5	33.9		1/2" coarse sand			
21.3	34.1		1/2" coarse sand			
21.1	34.3		1/2" coarse sand			
20.9	34.5		1/2" coarse sand			
20.7	34.7		1/2" coarse sand			
20.5	34.9		1/2" coarse sand			
20.3	35.1		1/2" coarse sand			
20.1	35.3		1/2" coarse sand			
19.9	35.5		1/2" coarse sand			
19.7	35.7		1/2" coarse sand			
19.5	35.9		1/2" coarse sand			
19.3	36.1		1/2" coarse sand			
19.1	36.3		1/2" coarse sand			
18.9	36.5		1/2" coarse sand			
18.7	36.7		1/2" coarse sand			
18.5	36.9		1/2" coarse sand			
18.3	37.1		1/2" coarse sand			
18.1	37.3		1/2" coarse sand			
17.9	37.5		1/2" coarse sand			
17.7	37.7		1/2" coarse sand			
17.5	37.9		1/2" coarse sand			
17.3	38.1		1/2" coarse sand			
17.1	38.3		1/2" coarse sand			
16.9	38.5		1/2" coarse sand			
16.7	38.7		1/2" coarse sand			
16.5	38.9		1/2" coarse sand			
16.3	39.1		1/2" coarse sand			
16.1	39.3		1/2" coarse sand			
15.9	39.5		1/2" coarse sand			
15.7	39.7		1/2" coarse sand			

DRILLING LOG		ISDN	INSTALLATION	SHEET
PROJECT		NO. SIZE AND TYPE OF BIT		OF 10 SHEETS
LOCATION (Continuation of Station)		11. DATE FOR ELEVATION SHOWN (Y/M/D)		
DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
DIRECTION OF HOLE		15. ELEVATION GROUND WATER		
<input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		16. DATE MOLE	STARTED	COMPLETED
THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
60.0	0.0		Fat Clay			Drilled and washed to 60.0'
59.0	1.0		S.B. 1/2" dia. 60.1'-60.6'		DIH	Recovery 1.7'
58.0	2.0		Very fine sand			Recovery 0.3' from bottom of core Rep 59.0'-60.0'
57.0	3.0		Very fine sand			
56.0	4.0		Very fine sand			
55.0	5.0		Very fine sand			
54.0	6.0		Very fine sand			
53.0	7.0		Very fine sand			
52.0	8.0		Very fine sand			
51.0	9.0		Very fine sand			
50.0	10.0		Very fine sand			
49.0	11.0		Very fine sand			
48.0	12.0		Very fine sand			
47.0	13.0		Very fine sand			
46.0	14.0		Very fine sand			
45.0	15.0		Very fine sand			
44.0	16.0		Very fine sand			
43.0	17.0		Very fine sand			
42.0	18.0		Very fine sand			
41.0	19.0		Very fine sand			
40.0	20.0		Very fine sand			
39.0	21.0		Very fine sand			
38.0	22.0		Very fine sand			
37.0	23.0		Very fine sand			
36.0	24.0		Very fine sand			
35.0	25.0		Very fine sand			
34.0	26.0		Very fine sand			
33.0	27.0		Very fine sand			
32.0	28.0		Very fine sand			
31.0	29.0		Very fine sand			
30.0	30.0		Very fine sand			

DRILLING LOG		VISIT: M22	INSTALLATION: 221115	SHEET 6 OF 17 SHEETS
1. PROJECT: NVA-100		10. SIZE AND TYPE OF BIT		
2. LOCATION: (Geographic or Station)		11. DAY OF YEAR FOR ELEVATION SHOWN (YR or JUL)		
3. DRILLING AGENCY: USACE		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and No number): 40		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN: DISTURBED: UNDISTURBED:		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE: <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE: STARTED: COMPLETED:		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING: %		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
70.0	0.0		lean clay			Dr. REC 70.0-70.2
70.2	0.2					Recess 70.2-71.3
70.3	0.3					4 3" d. - spl spoon
70.4	0.4					Rep. 1.3'
70.5	0.5					Rep. 1.69.0'-72.0'
70.6	0.6					
70.7	0.7					
70.8	0.8					
70.9	0.9					
71.0	1.0					
71.1	1.1					
71.2	1.2					
71.3	1.3					
71.4	1.4					
71.5	1.5					
71.6	1.6					
71.7	1.7					
71.8	1.8					
71.9	1.9					
72.0	2.0					
72.1	2.1					
72.2	2.2					
72.3	2.3					
72.4	2.4					
72.5	2.5					
72.6	2.6					
72.7	2.7					
72.8	2.8					
72.9	2.9					
73.0	3.0					
73.1	3.1					
73.2	3.2					
73.3	3.3					
73.4	3.4					
73.5	3.5					
73.6	3.6					
73.7	3.7					
73.8	3.8					
73.9	3.9					
74.0	4.0					
74.1	4.1					
74.2	4.2					
74.3	4.3					
74.4	4.4					
74.5	4.5					
74.6	4.6					
74.7	4.7					
74.8	4.8					
74.9	4.9					
75.0	5.0					
75.1	5.1					
75.2	5.2					
75.3	5.3					
75.4	5.4					
75.5	5.5					
75.6	5.6					
75.7	5.7					
75.8	5.8					
75.9	5.9					
76.0	6.0					
76.1	6.1					
76.2	6.2					
76.3	6.3					
76.4	6.4					
76.5	6.5					
76.6	6.6					
76.7	6.7					
76.8	6.8					
76.9	6.9					
77.0	7.0					
77.1	7.1					
77.2	7.2					
77.3	7.3					
77.4	7.4					
77.5	7.5					
77.6	7.6					
77.7	7.7					
77.8	7.8					
77.9	7.9					
78.0	8.0					
78.1	8.1					
78.2	8.2					
78.3	8.3					
78.4	8.4					
78.5	8.5					
78.6	8.6					
78.7	8.7					
78.8	8.8					
78.9	8.9					
79.0	9.0					
79.1	9.1					
79.2	9.2					
79.3	9.3					
79.4	9.4					
79.5	9.5					
79.6	9.6					
79.7	9.7					
79.8	9.8					
79.9	9.9					
80.0	10.0					

DRILLING LOG		VISION	INSTALLATION	SHEET C
1. PROJECT		N. 33		OF 3 SHEETS
2. LOCATION (Continuation of Station)			10. SIZE AND TYPE OF BIT	
3. DRILLING AGENCY			11. DAYUM FOR ELEVATION BROWN (TON or MEL)	
4. HOLE NO. (As shown on drawing title and file number)		40	12. MANUFACTURER'S DESIGNATION OF DRILL	
5. NAME OF DRILLER			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			14. TOTAL NUMBER CORE BOXES	
7. THICKNESS OF OVERBURDEN			15. ELEVATION GROUND WATER	
8. DEPTH DRILLED INTO ROCK			16. DATE HOLE	STARTED COMPLETED
9. TOTAL DEPTH OF HOLE			17. ELEVATION TOP OF HOLE	
			18. TOTAL CORE RECOVERY FOR BORING	%
			19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, overburden, depth of weathering, etc., if significant)
80.0	0.0		Drill. 50'			Drilled to 80.4'
79.5	0.5		Clay			Done 5" Diameter
79.0	1.0		Drill. 50'			Rep. 80.4'-80.7'
78.5	1.5		Drill. 50'			Rep. 80.7'-80.9'
78.0	2.0		Drill. 50'			Rep. 80.9'-81.1'
77.5	2.5		Drill. 50'			Rep. 81.1'-81.3'
77.0	3.0		Drill. 50'			Rep. 81.3'-81.5'
76.5	3.5		Drill. 50'			Rep. 81.5'-81.7'
76.0	4.0		Drill. 50'			Rep. 81.7'-81.9'
75.5	4.5		Drill. 50'			Rep. 81.9'-82.1'
75.0	5.0		Drill. 50'			Rep. 82.1'-82.3'
74.5	5.5		Drill. 50'			Rep. 82.3'-82.5'
74.0	6.0		Drill. 50'			Rep. 82.5'-82.7'
73.5	6.5		Drill. 50'			Rep. 82.7'-82.9'
73.0	7.0		Drill. 50'			Rep. 82.9'-83.1'
72.5	7.5		Drill. 50'			Rep. 83.1'-83.3'
72.0	8.0		Drill. 50'			Rep. 83.3'-83.5'
71.5	8.5		Drill. 50'			Rep. 83.5'-83.7'
71.0	9.0		Drill. 50'			Rep. 83.7'-83.9'
70.5	9.5		Drill. 50'			Rep. 83.9'-84.1'
70.0	10.0		Drill. 50'			Rep. 84.1'-84.3'
69.5	10.5		Drill. 50'			Rep. 84.3'-84.5'
69.0	11.0		Drill. 50'			Rep. 84.5'-84.7'
68.5	11.5		Drill. 50'			Rep. 84.7'-84.9'
68.0	12.0		Drill. 50'			Rep. 84.9'-85.1'
67.5	12.5		Drill. 50'			Rep. 85.1'-85.3'
67.0	13.0		Drill. 50'			Rep. 85.3'-85.5'
66.5	13.5		Drill. 50'			Rep. 85.5'-85.7'
66.0	14.0		Drill. 50'			Rep. 85.7'-85.9'
65.5	14.5		Drill. 50'			Rep. 85.9'-86.1'
65.0	15.0		Drill. 50'			Rep. 86.1'-86.3'
64.5	15.5		Drill. 50'			Rep. 86.3'-86.5'
64.0	16.0		Drill. 50'			Rep. 86.5'-86.7'
63.5	16.5		Drill. 50'			Rep. 86.7'-86.9'
63.0	17.0		Drill. 50'			Rep. 86.9'-87.1'
62.5	17.5		Drill. 50'			Rep. 87.1'-87.3'
62.0	18.0		Drill. 50'			Rep. 87.3'-87.5'
61.5	18.5		Drill. 50'			Rep. 87.5'-87.7'
61.0	19.0		Drill. 50'			Rep. 87.7'-87.9'
60.5	19.5		Drill. 50'			Rep. 87.9'-88.1'
60.0	20.0		Drill. 50'			Rep. 88.1'-88.3'
59.5	20.5		Drill. 50'			Rep. 88.3'-88.5'
59.0	21.0		Drill. 50'			Rep. 88.5'-88.7'
58.5	21.5		Drill. 50'			Rep. 88.7'-88.9'
58.0	22.0		Drill. 50'			Rep. 88.9'-89.1'
57.5	22.5		Drill. 50'			Rep. 89.1'-89.3'
57.0	23.0		Drill. 50'			Rep. 89.3'-89.5'
56.5	23.5		Drill. 50'			Rep. 89.5'-89.7'
56.0	24.0		Drill. 50'			Rep. 89.7'-89.9'
55.5	24.5		Drill. 50'			Rep. 89.9'-90.1'
55.0	25.0		Drill. 50'			Rep. 90.1'-90.3'
54.5	25.5		Drill. 50'			Rep. 90.3'-90.5'
54.0	26.0		Drill. 50'			Rep. 90.5'-90.7'
53.5	26.5		Drill. 50'			Rep. 90.7'-90.9'
53.0	27.0		Drill. 50'			Rep. 90.9'-91.1'
52.5	27.5		Drill. 50'			Rep. 91.1'-91.3'
52.0	28.0		Drill. 50'			Rep. 91.3'-91.5'
51.5	28.5		Drill. 50'			Rep. 91.5'-91.7'
51.0	29.0		Drill. 50'			Rep. 91.7'-91.9'
50.5	29.5		Drill. 50'			Rep. 91.9'-92.1'
50.0	30.0		Drill. 50'			Rep. 92.1'-92.3'
49.5	30.5		Drill. 50'			Rep. 92.3'-92.5'
49.0	31.0		Drill. 50'			Rep. 92.5'-92.7'
48.5	31.5		Drill. 50'			Rep. 92.7'-92.9'
48.0	32.0		Drill. 50'			Rep. 92.9'-93.1'
47.5	32.5		Drill. 50'			Rep. 93.1'-93.3'
47.0	33.0		Drill. 50'			Rep. 93.3'-93.5'
46.5	33.5		Drill. 50'			Rep. 93.5'-93.7'
46.0	34.0		Drill. 50'			Rep. 93.7'-93.9'
45.5	34.5		Drill. 50'			Rep. 93.9'-94.1'
45.0	35.0		Drill. 50'			Rep. 94.1'-94.3'
44.5	35.5		Drill. 50'			Rep. 94.3'-94.5'
44.0	36.0		Drill. 50'			Rep. 94.5'-94.7'
43.5	36.5		Drill. 50'			Rep. 94.7'-94.9'
43.0	37.0		Drill. 50'			Rep. 94.9'-95.1'
42.5	37.5		Drill. 50'			Rep. 95.1'-95.3'
42.0	38.0		Drill. 50'			Rep. 95.3'-95.5'
41.5	38.5		Drill. 50'			Rep. 95.5'-95.7'
41.0	39.0		Drill. 50'			Rep. 95.7'-95.9'
40.5	39.5		Drill. 50'			Rep. 95.9'-96.1'
40.0	40.0		Drill. 50'			Rep. 96.1'-96.3'

No. 74

DRILLING LOG	VISION MAD	INSTALLATION OMAHA	SHEET 11 OF 13 SHEETS
1. PROJECT NIPAP Installation - Proj		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DAY FOR ELEVATION SHOWN (T.M. or A.M.)	
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 40		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.0	0.0		Silt & Sand			Drilled to 100.0'
100.5	0.5		Drill to 100.5'			Drill 3' 2" split
101.0	1.0		None Present			Spun 100.0' - 101.5'
101.5	1.5		S. clayey sand			w/ 300 lbs hammer
102.0	2.0		Med. clay			Rec. 0.5'
102.5	2.5		Sand & silt			Rep. 98.0' - 104.7'
103.0	3.0		Drill to 103.0'			
103.5	3.5		Drill to 103.5'			
104.0	4.0		Drill to 104.0'			
104.5	4.5		Drill to 104.5'			
105.0	5.0		Drill to 105.0'			
105.5	5.5		Drill to 105.5'			
106.0	6.0		Drill to 106.0'			
106.5	6.5		Drill to 106.5'			
107.0	7.0		Drill to 107.0'			
107.5	7.5		Drill to 107.5'			
108.0	8.0		Drill to 108.0'			
108.5	8.5		Drill to 108.5'			
109.0	9.0		Drill to 109.0'			
109.5	9.5		Drill to 109.5'			
110.0	10.0		Drill to 110.0'			
110.5	10.5		Drill to 110.5'			
111.0	11.0		Drill to 111.0'			
111.5	11.5		Drill to 111.5'			
112.0	12.0		Drill to 112.0'			

DRILLING LOG		SECTION	INSTALLATION	40.47	SHEET 13 OF 12 SHEETS
1. PROJECT		10. SIZE AND TYPE OF BIT		11. DAYUM FOR ELEVATION SHOWN (778M or MSL)	
2. LOCATION (Coordinates or Station)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
3. DRILLING AGENCY		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
4. HOLE NO. (As shown on drawing title and file number)		15. DATE HOLE		17. ELEVATION TOP OF HOLE	
5. NAME OF DRILLER		16. STARTED		18. TOTAL CORE RECOVERY FOR BORING	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT		17. COMPLETED		19. SIGNATURE OF INSPECTOR	
7. THICKNESS OF OVERBURDEN		18. TOTAL CORE RECOVERY FOR BORING		19. SIGNATURE OF INSPECTOR	
8. DEPTH DRILLED INTO ROCK		19. SIGNATURE OF INSPECTOR		19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of overburden, etc., if significant)
120.0	0		(SM-50)			
118.0	2		Very Gravelly		120.0	Drilled to 120.0'
116.0	4		Gravelly Sand		120.1	Drive 3' of split
114.0	6		Sand		120.2	upon sample
112.0	8		Sand		120.3	120.2' - 121.4'
110.0	10		Sand		120.4	Rep. 117.0 - 120.1'
108.0	12		Sand		120.5	Rep. 120.1 - 121.4'
106.0	14		Sand			Terminated
104.0	16		Sand			Boring 121.4'
102.0	18		Sand			on 6-8-68
100.0	20		Sand			
98.0	22		Sand			
96.0	24		Sand			
94.0	26		Sand			
92.0	28		Sand			
90.0	30		Sand			
88.0	32		Sand			
86.0	34		Sand			
84.0	36		Sand			
82.0	38		Sand			
80.0	40		Sand			
78.0	42		Sand			
76.0	44		Sand			
74.0	46		Sand			
72.0	48		Sand			
70.0	50		Sand			
68.0	52		Sand			
66.0	54		Sand			
64.0	56		Sand			
62.0	58		Sand			
60.0	60		Sand			
58.0	62		Sand			
56.0	64		Sand			
54.0	66		Sand			
52.0	68		Sand			
50.0	70		Sand			
48.0	72		Sand			
46.0	74		Sand			
44.0	76		Sand			
42.0	78		Sand			
40.0	80		Sand			
38.0	82		Sand			
36.0	84		Sand			
34.0	86		Sand			
32.0	88		Sand			
30.0	90		Sand			
28.0	92		Sand			
26.0	94		Sand			
24.0	96		Sand			
22.0	98		Sand			
20.0	100		Sand			

DRILLING LOG		DIVISION <i>MAD</i>	INSTALLATION <i>OMAHA</i>	SHEET <i>1</i>
1. PROJECT <i>Montgomery Water</i>		10. SIZE AND TYPE OF BIT <i>5 1/2" A-Hammer Rock</i>		
2. LOCATION <i>Water Treatment Plant</i>		11. DATUM FOR ELEVATION SHOWN (FTH or MSL) <i>BT</i>		
3. DRILLING AGENCY <i>US-CE-C</i>		12. MANUFACTURER'S DESIGNATION OF DRILL <i>Fairbanks 1500 Holemeter</i>		
4. HOLE NO. (As shown on drawing title and file number) <i>10</i>		13. TOTAL NO. OVER-BURDEN SAMPLES TAKEN <i>3</i> DISTURBED <i>None</i> UNDISTURBED		
5. NAME OF DRILLER <i>KROON</i>		14. TOTAL NUMBER CORE BOXES <i>—</i>		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> _____ DEG. FROM VERT. _____		15. ELEVATION GROUND WATER <i>780'</i>		
7. THICKNESS OF OVERBURDEN <i>120' Alluvium</i>		16. DATE HOLE STARTED <i>6-2-88</i> COMPLETED <i>6-2-88</i>		
8. DEPTH DRILLED INTO ROCK <i>10' Sandstone</i>		17. ELEVATION TOP OF HOLE <i>—</i>		
9. TOTAL DEPTH OF HOLE <i>1214</i>		18. TOTAL CORE RECOVERY FOR BORING <i>—</i>		
		19. SIGNATURE OF INSPECTOR <i>[Signature]</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
780.0	0.0		6" dia. Protective Steel Casing			Permanent Steel cap 30" dia. Instead Pipe = 1.63'
775.0	5.0		1" steel cap			Protective casing Painted Interchange Orange
770.0	10.0		3" dia. galvanized threaded steel cap (vertical)			Top of Ground
765.0	15.0		6" dia. galvanized pipe			Topsoil 0.0-1.30'
760.0	20.0		6" dia. galvanized pipe			All couplings connected to pipe w/ Teflon tape only
755.0	25.0		6" dia. galvanized pipe			6 couplings following depth
750.0	30.0		6" dia. galvanized pipe			5.6' 178, 180, 182, 184, 186, 188
745.0	35.0		6" dia. galvanized pipe			109.1'
740.0	40.0		6" dia. galvanized pipe			6.5' Sandstone 3.0-13.0'
735.0	45.0		6" dia. galvanized pipe			GRout consist of Cement / Barite mixture in a 3:1 ratio
730.0	50.0		6" dia. galvanized pipe			Coarsely Sandstone 13.0' (13.0-33.0')
725.0	55.0		6" dia. galvanized pipe			5.5' Sandstone (33.0-38.5)
720.0	60.0		6" dia. galvanized pipe			5.5' Sandstone (38.5-44.0)
715.0	65.0		6" dia. galvanized pipe			5.5' Sandstone (44.0-49.5)
710.0	70.0		6" dia. galvanized pipe			5.5' Sandstone (49.5-55.0)
705.0	75.0		6" dia. galvanized pipe			5.5' Sandstone (55.0-60.5)
700.0	80.0		6" dia. galvanized pipe			5.5' Sandstone (60.5-66.0)
695.0	85.0		6" dia. galvanized pipe			5.5' Sandstone (66.0-71.5)
690.0	90.0		6" dia. galvanized pipe			5.5' Sandstone (71.5-77.0)
685.0	95.0		6" dia. galvanized pipe			5.5' Sandstone (77.0-82.5)
680.0	100.0		6" dia. galvanized pipe			5.5' Sandstone (82.5-88.0)
675.0	105.0		6" dia. galvanized pipe			5.5' Sandstone (88.0-93.5)
670.0	110.0		6" dia. galvanized pipe			5.5' Sandstone (93.5-99.0)
665.0	115.0		6" dia. galvanized pipe			5.5' Sandstone (99.0-104.5)
660.0	120.0		6" dia. galvanized pipe			5.5' Sandstone (104.5-110.0)

DRILLING LOG		DIVISION MDD	INSTALLATION MDD	SHEET OF 2 SHEETS
1. PROJECT Monitoring Well N1222 Installation Pkg.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY USCF		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 40		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
77.0	0					
97.0	20		Yellowish Sandy Silt (Hard)			Silty sand (20'-20.5') Silty sand (20.5'-21.0') Silty sand (21.0'-22.0')
100.0	23		Yellowish Sandy Silt (Hard)			Silty sand (22.0'-23.0') Silty sand (23.0'-24.0') Silty sand (24.0'-25.0') Silty sand (25.0'-26.0') Silty sand (26.0'-27.0') Silty sand (27.0'-28.0') Silty sand (28.0'-29.0') Silty sand (29.0'-30.0')
110.0	33		Yellowish Sandy Silt (Hard)			Silty sand (30.0'-31.0') Silty sand (31.0'-32.0') Silty sand (32.0'-33.0') Silty sand (33.0'-34.0') Silty sand (34.0'-35.0') Silty sand (35.0'-36.0') Silty sand (36.0'-37.0') Silty sand (37.0'-38.0') Silty sand (38.0'-39.0') Silty sand (39.0'-40.0')
117.0	40		Yellowish Sandy Silt (Hard)			Silty sand (40.0'-41.0') Silty sand (41.0'-42.0') Silty sand (42.0'-43.0') Silty sand (43.0'-44.0') Silty sand (44.0'-45.0') Silty sand (45.0'-46.0') Silty sand (46.0'-47.0') Silty sand (47.0'-48.0') Silty sand (48.0'-49.0') Silty sand (49.0'-50.0')
120.0	43		Yellowish Sandy Silt (Hard)			Silty sand (50.0'-51.0') Silty sand (51.0'-52.0') Silty sand (52.0'-53.0') Silty sand (53.0'-54.0') Silty sand (54.0'-55.0') Silty sand (55.0'-56.0') Silty sand (56.0'-57.0') Silty sand (57.0'-58.0') Silty sand (58.0'-59.0') Silty sand (59.0'-60.0')
125.0	48		Yellowish Sandy Silt (Hard)			Silty sand (60.0'-61.0') Silty sand (61.0'-62.0') Silty sand (62.0'-63.0') Silty sand (63.0'-64.0') Silty sand (64.0'-65.0') Silty sand (65.0'-66.0') Silty sand (66.0'-67.0') Silty sand (67.0'-68.0') Silty sand (68.0'-69.0') Silty sand (69.0'-70.0')
130.0	53		Yellowish Sandy Silt (Hard)			Silty sand (70.0'-71.0') Silty sand (71.0'-72.0') Silty sand (72.0'-73.0') Silty sand (73.0'-74.0') Silty sand (74.0'-75.0') Silty sand (75.0'-76.0') Silty sand (76.0'-77.0') Silty sand (77.0'-78.0') Silty sand (78.0'-79.0') Silty sand (79.0'-80.0')
135.0	58		Yellowish Sandy Silt (Hard)			Silty sand (80.0'-81.0') Silty sand (81.0'-82.0') Silty sand (82.0'-83.0') Silty sand (83.0'-84.0') Silty sand (84.0'-85.0') Silty sand (85.0'-86.0') Silty sand (86.0'-87.0') Silty sand (87.0'-88.0') Silty sand (88.0'-89.0') Silty sand (89.0'-90.0')
140.0	63		Yellowish Sandy Silt (Hard)			Silty sand (90.0'-91.0') Silty sand (91.0'-92.0') Silty sand (92.0'-93.0') Silty sand (93.0'-94.0') Silty sand (94.0'-95.0') Silty sand (95.0'-96.0') Silty sand (96.0'-97.0') Silty sand (97.0'-98.0') Silty sand (98.0'-99.0') Silty sand (99.0'-100.0')
145.0	68		Yellowish Sandy Silt (Hard)			Silty sand (100.0'-101.0') Silty sand (101.0'-102.0') Silty sand (102.0'-103.0') Silty sand (103.0'-104.0') Silty sand (104.0'-105.0') Silty sand (105.0'-106.0') Silty sand (106.0'-107.0') Silty sand (107.0'-108.0') Silty sand (108.0'-109.0') Silty sand (109.0'-110.0')
150.0	73		Yellowish Sandy Silt (Hard)			Silty sand (110.0'-111.0') Silty sand (111.0'-112.0') Silty sand (112.0'-113.0') Silty sand (113.0'-114.0') Silty sand (114.0'-115.0') Silty sand (115.0'-116.0') Silty sand (116.0'-117.0') Silty sand (117.0'-118.0') Silty sand (118.0'-119.0') Silty sand (119.0'-120.0')
155.0	78		Yellowish Sandy Silt (Hard)			Silty sand (120.0'-121.0') Silty sand (121.0'-122.0') Silty sand (122.0'-123.0') Silty sand (123.0'-124.0') Silty sand (124.0'-125.0') Silty sand (125.0'-126.0') Silty sand (126.0'-127.0') Silty sand (127.0'-128.0') Silty sand (128.0'-129.0') Silty sand (129.0'-130.0')
160.0	83		Yellowish Sandy Silt (Hard)			Silty sand (130.0'-131.0') Silty sand (131.0'-132.0') Silty sand (132.0'-133.0') Silty sand (133.0'-134.0') Silty sand (134.0'-135.0') Silty sand (135.0'-136.0') Silty sand (136.0'-137.0') Silty sand (137.0'-138.0') Silty sand (138.0'-139.0') Silty sand (139.0'-140.0')
165.0	88		Yellowish Sandy Silt (Hard)			Silty sand (140.0'-141.0') Silty sand (141.0'-142.0') Silty sand (142.0'-143.0') Silty sand (143.0'-144.0') Silty sand (144.0'-145.0') Silty sand (145.0'-146.0') Silty sand (146.0'-147.0') Silty sand (147.0'-148.0') Silty sand (148.0'-149.0') Silty sand (149.0'-150.0')
170.0	93		Yellowish Sandy Silt (Hard)			Silty sand (150.0'-151.0') Silty sand (151.0'-152.0') Silty sand (152.0'-153.0') Silty sand (153.0'-154.0') Silty sand (154.0'-155.0') Silty sand (155.0'-156.0') Silty sand (156.0'-157.0') Silty sand (157.0'-158.0') Silty sand (158.0'-159.0') Silty sand (159.0'-160.0')
175.0	98		Yellowish Sandy Silt (Hard)			Silty sand (160.0'-161.0') Silty sand (161.0'-162.0') Silty sand (162.0'-163.0') Silty sand (163.0'-164.0') Silty sand (164.0'-165.0') Silty sand (165.0'-166.0') Silty sand (166.0'-167.0') Silty sand (167.0'-168.0') Silty sand (168.0'-169.0') Silty sand (169.0'-170.0')
180.0	103		Yellowish Sandy Silt (Hard)			Silty sand (170.0'-171.0') Silty sand (171.0'-172.0') Silty sand (172.0'-173.0') Silty sand (173.0'-174.0') Silty sand (174.0'-175.0') Silty sand (175.0'-176.0') Silty sand (176.0'-177.0') Silty sand (177.0'-178.0') Silty sand (178.0'-179.0') Silty sand (179.0'-180.0')
185.0	108		Yellowish Sandy Silt (Hard)			Silty sand (180.0'-181.0') Silty sand (181.0'-182.0') Silty sand (182.0'-183.0') Silty sand (183.0'-184.0') Silty sand (184.0'-185.0') Silty sand (185.0'-186.0') Silty sand (186.0'-187.0') Silty sand (187.0'-188.0') Silty sand (188.0'-189.0') Silty sand (189.0'-190.0')
190.0	113		Yellowish Sandy Silt (Hard)			Silty sand (190.0'-191.0') Silty sand (191.0'-192.0') Silty sand (192.0'-193.0') Silty sand (193.0'-194.0') Silty sand (194.0'-195.0') Silty sand (195.0'-196.0') Silty sand (196.0'-197.0') Silty sand (197.0'-198.0') Silty sand (198.0'-199.0') Silty sand (199.0'-200.0')
195.0	118		Yellowish Sandy Silt (Hard)			Silty sand (200.0'-201.0') Silty sand (201.0'-202.0') Silty sand (202.0'-203.0') Silty sand (203.0'-204.0') Silty sand (204.0'-205.0') Silty sand (205.0'-206.0') Silty sand (206.0'-207.0') Silty sand (207.0'-208.0') Silty sand (208.0'-209.0') Silty sand (209.0'-210.0')
200.0	123		Yellowish Sandy Silt (Hard)			Silty sand (210.0'-211.0') Silty sand (211.0'-212.0') Silty sand (212.0'-213.0') Silty sand (213.0'-214.0') Silty sand (214.0'-215.0') Silty sand (215.0'-216.0') Silty sand (216.0'-217.0') Silty sand (217.0'-218.0') Silty sand (218.0'-219.0') Silty sand (219.0'-220.0')
205.0	128		Yellowish Sandy Silt (Hard)			Silty sand (220.0'-221.0') Silty sand (221.0'-222.0') Silty sand (222.0'-223.0') Silty sand (223.0'-224.0') Silty sand (224.0'-225.0') Silty sand (225.0'-226.0') Silty sand (226.0'-227.0') Silty sand (227.0'-228.0') Silty sand (228.0'-229.0') Silty sand (229.0'-230.0')
210.0	133		Yellowish Sandy Silt (Hard)			Silty sand (230.0'-231.0') Silty sand (231.0'-232.0') Silty sand (232.0'-233.0') Silty sand (233.0'-234.0') Silty sand (234.0'-235.0') Silty sand (235.0'-236.0') Silty sand (236.0'-237.0') Silty sand (237.0'-238.0') Silty sand (238.0'-239.0') Silty sand (239.0'-240.0')
215.0	138		Yellowish Sandy Silt (Hard)			Silty sand (240.0'-241.0') Silty sand (241.0'-242.0') Silty sand (242.0'-243.0') Silty sand (243.0'-244.0') Silty sand (244.0'-245.0') Silty sand (245.0'-246.0') Silty sand (246.0'-247.0') Silty sand (247.0'-248.0') Silty sand (248.0'-249.0') Silty sand (249.0'-250.0')
220.0	143		Yellowish Sandy Silt (Hard)			Silty sand (250.0'-251.0') Silty sand (251.0'-252.0') Silty sand (252.0'-253.0') Silty sand (253.0'-254.0') Silty sand (254.0'-255.0') Silty sand (255.0'-256.0') Silty sand (256.0'-257.0') Silty sand (257.0'-258.0') Silty sand (258.0'-259.0') Silty sand (259.0'-260.0')
225.0	148		Yellowish Sandy Silt (Hard)			Silty sand (260.0'-261.0') Silty sand (261.0'-262.0') Silty sand (262.0'-263.0') Silty sand (263.0'-264.0') Silty sand (264.0'-265.0') Silty sand (265.0'-266.0') Silty sand (266.0'-267.0') Silty sand (267.0'-268.0') Silty sand (268.0'-269.0') Silty sand (269.0'-270.0')
230.0	153		Yellowish Sandy Silt (Hard)			Silty sand (270.0'-271.0') Silty sand (271.0'-272.0') Silty sand (272.0'-273.0') Silty sand (273.0'-274.0') Silty sand (274.0'-275.0') Silty sand (275.0'-276.0') Silty sand (276.0'-277.0') Silty sand (277.0'-278.0') Silty sand (278.0'-279.0') Silty sand (279.0'-280.0')
235.0	158		Yellowish Sandy Silt (Hard)			Silty sand (280.0'-281.0') Silty sand (281.0'-282.0') Silty sand (282.0'-283.0') Silty sand (283.0'-284.0') Silty sand (284.0'-285.0') Silty sand (285.0'-286.0') Silty sand (286.0'-287.0') Silty sand (287.0'-288.0') Silty sand (288.0'-289.0') Silty sand (289.0'-290.0')
240.0	163		Yellowish Sandy Silt (Hard)			Silty sand (290.0'-291.0') Silty sand (291.0'-292.0') Silty sand (292.0'-293.0') Silty sand (293.0'-294.0') Silty sand (294.0'-295.0') Silty sand (295.0'-296.0') Silty sand (296.0'-297.0') Silty sand (297.0'-298.0') Silty sand (298.0'-299.0') Silty sand (299.0'-300.0')
245.0	168		Yellowish Sandy Silt (Hard)			Silty sand (300.0'-301.0') Silty sand (301.0'-302.0') Silty sand (302.0'-303.0') Silty sand (303.0'-304.0') Silty sand (304.0'-305.0') Silty sand (305.0'-306.0') Silty sand (306.0'-307.0') Silty sand (307.0'-308.0') Silty sand (308.0'-309.0') Silty sand (309.0'-310.0')
250.0	173		Yellowish Sandy Silt (Hard)			Silty sand (310.0'-311.0') Silty sand (311.0'-312.0') Silty sand (312.0'-313.0') Silty sand (313.0'-314.0') Silty sand (314.0'-315.0') Silty sand (315.0'-316.0') Silty sand (316.0'-317.0') Silty sand (317.0'-318.0') Silty sand (318.0'-319.0') Silty sand (319.0'-320.0')
255.0	178		Yellowish Sandy Silt (Hard)			Silty sand (320.0'-321.0') Silty sand (321.0'-322.0') Silty sand (322.0'-323.0') Silty sand (323.0'-324.0') Silty sand (324.0'-325.0') Silty sand (325.0'-326.0') Silty sand (326.0'-327.0') Silty sand (327.0'-328.0') Silty sand (328.0'-329.0') Silty sand (329.0'-330.0')
260.0	183		Yellowish Sandy Silt (Hard)			Silty sand (330.0'-331.0') Silty sand (331.0'-332.0') Silty sand (332.0'-333.0') Silty sand (333.0'-334.0') Silty sand (334.0'-335.0') Silty sand (335.0'-336.0') Silty sand (336.0'-337.0') Silty sand (337.0'-338.0') Silty sand (338.0'-339.0') Silty sand (339.0'-340.0')
265.0	188		Yellowish Sandy Silt (Hard)			Silty sand (340.0'-341.0') Silty sand (341.0'-342.0') Silty sand (342.0'-343.0') Silty sand (343.0'-344.0') Silty sand (344.0'-345.0') Silty sand (345.0'-346.0') Silty sand (346.0'-347.0') Silty sand (347.0'-348.0') Silty sand (348.0'-349.0') Silty sand (349.0'-350.0')
270.0	193		Yellowish Sandy Silt (Hard)			Silty sand (350.0'-351.0') Silty sand (351.0'-352.0') Silty sand (352.0'-353.0') Silty sand (353.0'-354.0') Silty sand (354.0'-355.0') Silty sand (355.0'-356.0') Silty sand (356.0'-357.0') Silty sand (357.0'-358.0') Silty sand (358.0'-359.0') Silty sand (359.0'-360.0')
275.0	198		Yellowish Sandy Silt (Hard)			Silty sand (360.0'-361.0') Silty sand (361.0'-362.0') Silty sand (362.0'-363.0') Silty sand (363.0'-364.0') Silty sand (364.0'-365.0') Silty sand (365.0'-366.0') Silty sand (366.0'-367.0') Silty sand (367.0'-368.0') Silty sand (368.0'-369.0') Silty sand (369.0'-370.0')
280.0	203		Yellowish Sandy Silt (Hard)			Silty sand (370.0'-371.0') Silty sand (371.0'-372.0') Silty sand (372.0'-373.0') Silty sand (373.0'-374.0') Silty sand (374.0'-375.0') Silty sand (375.0'-376.0') Silty sand (376.0'-377.0') Silty sand (377.0'-378.0') Silty sand (378.0'-379.0') Silty sand (379.0'-380.0')
285.0	208		Yellowish Sandy Silt (Hard)			Silty sand (380.0'-381.0') Silty sand (381.0'-382.0') Silty sand (382.0'-383.0') Silty sand (383.0'-384.0') Silty sand (384.0'-385.0') Silty sand (385.0'-386.0') Silty sand (386.0'-387.0') Silty sand (387.0'-388.0') Silty sand (388.0'-389.0') Silty sand (389.0'-390.0')
290.0	213		Yellowish Sandy Silt (Hard)			Silty sand (390.0'-391.0') Silty sand (391.0'-392.0') Silty sand (392.0'-393.0') Silty sand (393.0'-394.0') Silty sand (394.0'-395.0') Silty sand (395.0'-396.0') Silty sand (396.0'-397.0') Silty sand (397.0'-398.0') Silty sand (398.0'-399.0') Silty sand (399.0'-400.0')
295.0	218		Yellowish Sandy Silt (Hard)			Silty sand (400.0'-401.0') Silty sand (401.0'-402.0') Silty sand (402.0'-403.0') Silty sand (403.0'-404.0') Silty sand (404.0'-405.0') Silty sand (405.0'-406.0') Silty sand (406.0'-407.0') Silty sand (407.0'-408.0') Silty sand (408.0'-409.0') Silty sand (409.0'-410.0')
300.0	223		Yellowish Sandy Silt (Hard)			Silty sand (410.0'-411.0') Silty sand (411.0'-412.0') Silty sand (412.0'-413.0') Silty sand (413.0'-414.0') Silty sand (414.0'-415.0') Silty sand (415.0'-416.0') Silty sand (416.0'-417.0') Silty sand (417.0'-418.0') Silty sand (418.0'-419.0') Silty sand (419.0'-420.0')
305.0	228		Yellowish Sandy Silt (Hard)			Silty sand (420.0'-421.0') Silty sand (421.0'-422.0') Silty sand (422.0'-423.0') Silty sand (423.0'-424.0') Silty sand (424.0'-425.0') Silty sand (425.0'-426.0') Silty sand (426.0'-427.0') Silty sand (427.0'-428.0') Silty sand (428.0'-429.0') Silty sand (429.0'-430.0')
310.0	233		Yellowish Sandy Silt (Hard)			Silty sand (430.0'-431.0') Silty sand (431.0'-432.0') Silty sand (432.0'-433.0') Silty sand (433.0'-434.0') Silty sand (434.0'-435.0') Silty sand (435.0'-436.0') Silty sand (436.0'-437.0') Silty sand (437.0'-438.0') Silty sand (438.0'-439.0') Silty sand (439.0'-440.0')
315.0	238		Yellowish Sandy Silt (Hard)			Silty sand (440.0'-441.0') Silty sand (441.0'-442.0') Silty sand (442.0'-443.0') Silty sand (443.0'-444.0') Silty sand (444.0'-445.0') Silty sand (445.0'-446.0') Silty sand (446.0'-447.0') Silty sand (447.0'-448.0') Silty sand (448.0'-449.0') Silty sand (449.0'-450.0')
320.0	243		Yellowish Sandy Silt (Hard)			Silty sand (450.0'-451.0') Silty sand (451.0'-452.0') Silty sand (452.0'-453.0') Silty sand (453.0'-454.0') Silty sand (454.0'-455.0') Silty sand (455.0'-456.0') Silty sand (456.0'-457.0') Silty sand (457.0'-458.0') Silty sand (458.0'-459.0') Silty sand (459.0'-460.0')
325.0	248		Yellowish Sandy Silt (Hard)			Silty sand (460.0'-461.0') Silty sand (461.0'-462.0') Silty sand (462.0'-463.0') Silty sand (463.0'-464.0') Silty sand (464.0'-465.0') Silty sand (465.0'-466.0') Silty sand (466.0'-467.0') Silty sand (467.0'-468.0') Silty sand (468.0'-469.0') Silty sand (469.0'-470.0')
330.0	253		Yellowish Sandy Silt (Hard)			Silty sand (470.0'-471.0') Silty sand (471.0'-472.0') Silty sand (472.0'-473.0') Silty sand (473.0'-474.0') Silty sand (474.0'-475.0') Silty sand (475.0'-476.0') Silty sand (476.0'-477.0') Silty sand (477.0'-478.0') Silty sand (478.0'-479.0') Silty sand (479.0'-480.0')
335.0	258		Yellowish Sandy Silt (Hard)			Silty sand (480.0'-481.0') Silty sand (481.0'-482.0')<

DRILLING LOG		DIVISION MID	INSTALLATION DANA	SHEET 2 OF 2 SHEETS
1. PROJECT MONITORING WELL INSTALLATION		10. SIZE AND TYPE OF BIT		
2. LOCATION (Contract or Station)		11. DATUM FOR ELEVATION SHOWN (FSR or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>(Signature)</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of penetration, etc., if significant)
120.0			ST. PETER SANDSTONE			
121.0			HIGHLY WEATHERED V. DENSE MOD. HARD			
122.0			SUGAR-SANDSTONE SATURATED LT. OLIVE BROWN SAND FINE-GRAN SPIND			
123.0						
124.0						
125.0						
125.25						
125.5		SEAL		Row 1		8-9-83
126.0		FEEL		Row 2		DRILLED FROM 125.25 TO
126.5		FEEL		Row 2		156' W/ MODERATE DRILL
127.0		FEEL		Row 2		SS
127.5		FEEL		Row 2		USING A 7/8" CORE
128.0		FEEL		Row 2		= 7/8" DIA.
128.5		FEEL				
129.0		FEEL				
129.5		FEEL				
130.0		FEEL				
130.5		FEEL				
131.0		FEEL				
131.5		FEEL				
132.0		FEEL				
132.5		FEEL				
133.0		FEEL				
133.5		FEEL				
134.0		FEEL				
134.5		FEEL				
135.0		FEEL				
135.5		FEEL				
136.0		FEEL				
136.5		FEEL				
137.0		FEEL				
137.5		FEEL				
138.0		FEEL				
138.5		FEEL				
139.0		FEEL				
139.5		FEEL				
140.0		FEEL				
140.5		FEEL				
141.0		FEEL				
141.5		FEEL				
142.0		FEEL				
142.5		FEEL				
143.0		FEEL				
143.5		FEEL				
144.0		FEEL				
144.5		FEEL				
145.0		FEEL				
145.5		FEEL				
146.0		FEEL				
146.5		FEEL				
147.0		FEEL				
147.5		FEEL				
148.0		FEEL				
148.5		FEEL				
149.0		FEEL				
149.5		FEEL				
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165.5		FEEL				
166.0		FEEL				
166.5		FEEL				
167.0		FEEL				
167.5		FEEL				
168.0		FEEL				
168.5		FEEL				
169.0		FEEL				
169.5		FEEL				
170.0		FEEL				
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171.0		FEEL				
171.5		FEEL				
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192.0		FEEL				
192.5		FEEL				
193.0		FEEL				
193.5		FEEL				
194.0		FEEL				
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195.0		FEEL				
195.5		FEEL				
196.0		FEEL				
196.5		FEEL				
197.0		FEEL				
197.5		FEEL				
198.0		FEEL				
198.5		FEEL				
199.0		FEEL				
199.5		FEEL				
200.0		FEEL				

DRILLING LOG		DIVISION M.R.D.	INSTALLATION D.M.A.	SHEET 4 OF 8 SHEETS
1. PROJECT MONITORING WELL DRATATION NEW P.R.O.J.		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation of Station)		11. DAY OF YEAR FOR ELEVATION MEASUREMENT		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) PC-4		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR <i>Richard G. ...</i>		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, amount of weathering, etc., if significant)
1400			FRAGILE DR. CH. DR. POLY-ITE			
1400			HIGHLY WEATHERED			
1400			V. DENSE			
1400			MOD HARD			
1410			SLIGHTLY COLLAPSED			
1410			MASSIVE			
1410			SATURATED			
1410			CREAM			
1410			V. FINE GR. SANDS			
1420			FRAGILE DR. CH. DR. POLY-ITE			
1420			HIGHLY WEATHERED			
1420			V. DENSE			
1420			MOD HARD			
1420			SLIGHTLY COLLAPSED			
1420			MASSIVE			
1420			SATURATED			
1420			YELLOW TAN			
1420			SANDY TAN			
1420			FINE GR. SANDS			
1420			CRYSTALLINE			
1420			W. DRY			
1430			FRAGILE DR. CH. DR. POLY-ITE			
1430			HIGHLY WEATHERED			
1430			V. DENSE			
1430			MOD HARD			
1430			SLIGHTLY COLLAPSED			
1430			MASSIVE			
1430			V. FINE GR. SANDS			
1430			SATURATED			
1430			YELLOW TAN			
1430			SANDY TAN			
1430			FINE GR. SANDS			
1430			CRYSTALLINE			
1430			W. DRY			
1440			FRAGILE DR. CH. DR. POLY-ITE			
1440			HIGHLY WEATHERED			
1440			V. DENSE			
1440			MOD HARD			
1440			SLIGHTLY COLLAPSED			
1440			MASSIVE			
1440			V. FINE GR. SANDS			
1440			SATURATED			
1440			YELLOW TAN			
1440			SANDY TAN			
1440			FINE GR. SANDS			
1440			CRYSTALLINE			
1440			W. DRY			
1450			FRAGILE DR. CH. DR. POLY-ITE			
1450			HIGHLY WEATHERED			
1450			V. DENSE			
1450			MOD HARD			
1450			SLIGHTLY COLLAPSED			
1450			MASSIVE			
1450			V. FINE GR. SANDS			
1450			SATURATED			
1450			YELLOW TAN			
1450			SANDY TAN			
1450			FINE GR. SANDS			
1450			CRYSTALLINE			
1450			W. DRY			
1460			FRAGILE DR. CH. DR. POLY-ITE			
1460			HIGHLY WEATHERED			
1460			V. DENSE			
1460			MOD HARD			
1460			SLIGHTLY COLLAPSED			
1460			MASSIVE			
1460			V. FINE GR. SANDS			
1460			SATURATED			
1460			YELLOW TAN			
1460			SANDY TAN			
1460			FINE GR. SANDS			
1460			CRYSTALLINE			
1460			W. DRY			
1470			FRAGILE DR. CH. DR. POLY-ITE			
1470			HIGHLY WEATHERED			
1470			V. DENSE			
1470			MOD HARD			
1470			SLIGHTLY COLLAPSED			
1470			MASSIVE			
1470			V. FINE GR. SANDS			
1470			SATURATED			
1470			YELLOW TAN			
1470			SANDY TAN			
1470			FINE GR. SANDS			
1470			CRYSTALLINE			
1470			W. DRY			
1480			FRAGILE DR. CH. DR. POLY-ITE			
1480			HIGHLY WEATHERED			
1480			V. DENSE			
1480			MOD HARD			
1480			SLIGHTLY COLLAPSED			
1480			MASSIVE			
1480			V. FINE GR. SANDS			
1480			SATURATED			
1480			YELLOW TAN			
1480			SANDY TAN			
1480			FINE GR. SANDS			
1480			CRYSTALLINE			
1480			W. DRY			
1490			FRAGILE DR. CH. DR. POLY-ITE			
1490			HIGHLY WEATHERED			
1490			V. DENSE			
1490			MOD HARD			
1490			SLIGHTLY COLLAPSED			
1490			MASSIVE			
1490			V. FINE GR. SANDS			
1490			SATURATED			
1490			YELLOW TAN			
1490			SANDY TAN			
1490			FINE GR. SANDS			
1490			CRYSTALLINE			
1490			W. DRY			
1500			FRAGILE DR. CH. DR. POLY-ITE			
1500			HIGHLY WEATHERED			
1500			V. DENSE			
1500			MOD HARD			
1500			SLIGHTLY COLLAPSED			
1500			MASSIVE			
1500			V. FINE GR. SANDS			
1500			SATURATED			
1500			YELLOW TAN			
1500			SANDY TAN			
1500			FINE GR. SANDS			
1500			CRYSTALLINE			
1500			W. DRY			

DRILL NO. 10	MED	0-2-8-4	OF 8 SHEETS
1. PROJECT MONITORING WELL INSTALL		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION SHOWN (IN or M)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) FE-4		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR <i>Richard P. Brown</i>	

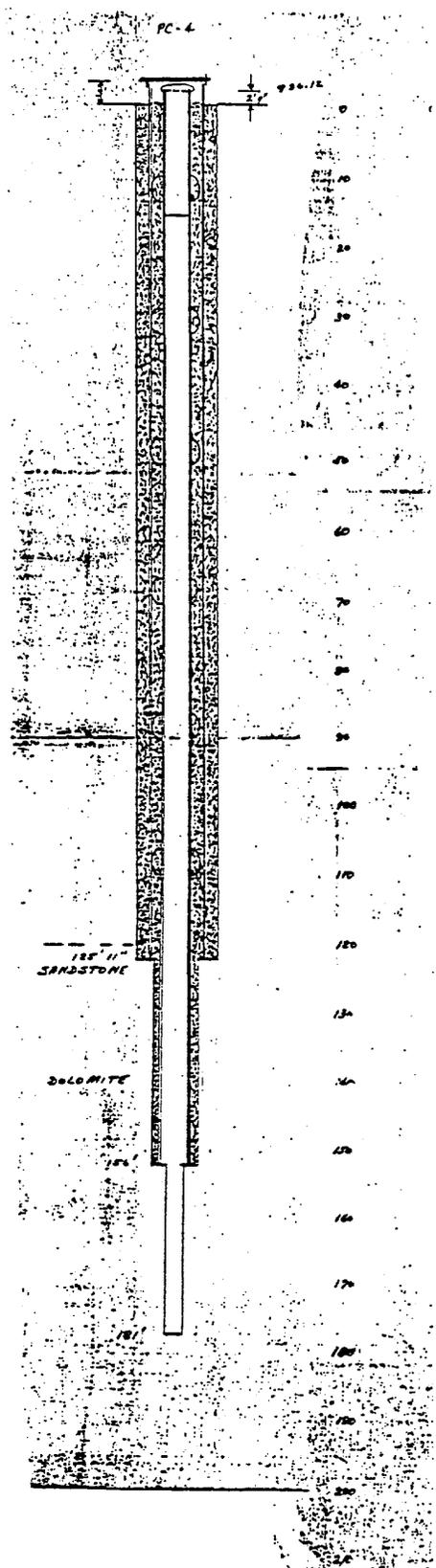
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
1600			FRAGILE DUCHEIN DOLomite			W/A MOD. DISCO. 10-54
1607.5			MOD. WEATHERED			
1610			V. DENSE			
1612.5			MOD HARD			
1615			V. SLIGHTLY WEATHERED	DSD		
1617.5			MASSIVE	R 475		
1620			V. FRACTURED	R 472		
1622.5			FRACTURED	S 075		
1625			LT. GRAY			
1627.5			V. FINE GRAINED			
1630			SANDY			
1632.5						
1635						
1637.5						
1640						
1642.5						
1645						
1647.5						
1650						
1652.5						
1655						
1657.5						
1660						
1662.5						
1665						
1667.5						
1670						
1672.5						
1675						
1677.5						
1680						
1682.5						
1685						
1687.5						
1690						
1692.5						
1695						
1697.5						
1700						

DRILL NO. X	DIVISION M.R.D.	DRAMA	OF 7 SHEETS
1. PROJECT MONTICELLO WFLC		10. SIZE AND TYPE OF BIT	
2. LOCATION JUSTICE PROM		11. DATUM FOR ELEVATION BROWN (FON or BRL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) PL-4		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE MOLE	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
1700			PLASTER IN CORE			
1703			DISPERSED V. FINE MOD. SAND			
1710			V. SLIGHTLY CALCAREOUS MASSIVE V. FRACTURED LT ORANGE V. FINE GRAINED SANDY	DS-2 24.25	R-44 Box 14	
1720			LT GRAY MOD. WEATHERED V. FINE SANDY			
1730						
1735						
1740			JULIEN DEPOSIT 2" V. FINE OF LT ORANGE MOD. SANDY DISPERSED V. FINE			
1750						
1760				DS-3 23.7	R-55 Box 16	
1765						
1770			POUR CHAMFER			
1771			ROSE-CREAM			
1774			N/C V. STALS			
1776			LS WEED UNCS			
1780						
1785						
1790						
1795						
1800						
1805						
1810						
1815						
1820						
1825						
1830						
1835						
1840						
1845						
1850						
1855						
1860						
1865						
1870						
1875						
1880						
1885						
1890						
1895						
1900						

DRILLING NO. XG	MAD	ONAWA	OF 1 SHEETS
1. PROJECT MONITORING WELL N3200 TUSTAL DRILL		10. SIZE AND TYPE OF BIT	
2. LOCATION (County or State)		11. DAYR FOR ELEVATION SHOWN (TBM or BBL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) PC-4		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED _____ UNDISTURBED _____	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE: STARTED _____ COMPLETED _____	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR <i>Robert P. Jones</i>	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water used, depth of overburden, etc., if significant)
1700						
1705						
1710						
1715						
1720						
1725						
1730						
1735						
1740						
1745						
1750						
1755						
1760						
1765						
1770						
1775						
1780						
1785						
1790						
1795						
1800						



DRILLING LOG		VISION	INSTALLATION	SHEET
1. PROJECT		VISION	INSTALLATION	OF 4 SHEETS
2. LOCATION (Coordinate or Address)		10. SIZE AND TYPE OF BIT		
3. DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
4. HOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
5. NAME OF DRILLER		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES		
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
8. DEPTH DRILLED INTO ROCK		16. DATE HOLE STARTED _____ COMPLETED _____		
9. TOTAL DEPTH OF HOLE		17. ELEVATION TOP OF HOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
0	0		Top bit			
0	10		(Clay sand)			
0	20		fine sand			
0	30		fine sand			
0	40		fine sand			
0	50		fine sand			
0	60		fine sand			
0	70		fine sand			
0	80		fine sand			
0	90		fine sand			
0	100		fine sand			
0	110		fine sand			
0	120		fine sand			
0	130		fine sand			
0	140		fine sand			
0	150		fine sand			
0	160		fine sand			
0	170		fine sand			
0	180		fine sand			
0	190		fine sand			
0	200		fine sand			
0	210		fine sand			
0	220		fine sand			
0	230		fine sand			
0	240		fine sand			
0	250		fine sand			
0	260		fine sand			
0	270		fine sand			
0	280		fine sand			
0	290		fine sand			
0	300		fine sand			
0	310		fine sand			
0	320		fine sand			
0	330		fine sand			
0	340		fine sand			
0	350		fine sand			
0	360		fine sand			
0	370		fine sand			
0	380		fine sand			
0	390		fine sand			
0	400		fine sand			
0	410		fine sand			
0	420		fine sand			
0	430		fine sand			
0	440		fine sand			
0	450		fine sand			
0	460		fine sand			
0	470		fine sand			
0	480		fine sand			
0	490		fine sand			
0	500		fine sand			
0	510		fine sand			
0	520		fine sand			
0	530		fine sand			
0	540		fine sand			
0	550		fine sand			
0	560		fine sand			
0	570		fine sand			
0	580		fine sand			
0	590		fine sand			
0	600		fine sand			
0	610		fine sand			
0	620		fine sand			
0	630		fine sand			
0	640		fine sand			
0	650		fine sand			
0	660		fine sand			
0	670		fine sand			
0	680		fine sand			
0	690		fine sand			
0	700		fine sand			
0	710		fine sand			
0	720		fine sand			
0	730		fine sand			
0	740		fine sand			
0	750		fine sand			
0	760		fine sand			
0	770		fine sand			
0	780		fine sand			
0	790		fine sand			
0	800		fine sand			
0	810		fine sand			
0	820		fine sand			
0	830		fine sand			
0	840		fine sand			
0	850		fine sand			
0	860		fine sand			
0	870		fine sand			
0	880		fine sand			
0	890		fine sand			
0	900		fine sand			
0	910		fine sand			
0	920		fine sand			
0	930		fine sand			
0	940		fine sand			
0	950		fine sand			
0	960		fine sand			
0	970		fine sand			
0	980		fine sand			
0	990		fine sand			
0	1000		fine sand			

DRILLING LOG		VISION M20	INSTALLATION M20	SHEET 1
1. PROJECT N1000 Non-Domestic Water Treatment Plant		10. SIZE AND TYPE OF BIT		
2. LOCATION (Compass or Station)		11. BATHY FOR ELEVATION SHOWN (72M or MSL)		
3. DRILLING AGENCY US-CEC		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 55		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
10.0	0.0		Silty Sand (ST)			Continued to Drill w/clean water
11.0	1.0		Med. Dense Non-plastic Siliceous Sand dt to Med. Brown Sandy			
12.0	2.0		Sand fine to coarse mostly Med to coarse W/occ. fines			
13.0	3.0		Coarse Sand			
14.0	4.0		Waters. Zones containing higher concentrations of gravel			
15.0	5.0					
16.0	6.0					
17.0	7.0					
18.0	8.0					
19.0	9.0					

DRILLING LOG		VISION MRD	INSTALLATION OMAS	SHEETS OF 4 SHEETS
1. PROJECT NIPRO		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continent or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING %		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
20.4	0		Silty Sand			Drilled down to 20.4'
20.4	0.5		Med. Dense			Hole started soggy
20.4	1.0		10 VE Densit.			in yellow sands
20.4	1.5		Siliceous			in Inco GCL
20.4	2.0		Moist			between 10/250 water
20.4	2.5		dt. to Med. Brown			(Wyoming source)
20.4	3.0		Gray			
20.4	3.5		Sand Finest			32 sec API
20.4	4.0		Coarse Medium			56 MB5/gal
20.4	4.5		Woods Milling			Healed
20.4	5.0		Range			operated
20.4	5.5		6' 0000. Service			Reaching 20.4'
20.4	6.0		20.45			

No. 25

DRILLING LOG		DIVISION M-10	INSTALLATION D-10	SHEET 1 OF 2 SHEETS
1. PROJECT NIP-2 Monitor		10. SIZE AND TYPE OF BIT 5/8" A.D. - 1/2" P.P.		
2. LOCATION (Coordinates or Station) NIP-2 Monitor		11. DAYUM FOR ELEVATION SHOWN (TBM or MSL) MSL		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL Failing 1500		
4. HOLE NO. (As shown on drawing title and file number) 55		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN -		
5. NAME OF DRILLER KROM		14. TOTAL NUMBER CORE BOXES -		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER 2200'		
7. THICKNESS OF OVERBURDEN 40' ALUMINUM		16. DATE HOLE STARTED 6-2-83		
8. DEPTH DRILLED INTO ROCK 0'		16. DATE HOLE COMPLETED 6-13-83		
9. TOTAL DEPTH OF HOLE 40.3'		17. ELEVATION TOP OF HOLE -		
		18. TOTAL CORE RECOVERY FOR BORING -		
		19. SIGNATURE OF INSPECTOR Mark S. Quinn		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
2200'	0'		6" dia. Steel Protection 10' of 6" dia. casing			Remnant of string for 2" dia. Instru- ment pipe = 1.66'
2190'	10'		6" dia. Steel Protection 10' of 6" dia. casing			Coing Painted Interchangeable Safety Orange
2180'	20'		6" dia. Steel Protection 10' of 6" dia. casing			Top of Ground
2170'	30'		Approx. 6" dia. Cement Grout Grout mixture			Top of Grout Grout is mixture of 2:1 vol ratio Cement to Grout
2160'	40'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2150'	50'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2140'	60'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2130'	70'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2120'	80'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2110'	90'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout
2100'	100'		6" dia. Steel Protection 10' of 6" dia. casing			Grout mixture 10' of 6" dia. Grout mixture of 2:1 vol ratio Cement to Grout

DRILLING LOG		DIVISION M2D	INSTALLATION Omaha	SHEET 2 OF 2 SHEETS
1. PROJECT N1250 Monitor Well		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAYUM FOR ELEVATION SHOWN (FSM or MSL)		
3. DRILLING AGENCY US-CC-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 55		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
15.0	15.0					
15.4	15.4					
16.4	16.4					
17.0	17.0					
17.5	17.5					
18.0	18.0					
18.5	18.5					
19.0	19.0					
19.5	19.5					
20.0	20.0					
20.5	20.5					
21.0	21.0					
21.5	21.5					
22.0	22.0					
22.5	22.5					
23.0	23.0					
23.5	23.5					
24.0	24.0					
24.5	24.5					
25.0	25.0					
25.5	25.5					
26.0	26.0					
26.5	26.5					
27.0	27.0					
27.5	27.5					
28.0	28.0					
28.5	28.5					
29.0	29.0					
29.5	29.5					
30.0	30.0					
30.5	30.5					
31.0	31.0					
31.5	31.5					
32.0	32.0					
32.5	32.5					
33.0	33.0					
33.5	33.5					
34.0	34.0					
34.5	34.5					
35.0	35.0					
35.5	35.5					
36.0	36.0					
36.5	36.5					
37.0	37.0					
37.5	37.5					
38.0	38.0					
38.5	38.5					
39.0	39.0					
39.5	39.5					
40.0	40.0					
40.5	40.5					
41.0	41.0					
41.5	41.5					
42.0	42.0					
42.5	42.5					
43.0	43.0					
43.5	43.5					
44.0	44.0					
44.5	44.5					
45.0	45.0					
45.5	45.5					
46.0	46.0					
46.5	46.5					
47.0	47.0					
47.5	47.5					
48.0	48.0					
48.5	48.5					
49.0	49.0					
49.5	49.5					
50.0	50.0					
50.5	50.5					
51.0	51.0					
51.5	51.5					
52.0	52.0					
52.5	52.5					
53.0	53.0					
53.5	53.5					
54.0	54.0					
54.5	54.5					
55.0	55.0					
55.5	55.5					
56.0	56.0					
56.5	56.5					
57.0	57.0					
57.5	57.5					
58.0	58.0					
58.5	58.5					
59.0	59.0					
59.5	59.5					
60.0	60.0					
60.5	60.5					
61.0	61.0					
61.5	61.5					
62.0	62.0					
62.5	62.5					
63.0	63.0					
63.5	63.5					
64.0	64.0					
64.5	64.5					
65.0	65.0					
65.5	65.5					
66.0	66.0					
66.5	66.5					
67.0	67.0					
67.5	67.5					
68.0	68.0					
68.5	68.5					
69.0	69.0					
69.5	69.5					
70.0	70.0					
70.5	70.5					
71.0	71.0					
71.5	71.5					
72.0	72.0					
72.5	72.5					
73.0	73.0					
73.5	73.5					
74.0	74.0					
74.5	74.5					
75.0	75.0					
75.5	75.5					
76.0	76.0					
76.5	76.5					
77.0	77.0					
77.5	77.5					
78.0	78.0					
78.5	78.5					
79.0	79.0					
79.5	79.5					
80.0	80.0					
80.5	80.5					
81.0	81.0					
81.5	81.5					
82.0	82.0					
82.5	82.5					
83.0	83.0					
83.5	83.5					
84.0	84.0					
84.5	84.5					
85.0	85.0					
85.5	85.5					
86.0	86.0					
86.5	86.5					
87.0	87.0					
87.5	87.5					
88.0	88.0					
88.5	88.5					
89.0	89.0					
89.5	89.5					
90.0	90.0					
90.5	90.5					
91.0	91.0					
91.5	91.5					
92.0	92.0					
92.5	92.5					
93.0	93.0					
93.5	93.5					
94.0	94.0					
94.5	94.5					
95.0	95.0					
95.5	95.5					
96.0	96.0					
96.5	96.5					
97.0	97.0					
97.5	97.5					
98.0	98.0					
98.5	98.5					
99.0	99.0					
99.5	99.5					
100.0	100.0					

No. 50

DRILLING LOG		DIVISION M&D	INSTALLATION Cactus	SHEET 1
1. PROJECT NIPRO WELLS		10. SIZE AND TYPE OF BIT 6" dia. hollow stem		
2. LOCATION (Coordinates or Station) Fridley, MN		11. DATUM FOR ELEVATION SHOWN (FSM or MLL) auger		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL CME 75		
4. HOLE NO. (As shown on drawing title and file number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN 14	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M. O'Malley		14. TOTAL NUMBER CORE BOXES -		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DES. FROM VERT.	15. DATE MOLE STARTED 5/21/85	COMPLETED 5/24/85
7. THICKNESS OF OVERBURDEN 119.8'		17. ELEVATION TOP OF MOLE		
8. DEPTH DRILLED INTO ROCK -		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE 119.8'		19. SIGNATURE OF INSPECTOR Thomas McDaniel		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	S-CORE RECON- BOX SPT	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1.0			SANDY CLAY (CL) stiff moist black some fine sand w/ occ. fine gravel and coarse sand			Began drilling w/ a flight auger. Switched to 6" dia. hollow stem auger at 4.5 feet.
2.0						Numbers in column are standard Pen- etration Test blow counts
3.0						
4.0						
4.5				4.5		
5.0			SANDY CLAY (CL) stiff moist lt. brn large amount of v. fine sand	5	D-1	SPT recovery 1.4'
5.4				5	4.9-	
6.0				5	5.4	
6.0			SAND (SP) med. dense st. moist - dry Tan subrounded sand occ. gravel	7		drill chatter, gravel
6.0				6.0		
7.0						
8.0						
9.0			SAND (SP) med. dense moist lt. brown med. - coarse sand subrounded sand occ. gravel, 1/2" may dis. gravel	9.0	D-2	SPT rec = 0.9'
9.0				5	7.0-	
9.9				6	9.9	
9.9				5		
10.0				6		

DRILLING LOG

1. PROJECT: **NICOP WELLS**

2. LOCATION (Coordinates or Station):

3. DRILLING AGENCY:

4. HOLE NO. (As shown on drawing title and file number): **5-D**

5. NAME OF DRILLER:

6. DIRECTION OF HOLE
 VERTICAL INCLINED _____ DEG. FROM VERT.

7. THICKNESS OF OVERBURDEN:

8. DEPTH DRILLED INTO ROCK:

9. TOTAL DEPTH OF HOLE:

10. SIZE AND TYPE OF BIT:

11. DATUM FOR ELEVATION SHOWN (TBM or BSL):

12. MANUFACTURER'S DESIGNATION OF DRILL:

13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED _____ UNDISTURBED _____

14. TOTAL NUMBER CORE BOXES:

15. ELEVATION GROUND WATER:

16. DATE HOLE STARTED _____ COMPLETED _____

17. ELEVATION TOP OF HOLE:

18. TOTAL CORE RECOVERY FOR BORING: %

19. SIGNATURE OF INSPECTOR:

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	LOG NO. e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
			Sand (SP) med. dense moist lt brown medium sand occasional gravel max. dia. ~ 1" rounded subrounded		5		
						7	
11.0							
12.0							
13.0							
14.0							
15.0					11.5 5		
					B	D-3	
					5	14.5-	
					9 5	16	
16.0				8			
				16.0			
17.0							
18.0							
19.0							
20.0				19.5	D-4		
				4	19.5- 21.0	rec = 1.4'	

DRILLING LOG		DIVISION	INSTALLATION	SHEET 3 OF 12 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (788 or B.C.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
			Sand (SP)	5		
			MED. Dense	7		
			Wet-Sat'd	5		
			brown	7		
	21.0			21.0		
		▽ 5/21	Subrounded			Water encountered during drilling
		2:05	Sand			
	22.0					
	23.0					
	24.0					
	24.5			24.5	D-5	
				5	24.5	Sand heaved 1'
	25.0			9	-	Knocked barrel through heaving material.
				5	25.5	Fixed barrel, bugged off @ app. 25.5'
				17		
	26.0					
				26.0		
	27.0					
	28.0					
	29.0					
				29.5		Sand still heaving, added water to casing.
				5		1.7' heaved @ sample depth. Took sample through heaving.
	30.0					
				14		

NIROP WELLS

2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (TBM - BBL)		
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 5-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN			17. ELEVATION TOP OF HOLE	18. TOTAL CORE RECOVERY FOR BORING	%
8. DEPTH DRILLED INTO ROCK			19. SIGNATURE OF INSPECTOR		
9. TOTAL DEPTH OF HOLE					

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
			SAND (SP)	5	D-6	
			Med. dense	6	29.5	
			sat'd	5	31.0	
	31.0		brown	10		End shift 5/21
			subrounded	31.0		Start shift 5/22
	32.0					Drilled to 34.5'
	33.0					Sand heaved to ~30'
	34.0		Color change to gray			Pulled auger Drilled back down to 34.5'
	35.0					Sand heaved again to some depth. Had filled auger w/ ^{water} before pulling rod.
	36.0					Took sample for logging purposes of material in the auger
	37.0					Sample taken of D-7
	38.2					heaving material in auger at app. 39.5 - 41.0
	39.0					34 feet. Hole had been drilled to 39.5 feet. Blow counts not taken
	40.0					
	41.0					

Hole No. 5-D

DRILLING LOG		DIVISION	INSTALLATION	SHEET 5 OF 12 SHEETS
1. PROJECT NIPRO WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Continuation or Station)		11. DAY OF YEAR FOR ELEVATION SHOWN (7/24 = JUL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
41.0			SAND (SP) Med dense sat'd Gray occas. fine gravel subrounded			
42.0						
43.0						
44.0						Hole was leaning a 5 @ 44.5' did not take a sam- ple.
45.0						
46.0						
47.0						
48.0						Added water as we came out and as sample barrel was low in hole down the hole
49.0						Hole leaned 1 foot took sample.
50						
				49.5	D-8 49.5'	rec = 0.7'
				5	50.2	
				16		

DRILLING LOG		DIVISION	INSTALLATION	SHEET 4 OF 12 SHEETS
1. PROJECT <i>NIROP WELLS</i>			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) <i>5-0</i>			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SAND (SP)		5	
			Med. Dense		11	
			Sat'd		5	
	51.0		gray		7	
			occas. fine gravel		51.0	
	52.0		subrounded sand			
	53.0					
	54.0					
	55.0		increase in fine - medium gravel			
	56.0					
	57.0					Hole became foggy
	57.7			57.7	0.9	rec = 0.71
	58.2			57.7	5	
				58.3	5	
				58.3	4	
	59.0			5	5	
				59.3		
	60.0					

DRILLING LOG		DIVISION	INSTALLATION	SHEET 7 OF 12 SHEETS
1. PROJECT NIDOF WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION KNOWN (Type or Mark)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE	COMPLETED	
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING	3	
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
61.0			SAND (SP) Med Dense sat'd gray. becoming gravelly, fine-medium subrounded gravel and sand				
62.0							
63.0							
64.0							
65.0							
66.0							
67.0						added water in and out sand passed 1 1/2' of auger	
68.0					68.0 5		no recovery
69.0					5 15 5 8		
70.0					69.5		

DRILLING LOG				OF 12 SHEETS		
1. PROJECT N.E. WELLS				10. SIZE AND TYPE OF BIT		
2. LOCATION (County, Section or Station)				11. DATUM FOR ELEVATION SHOWN (FBN or MSL)		
3. DRILLING AGENCY				12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 5-D				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		13. DISTURBED
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN				16. DATE HOLE STARTED		
8. DEPTH DRILLED INTO ROCK				16. DATE HOLE COMPLETED		
9. TOTAL DEPTH OF HOLE				17. ELEVATION TOP OF HOLE		
				18. TOTAL CORE RECOVERY FOR BORING		
				19. SIGNATURE OF INSPECTOR		
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	71		SAND (SP) Med Dens - Dense Saturated gray gravelly - fine - med. subrounded gravel & sand			
	72					
	73					
	74					
	75					
	76					
	77					
	78					
	79					
	80					
					D-10 80- 91	Core sample cutting sample in 80

DRILLING LOG		DIVISION	INSTALLATION	SHEET OF 12 SHEETS
1. PROJECT		10. SIZE AND TYPE OF BIT		
2. LOCATION (Construction or Station)		11. DATUM FOR ELEVATION SHOWN (FSM or MLL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			Sand (SP) Med dense saturated noncemented ocass. fine med. gravel subrounded grain			
	81.0					
	82					
	83					
	84					
	85					
	86					
	87					drill chatter
	88					
	89					
	90					

DRILLING LOG		DIVISION	INSTALLATION	SHEET 15 OF 12 SHEETS
1. PROJECT C.FOP WELLS			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 5-0			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY g	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) h
91.0			SANDY CLAY (C4) Very stiff Saturated DK gray w/ fine gravel & sand	7 5 14 5 12	D-11 90' 91.5	No hearing on this sample rec = 1.5'
92.0				91.5		End shift 5/22/85 Start shift 5/23/85 Hole Depth 90' W.L. 19.9' w/ auger Drill of this hole
93.0			SAND (C5P) Med Dense Saturated Gray Coarse subrounded sand w/ fine gravel	5 5 5 6 5 9		hole heard again 9' rods w/ barrel to 93.5, finished w/ hammer in 94.0 No Recovery
94.0				94.0		
95.0				95.5		
96.0						
97.0						
98.0						
99.0						

PROJECT: **NIRUP WELLS**

1. LOCATION (Coordinate or Station)

2. DRILLING AGENCY

3. HOLE NO. (As shown on drawing title and file number): **5-0**

4. NAME OF DRILLER

5. DIRECTION OF HOLE
 VERTICAL INCLINED _____ DEG. FROM VERT.

6. THICKNESS OF OVERBURDEN

7. DEPTH DRILLED INTO ROCK

8. TOTAL DEPTH OF HOLE

9. SIZE AND TYPE OF BIT

10. DAYUM FOR ELEVATION SHOWN (TBM or BBO)

11. MANUFACTURER'S DESIGNATION OF DRILL

12. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: DISTURBED _____ UNDISTURBED _____

13. TOTAL NUMBER CORE BOXES

14. ELEVATION GROUND WATER

15. DATE HOLE STARTED _____ COMPLETED _____

16. ELEVATION TOP OF HOLE

17. TOTAL CORE RECOVERY FOR BORING _____ %

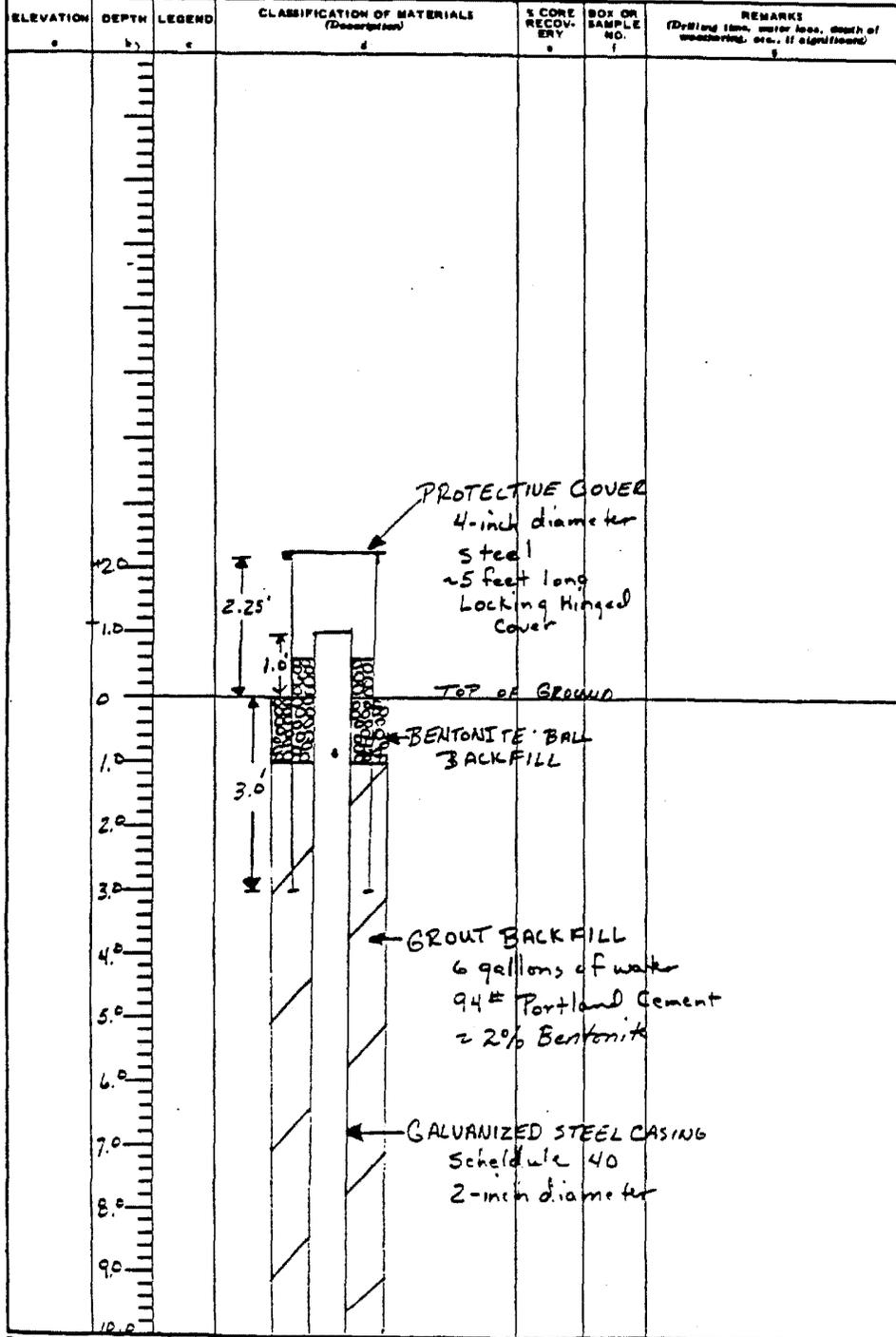
18. SIGNATURE OF INSPECTOR

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SAND (SP)	5		Hole had heaved got sampler down by pulling up on auger handle. Normal down 1 1/2 END SHIFTS 5/23/85 start Shift 5/24/85
			Med dense	6	D-12	
			Sat'd	5	100	
			Gray	8	101.5	
			Medium; subground	3		
			ed sand w/ some fine gravel	10	101.5	
101						
102						
103						
104						
105						
106						
107						
108						
109						Drilled to 109.5'
						Sand heaved to
						app. 100 feet
						Got down, normal
						down to ~ 105'
						+ took sample.
110				109.5		
				5		
				5		

DRILLING LOG		DIVISION	INSTALLATION	SHEET 12 OF 12 SHEETS
1. PROJECT NIPOP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinate or Station)		11. DAY(S) FOR ELEVATION SHOWN (TBM or BELL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DES. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	
7. THICKNESS OF OVERBURDEN		STARTED	COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
111.0			SAND (SP) Med. Dense Sat'd	5 8 5 12	D-13 109.5 111.0	rec = 1.5'
112.0			Brown, 1+ Medium-fine grained sub- rounded			
113.0			Some fine gravel a very thin slightly clayey layer			
114.0						
115.0						
116.0			Sand (SW) Dense Sat'd Yellow brown medium grained sub rounded		D-14 116.3 119	Drill chatter @ 16.3' hole heaved up auger to 15.5 feet Trace sampler thru bearing material from 116.5' to 119'
118.0						
119.0						Auger refused @ 119.3'
120.0			Bottom of Boring			

DRILLING LOG		DIVISION MRD	INSTALLATION OMAHA	SHEET 1
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAYON FOR ELEVATION SHOWN (YEN or NCL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		



DRILLING LOG		DIVISION	INSTALLATION	SHEET 2 of 4 SHEETS
1. PROJECT NIROP WELLS			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DAY OF YEAR FOR ELEVATION SHOWN (YBM or MLL)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 5-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
10.0						
11.0						
12.0						
13.0						
14.0						
15.0						
16.0						
17.0						
18.0						
19.0						
20.0	19.9'					
21.0						
22.0						
23.0						
24.0						
25.0						
26.0						
27.0						
28.0						
29.0						
30.0						

GALVANIZED STEEL CASING
Schedule 40
2-inch diameter

FLUSH JOINT

STAINLESS STEEL CASING
Schedule 5
2-inch diameter

GROUT BACKFILL
6 gallons of water
94 # Portland Cement
~2% Bentonite

DRILLING LOG		DIVISION		INSTALLATION		SHEET 3 OF 4 SHEETS	
1. PROJECT NIROP WELLS				10. SIZE AND TYPE OF BIT			
2. LOCATION (Coordinates or Station)				11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)			
3. DRILLING AGENCY				12. MANUFACTURER'S DESIGNATION OF DRILL			
4. HOLE NO. (As shown on drawing title and file number) 5-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		DISTURBED		UNDISTURBED	
5. NAME OF DRILLER				14. TOTAL NUMBER CORE BOXES			
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER			
7. THICKNESS OF OVERBURDEN				16. DATE HOLE		STARTED	
8. DEPTH DRILLED INTO ROCK				17. ELEVATION TOP OF HOLE		COMPLETED	
9. TOTAL DEPTH OF HOLE				18. TOTAL CORE RECOVERY FOR BORING			
				19. SIGNATURE OF INSPECTOR			

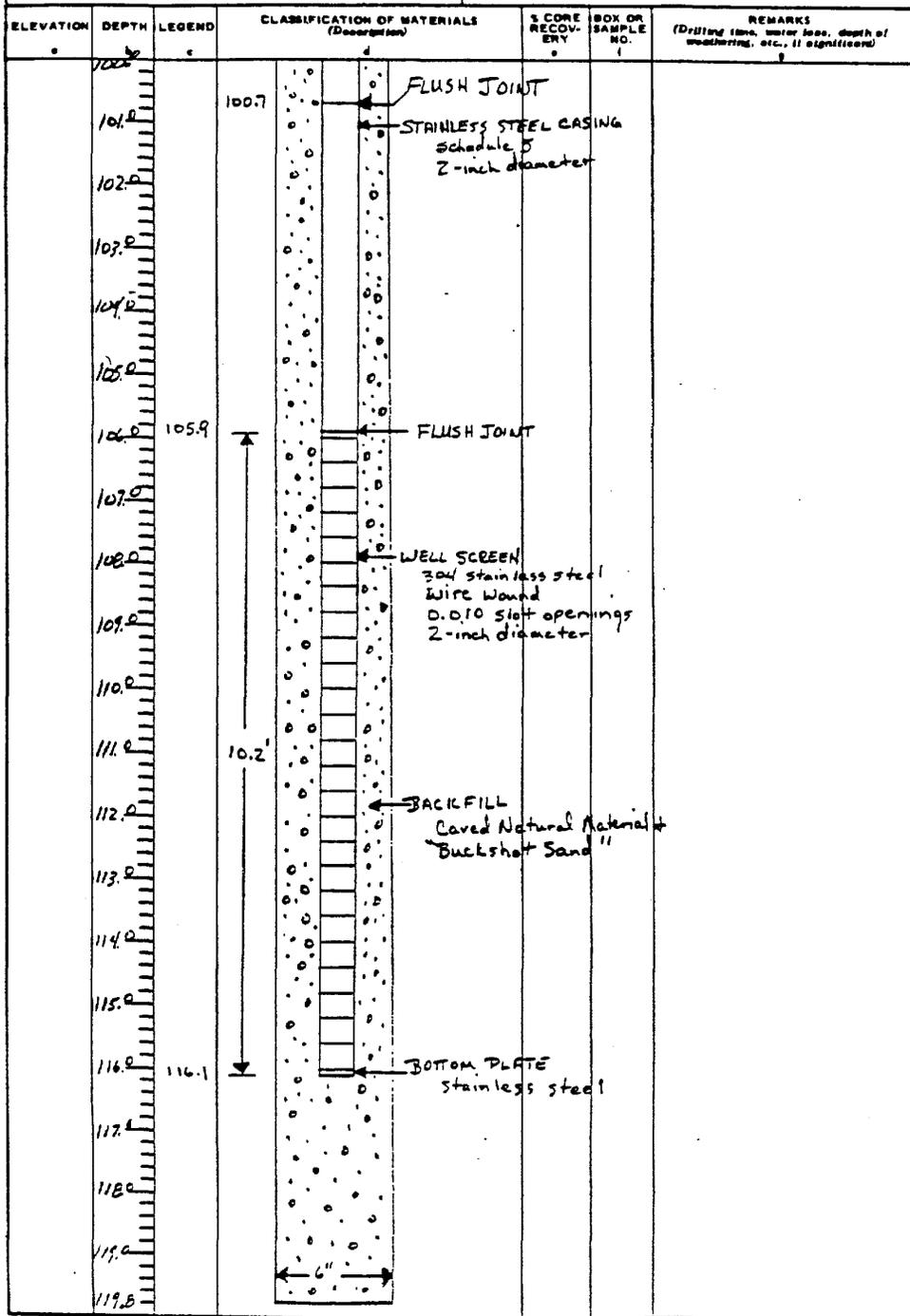
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
30.0	0.0					
31.0	1.0					
32.0	2.0					
84.0	78.0					
85.0	79.0					
86.0	80.0					
87.0	81.0					
88.0	82.0					
89.0	83.0					
90.0	84.0					
91.0	85.0					
92.0	86.0					
93.0	87.0					
94.0	88.0					
95.0	89.0					
96.0	90.0					
97.0	91.0					
98.0	92.0					
99.0	93.0					
100.0	94.0					

FLUSH JOINTS - located
@ 80.5', 60.3', 40.1',
19.9'

STAINLESS STEEL CASING
Schedule 5
2-inch Diameter

BACKFILL
Covered Natural Material
"Buckshot Sand"

1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FIM or BM)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	13. DISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	16. STARTED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	



DRILLING LOG		VISION	INSTALLATION	SHEET 1 OF 4 SHEETS
1. PROJECT M-205 Monitor Well		10. SIZE AND TYPE OF BIT 1 1/2" dia. Roller Rock Bit		
2. LOCATION (Compass or Station)		11. DATUM FOR ELEVATION SHOWN (Top of Rock)		
3. DRILLING AGENCY US-CC-C		12. MANUFACTURER'S DESIGNATION OF DRILL Fairbanks 1500 Hole Master		
4. HOLE NO. (As shown on drawing title and file number) 65		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN 8-Top		
5. NAME OF DRILLER Koon		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER 220.1'		
7. THICKNESS OF OVERBURDEN 35.9' Alluvium		16. DATE HOLE STARTED: 6-6-52 COMPLETED: 6-6-52		
8. DEPTH DRILLED INTO ROCK 0'		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 35.9'		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
220.1'	0.0'		Surface soil			Start of drilling
215.0'	5.1'		Soft mudstone			0.1-100'
210.0'	10.1'		Clay shale			0.1-17'
205.0'	15.1'		Clay shale			0.1-0'-10.5'
200.0'	20.1'		Clay shale			0.1-0.8'-4.0'
195.0'	25.1'		Clay shale			Start of drilling
190.0'	30.1'		Clay shale			Clear water
185.0'	35.1'		Clay shale			
180.0'	40.1'		Clay shale			
175.0'	45.1'		Clay shale			
170.0'	50.1'		Clay shale			
165.0'	55.1'		Clay shale			
160.0'	60.1'		Clay shale			
155.0'	65.1'		Clay shale			
150.0'	70.1'		Clay shale			
145.0'	75.1'		Clay shale			
140.0'	80.1'		Clay shale			
135.0'	85.1'		Clay shale			
130.0'	90.1'		Clay shale			
125.0'	95.1'		Clay shale			
120.0'	100.1'		Clay shale			
115.0'	105.1'		Clay shale			
110.0'	110.1'		Clay shale			
105.0'	115.1'		Clay shale			
100.0'	120.1'		Clay shale			
95.0'	125.1'		Clay shale			
90.0'	130.1'		Clay shale			
85.0'	135.1'		Clay shale			
80.0'	140.1'		Clay shale			
75.0'	145.1'		Clay shale			
70.0'	150.1'		Clay shale			
65.0'	155.1'		Clay shale			
60.0'	160.1'		Clay shale			
55.0'	165.1'		Clay shale			
50.0'	170.1'		Clay shale			
45.0'	175.1'		Clay shale			
40.0'	180.1'		Clay shale			
35.0'	185.1'		Clay shale			
30.0'	190.1'		Clay shale			
25.0'	195.1'		Clay shale			
20.0'	200.1'		Clay shale			
15.0'	205.1'		Clay shale			
10.0'	210.1'		Clay shale			
5.0'	215.1'		Clay shale			
0.0'	220.1'		Clay shale			

DRILLING LOG		DIVISION <i>MBO</i>	INSTALLATION <i>Imaha</i>	SHEET OF 4 SHEETS
1. PROJECT <i>NIBSD Man Training Well</i>		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY <i>USCEC</i>		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and site number) <i>65</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE STARTED	COMPLETED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	CORE OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
10.0	0.0		<i>Silty Sand</i>			<i>Drilled and washed to 10.0'</i>
11.0	1.0		<i>Med. to coarse sand</i>			<i>Pushed 3" dia. split spoon 10.1' - 12.1'</i>
12.0	2.0		<i>Med. to coarse sand</i>			<i>Rep. 0.7</i>
13.0	3.0		<i>Med. to coarse sand</i>			<i>Rep. 1.00' - 1.30'</i>
14.0	4.0		<i>Med. to coarse sand</i>			<i>Encountered groundwater</i>
15.0	5.0		<i>Med. to coarse sand</i>			<i>approx. 20.1'</i>
16.0	6.0		<i>Coarse sand</i>			<i>Drilled to 15.0'</i>
17.0	7.0		<i>Coarse sand</i>			<i>Down 3" dia. split spoon w/ 30' lbs hammer 14.6' - 16.9' w/ 40 lbs</i>
18.0	8.0		<i>Coarse sand</i>			<i>Rep. 0.1'</i>
19.0	9.0		<i>Coarse sand</i>			<i>Rep. 1.30' - 1.80'</i>
20.0	10.0		<i>Silty Sand</i>			<i>How was during to sample</i>
21.0	11.0		<i>Med. to coarse sand</i>			<i>held condition to water</i>
22.0	12.0		<i>Med. to coarse sand</i>			<i>Measured flow</i>
23.0	13.0		<i>Med. to coarse sand</i>			<i>31 sec APF</i>
24.0	14.0		<i>Med. to coarse sand</i>			<i>8.6 lbs/gal</i>

DRILLING LOG		VISION	INSTALLATION	SHEET
PROJECT		VISION	INSTALLATION	OF 4 SHEETS
LOCATION (Coordinates or Station)		10. SIZE AND TYPE OF BIT		
DRILLING AGENCY		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
MOLE NO. (As shown on drawing title and file number)		12. MANUFACTURER'S DESIGNATION OF DRILL		
NAME OF DRILLER		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
DIRECTION OF MOLE		14. TOTAL NUMBER CORE BOXES		
THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER		
DEPTH DRILLED INTO ROCK		16. DATE MOLE		
TOTAL DEPTH OF MOLE		17. ELEVATION TOP OF MOLE		
		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, over loss, depth of weathering, etc., if significant)
80.0	0.0		St. Sand			Drilled to 30.0'
79.0	1.0		St. Sand			2 1/2" dia.
78.0	2.0		St. Sand			Drilled to 30.0'
77.0	3.0		St. Sand			Drilled to 30.0'
76.0	4.0		St. Sand			Drilled to 30.0'
75.0	5.0		St. Sand			Drilled to 30.0'
74.0	6.0		St. Sand			Drilled to 30.0'
73.0	7.0		St. Sand			Drilled to 30.0'
72.0	8.0		St. Sand			Drilled to 30.0'
71.0	9.0		St. Sand			Drilled to 30.0'
70.0	10.0		St. Sand			Drilled to 30.0'
69.0	11.0		St. Sand			Drilled to 30.0'
68.0	12.0		St. Sand			Drilled to 30.0'
67.0	13.0		St. Sand			Drilled to 30.0'
66.0	14.0		St. Sand			Drilled to 30.0'
65.0	15.0		St. Sand			Drilled to 30.0'
64.0	16.0		St. Sand			Drilled to 30.0'
63.0	17.0		St. Sand			Drilled to 30.0'
62.0	18.0		St. Sand			Drilled to 30.0'
61.0	19.0		St. Sand			Drilled to 30.0'
60.0	20.0		St. Sand			Drilled to 30.0'
59.0	21.0		St. Sand			Drilled to 30.0'
58.0	22.0		St. Sand			Drilled to 30.0'
57.0	23.0		St. Sand			Drilled to 30.0'
56.0	24.0		St. Sand			Drilled to 30.0'
55.0	25.0		St. Sand			Drilled to 30.0'
54.0	26.0		St. Sand			Drilled to 30.0'
53.0	27.0		St. Sand			Drilled to 30.0'
52.0	28.0		St. Sand			Drilled to 30.0'
51.0	29.0		St. Sand			Drilled to 30.0'
50.0	30.0		St. Sand			Drilled to 30.0'
49.0	31.0		St. Sand			Drilled to 30.0'
48.0	32.0		St. Sand			Drilled to 30.0'
47.0	33.0		St. Sand			Drilled to 30.0'
46.0	34.0		St. Sand			Drilled to 30.0'
45.0	35.0		St. Sand			Drilled to 30.0'
44.0	36.0		St. Sand			Drilled to 30.0'
43.0	37.0		St. Sand			Drilled to 30.0'
42.0	38.0		St. Sand			Drilled to 30.0'
41.0	39.0		St. Sand			Drilled to 30.0'
40.0	40.0		St. Sand			Drilled to 30.0'
39.0	41.0		St. Sand			Drilled to 30.0'
38.0	42.0		St. Sand			Drilled to 30.0'
37.0	43.0		St. Sand			Drilled to 30.0'
36.0	44.0		St. Sand			Drilled to 30.0'
35.0	45.0		St. Sand			Drilled to 30.0'
34.0	46.0		St. Sand			Drilled to 30.0'
33.0	47.0		St. Sand			Drilled to 30.0'
32.0	48.0		St. Sand			Drilled to 30.0'
31.0	49.0		St. Sand			Drilled to 30.0'
30.0	50.0		St. Sand			Drilled to 30.0'
29.0	51.0		St. Sand			Drilled to 30.0'
28.0	52.0		St. Sand			Drilled to 30.0'
27.0	53.0		St. Sand			Drilled to 30.0'
26.0	54.0		St. Sand			Drilled to 30.0'
25.0	55.0		St. Sand			Drilled to 30.0'
24.0	56.0		St. Sand			Drilled to 30.0'
23.0	57.0		St. Sand			Drilled to 30.0'
22.0	58.0		St. Sand			Drilled to 30.0'
21.0	59.0		St. Sand			Drilled to 30.0'
20.0	60.0		St. Sand			Drilled to 30.0'
19.0	61.0		St. Sand			Drilled to 30.0'
18.0	62.0		St. Sand			Drilled to 30.0'
17.0	63.0		St. Sand			Drilled to 30.0'
16.0	64.0		St. Sand			Drilled to 30.0'
15.0	65.0		St. Sand			Drilled to 30.0'
14.0	66.0		St. Sand			Drilled to 30.0'
13.0	67.0		St. Sand			Drilled to 30.0'
12.0	68.0		St. Sand			Drilled to 30.0'
11.0	69.0		St. Sand			Drilled to 30.0'
10.0	70.0		St. Sand			Drilled to 30.0'
9.0	71.0		St. Sand			Drilled to 30.0'
8.0	72.0		St. Sand			Drilled to 30.0'
7.0	73.0		St. Sand			Drilled to 30.0'
6.0	74.0		St. Sand			Drilled to 30.0'
5.0	75.0		St. Sand			Drilled to 30.0'
4.0	76.0		St. Sand			Drilled to 30.0'
3.0	77.0		St. Sand			Drilled to 30.0'
2.0	78.0		St. Sand			Drilled to 30.0'
1.0	79.0		St. Sand			Drilled to 30.0'
0.0	80.0		St. Sand			Drilled to 30.0'

DRILLING LOG		DIVISION MAR	INSTALLATION MAHA	SHEET 1
1. PROJECT NIPAD		10. SIZE AND TYPE OF BIT 3" dia Rock Bit		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FBN or MSL) MSL		
3. DRILLING AGENCY USCC		12. MANUFACTURER'S DESIGNATION OF DRILL Falling		
4. HOLE NO. (As shown on drawing title and file number) 65		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN None	DISTURBED	UNDISTURBED
5. NAME OF DRILLER Koon		14. TOTAL NUMBER CORE BOXES —		
6. DIRECTION OF HOLE VERTICAL		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN 35.9' ALLUVIUM		16. DATE HOLE 6-8-53	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK 0'		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE 35.9'		18. TOTAL CORE RECOVERY FOR BORING —	19. SIGNATURE OF INSPECTOR [Signature]	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
100.0	0.0		Old Detective Great Camp 2" casing pipe			Hammer Sampled 2" dia Instrument Pipe = 1.05
98.0	2.0		2" dia Sawmill Pipe			Protective Casing Painted Intention Orange
96.0	4.0		Top of Ground			Top of Ground
95.0	5.0		0.0-10.0			Sample (0.0-10.0)
94.0	6.0		5.0-13.0			Sample (0.0-13.0)
93.0	7.0		Good contact of 2" dia casing in 2 to 3' Vol. Ratio			Good contact of 2" dia casing in 2 to 3' Vol. Ratio
92.0	8.0		5.0-13.0			Sample (0.0-13.0)
91.0	9.0		4" coupling connected to pipe with 1" hole			4" coupling connected to pipe with 1" hole
90.0	10.0		Casing device			Casing device
89.0	11.0		Sample Sand			Sample Sand
88.0	12.0		3.0-18.0			Sample (3.0-18.0)
87.0	13.0		Casing device No record for 2" dia hole Casing			Casing device No record for 2" dia hole Casing
86.0	14.0		2" hole Casing			2" hole Casing
85.0	15.0		Securing 2" dia casing to pipe			Securing 2" dia casing to pipe

DRILLING LOG		DIVISION MAD	INSTALLATION Oman	SHEET 1
1. PROJECT NIPCO		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FBN or MSL)		
3. DRILLING AGENCY VCE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 65		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE	18. TOTAL CORE RECOVERY FOR BORING	COMPLETED
8. DEPTH DRILLED INTO ROCK		19. SIGNATURE OF INSPECTOR		
9. TOTAL DEPTH OF HOLE				

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc. if significant)
10.0	0.0		Gravelly sand			(130-18.0)
10.5	0.5		Gravelly sand			1.5 m of weathered material (1" - 2" dia) of occ.
11.0	1.0		Gravelly sand			
11.5	1.5		Gravelly sand			
12.0	2.0		Gravelly sand			
12.5	2.5		Gravelly sand			
13.0	3.0		Gravelly sand			
13.5	3.5		Gravelly sand			
14.0	4.0		Gravelly sand			
14.5	4.5		Gravelly sand			
15.0	5.0		Gravelly sand			
15.5	5.5		Gravelly sand			
16.0	6.0		Gravelly sand			
16.5	6.5		Gravelly sand			
17.0	7.0		Gravelly sand			
17.5	7.5		Gravelly sand			
18.0	8.0		Gravelly sand			
18.5	8.5		Gravelly sand			
19.0	9.0		Gravelly sand			
19.5	9.5		Gravelly sand			
20.0	10.0		Gravelly sand			
20.5	10.5		Gravelly sand			
21.0	11.0		Gravelly sand			
21.5	11.5		Gravelly sand			
22.0	12.0		Gravelly sand			
22.5	12.5		Gravelly sand			
23.0	13.0		Gravelly sand			
23.5	13.5		Gravelly sand			
24.0	14.0		Gravelly sand			
24.5	14.5		Gravelly sand			
25.0	15.0		Gravelly sand			
25.5	15.5		Gravelly sand			
26.0	16.0		Gravelly sand			
26.5	16.5		Gravelly sand			
27.0	17.0		Gravelly sand			
27.5	17.5		Gravelly sand			
28.0	18.0		Gravelly sand			
28.5	18.5		Gravelly sand			
29.0	19.0		Gravelly sand			
29.5	19.5		Gravelly sand			
30.0	20.0		Gravelly sand			
30.5	20.5		Gravelly sand			
31.0	21.0		Gravelly sand			
31.5	21.5		Gravelly sand			
32.0	22.0		Gravelly sand			
32.5	22.5		Gravelly sand			
33.0	23.0		Gravelly sand			
33.5	23.5		Gravelly sand			
34.0	24.0		Gravelly sand			
34.5	24.5		Gravelly sand			
35.0	25.0		Gravelly sand			
35.5	25.5		Gravelly sand			
36.0	26.0		Gravelly sand			
36.5	26.5		Gravelly sand			
37.0	27.0		Gravelly sand			
37.5	27.5		Gravelly sand			
38.0	28.0		Gravelly sand			
38.5	28.5		Gravelly sand			
39.0	29.0		Gravelly sand			
39.5	29.5		Gravelly sand			
40.0	30.0		Gravelly sand			
40.5	30.5		Gravelly sand			
41.0	31.0		Gravelly sand			
41.5	31.5		Gravelly sand			
42.0	32.0		Gravelly sand			
42.5	32.5		Gravelly sand			
43.0	33.0		Gravelly sand			
43.5	33.5		Gravelly sand			
44.0	34.0		Gravelly sand			
44.5	34.5		Gravelly sand			
45.0	35.0		Gravelly sand			
45.5	35.5		Gravelly sand			
46.0	36.0		Gravelly sand			
46.5	36.5		Gravelly sand			
47.0	37.0		Gravelly sand			
47.5	37.5		Gravelly sand			
48.0	38.0		Gravelly sand			
48.5	38.5		Gravelly sand			
49.0	39.0		Gravelly sand			
49.5	39.5		Gravelly sand			
50.0	40.0		Gravelly sand			
50.5	40.5		Gravelly sand			
51.0	41.0		Gravelly sand			
51.5	41.5		Gravelly sand			
52.0	42.0		Gravelly sand			
52.5	42.5		Gravelly sand			
53.0	43.0		Gravelly sand			
53.5	43.5		Gravelly sand			
54.0	44.0		Gravelly sand			
54.5	44.5		Gravelly sand			
55.0	45.0		Gravelly sand			
55.5	45.5		Gravelly sand			
56.0	46.0		Gravelly sand			
56.5	46.5		Gravelly sand			
57.0	47.0		Gravelly sand			
57.5	47.5		Gravelly sand			
58.0	48.0		Gravelly sand			
58.5	48.5		Gravelly sand			
59.0	49.0		Gravelly sand			
59.5	49.5		Gravelly sand			
60.0	50.0		Gravelly sand			
60.5	50.5		Gravelly sand			
61.0	51.0		Gravelly sand			
61.5	51.5		Gravelly sand			
62.0	52.0		Gravelly sand			
62.5	52.5		Gravelly sand			
63.0	53.0		Gravelly sand			
63.5	53.5		Gravelly sand			
64.0	54.0		Gravelly sand			
64.5	54.5		Gravelly sand			
65.0	55.0		Gravelly sand			
65.5	55.5		Gravelly sand			
66.0	56.0		Gravelly sand			
66.5	56.5		Gravelly sand			
67.0	57.0		Gravelly sand			
67.5	57.5		Gravelly sand			
68.0	58.0		Gravelly sand			
68.5	58.5		Gravelly sand			
69.0	59.0		Gravelly sand			
69.5	59.5		Gravelly sand			
70.0	60.0		Gravelly sand			
70.5	60.5		Gravelly sand			
71.0	61.0		Gravelly sand			
71.5	61.5		Gravelly sand			
72.0	62.0		Gravelly sand			
72.5	62.5		Gravelly sand			
73.0	63.0		Gravelly sand			
73.5	63.5		Gravelly sand			
74.0	64.0		Gravelly sand			
74.5	64.5		Gravelly sand			
75.0	65.0		Gravelly sand			
75.5	65.5		Gravelly sand			
76.0	66.0		Gravelly sand			
76.5	66.5		Gravelly sand			
77.0	67.0		Gravelly sand			
77.5	67.5		Gravelly sand			
78.0	68.0		Gravelly sand			
78.5	68.5		Gravelly sand			
79.0	69.0		Gravelly sand			
79.5	69.5		Gravelly sand			
80.0	70.0		Gravelly sand			
80.5	70.5		Gravelly sand			
81.0	71.0		Gravelly sand			
81.5	71.5		Gravelly sand			
82.0	72.0		Gravelly sand			
82.5	72.5		Gravelly sand			
83.0	73.0		Gravelly sand			
83.5	73.5		Gravelly sand			
84.0	74.0		Gravelly sand			
84.5	74.5		Gravelly sand			
85.0	75.0		Gravelly sand			
85.5	75.5		Gravelly sand			
86.0	76.0		Gravelly sand			
86.5	76.5		Gravelly sand			
87.0	77.0		Gravelly sand			
87.5	77.5		Gravelly sand			
88.0	78.0		Gravelly sand			
88.5	78.5		Gravelly sand			
89.0	79.0		Gravelly sand			
89.5	79.5		Gravelly sand			
90.0	80.0		Gravelly sand			
90.5	80.5		Gravelly sand			
91.0	81.0		Gravelly sand			
91.5	81.5		Gravelly sand			
92.0	82.0		Gravelly sand			
92.5	82.5		Gravelly sand			
93.0	83.0		Gravelly sand			
93.5	83.5		Gravelly sand			
94.0	84.0		Gravelly sand			
94.5	84.5		Gravelly sand			
95.0	85.0		Gravelly sand			
95.5	85.5		Gravelly sand			
96.0	86.0		Gravelly sand			
96.5	86.5		Gravelly sand			
97.0	87.0		Gravelly sand			
97.5	87.5		Gravelly sand			
98.0	88.0		Gravelly sand			
98.5	88.5		Gravelly sand			
99.0	89.0		Gravelly sand			
99.5	89.5		Gravelly sand			
100.0	90.0		Gravelly sand			

DRILLING LOG		DIVISION MRD	INSTRUMENTATION OLANA	SHEET 7
PROJECT NIROP WELLS		NO. SIZE AND TYPE OF BIT 2 1/2" Dia. Hollow Stem Auger		
LOCATION (Coordinates or Station) Eridon, MN		11. DATUM FOR ELEVATION SHOWN (FSM or MSL)		
DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL CHE 75		
HOLE NO. (As shown on drawing title and site number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN 13		UNDISTURBED D
NAME OF DRILLER Mike O'Malley		14. TOTAL NUMBER CORE BOXES —		
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
THICKNESS OF OVERBURDEN 132' ±		16. DATE HOLE STARTED 5/29/85 COMPLETED 6/5/85		
DEPTH DRILLED INTO ROCK 0		17. ELEVATION TOP OF HOLE		
TOTAL DEPTH OF HOLE 132'		18. TOTAL CORE RECOVERY FOR BORING — %		
		19. SIGNATURE OF INSPECTOR Thomas M. Daniel		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
10			Sand, silty (SP) Med. Dense			
20			Moist yellowish brown fine-med sand slightly some silt			
30				4.5		
40				5		
50				5	D ¹ 5.1	Rei = 1.5'
60			SAND (SP) Loose	5	6.0	
70			Moist lt. brown subrounded sand mostly medium -occ. fine gravel	3		
80				6.0		
90						
10.0				4.5		
				5	D-2 9.5-	Rei = 1.5'
				4	11.0	

DRILLING LOG		DIVISION	INSTALLATION	SHEET 2 OF 14 SHEETS
1. PROJECT NICOP WELLS			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DATUM FOR ELEVATION SHOWN (YBM or BML)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED _____ COMPLETED _____	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SAND (SP)	5		
			Loose	2		
			Moist	5		
11.0			lt. brown	3		
			subrounded sand mostly med. grained; occas. fine gravel	11.0		
12.0						
13.0						
14.0			occ coarse sand seams ~1/2" thick			
15.0				3		
				3	D-3	Rec = 15'
				1	14.5'	
				2	16.0	
16.0						
17.0						
18.0						
19.0			SANDY CLAY	19.5	D-4	Rec = 1.5'
			Loose	5	17.5'	
			Moist - Sc. d	3	21.0	
			reddish-brown			
			v. sandy - fine med. gr. s. d			
20.0						

DRILLING LOG		Division	INSTALLATION	SHEET 3 OF 4 SHEETS
1. PROJECT NIPOP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAY OF RECEIVING SHOW (TYP or BUL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing 1110 and file number)		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
			SANDY CLAY (cc)	5		
			Loose	5		
			Wet - sat'd	5		
	21.0		Reddish Brown	4		
			Very sandy - subrounded med sand	21.0		
	22.0		med sand			
			000s. gravel - up to ~1/2"			
	23.0					
	24.0					
	25.0					
	26.0					
	26.2					
	29.2	5/29/85 1000	SAND Med Dense - dense sat'd Brown			Measured water in auger at this depth = 2.95.
	28.0					
	29.0					Boring returned 3 feet knocked auger to depth Blow counts were very high Rec = 100% +
	30.0			100+		

DRILLING LOG		DIVISION	INSTALLATION	SHEET 5 OF 19 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAY ON FOR ELEVATION SHOWN (YBM or BSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
310			SAND Med Dense - V. sat'd Brown Mostly med. grned & subrounded			
320						
330						
340						
350						
360						
370						
380			GRAVELLY SAND			Heard ~ 2.5 feet into
390						
400						
				39.5	P-6 39.5 41	

DRILLING LOG		DIVISION	INSTALLATION	SHEET 5 OF 10 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DAYON FOR ELEVATION KNOWN (TBM or BELL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 6-0		13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE	18. TOTAL CORE RECOVERY FOR BORING	3
8. DEPTH DRILLED INTO ROCK		19. SIGNATURE OF INSPECTOR		
9. TOTAL DEPTH OF HOLE				

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			GRAVELLY SAND	5		
			Dense - Med. Dense	1		
			Sat'd	5		
			lt. Brown	5		
			Med. Sand - sub-	41.0		
			rounded -			
			Med - fine gravel			
41.0						
42.0						
43.0						
44.0						
45.0						
46.0						
47.0						
48.0			Increase in amount of gravel			Heard 2.3' after drilling to 46.5'
49.0						
50.0						
				49.5		
				5		
				4		

DRILLING LOG		DIVISION	INSTALLATION	SHEET OF 14 SHEETS
1. PROJECT			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DAY AND TIME FOR ELEVATION SHOWN (7:30 or 8:00)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and No number) 6-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DES. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE MOLE	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
51.9			GRAVELLY SAND Med. Dense Sat'd brown Med. - coarse Sand - sub- rounded - subangular	5 12 5 14 51.0	D-7 49.5' 51.0'	Full recovery plus slough = full barrel Blow counts not represent.
52.0			20-30% gravel - layer of fine gravel at bottom of spoon			
53.0						
54.0						
55.0						
56.0						
57.0						
58.0			SAND (SP) Dense - V. Dense Sat'd Brown Med. grained subrounded occas. gravel some silt	59.5 5 49		Rec = 1.5'
59.0						
60.0						

DRILLING LOG		DIVISION	INSTALLATION	SHEET 7 OF 14 SHEETS
1. PROJECT NIRROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FIM or BM)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF BRILL		
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING	19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE				

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SAND (SP)	5		Storked test 1/2' inside auger
			Dense - v. Dense	38	D-8	
			Sat'd	5	59.3	
			Brown	14	61.0	
	61.0		Med grained subrounded occas. gravel some silt.			
	62.0		- Sand turning finer grained less gravel			
	63.0					
	64.0					
	65.0					
	66.0					
	67.0					
	68.0					
	69.0					
	69.5			69.5		Drilled to 69.5 Hole banded to ~ 61.5' Reacts red to tan - auger 67'
				5		
	70.0			3		

DRILLING LOG		SHEET B OF 14 SHEETS	
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DAYR FOR ELEVATION SHOWN (TYPE OR REG.)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing file and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SAND (SP)	5		No Recovery
			Med Dense Sat'd	5		
	71.0		Brown medium grained subrounded	7		
	72.0		accas. gravel some silt	71.0		
	73.0					
	74.0					
	75.0					
	76.0					
	77.0					
	78.0					
	79.0					
	80.0					
				79.5	D-9	Sand hauled to ~ 71.5' loaded & sampler to 77.8 w/ auger @ 76.8.
				5	79.5	
				7	80.6	
						Recovery = 1.1'

DRILLING LOG		SHEET 9 OF 14 SHEETS	
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (FSS or MLL)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. DATE MOLE	
7. THICKNESS OF OVERBURDEN		16. ELEVATION TOP OF MOLE	
8. DEPTH DRILLED INTO ROCK		17. TOTAL CORE RECOVERY FOR BORING	
9. TOTAL DEPTH OF MOLE		18. SIGNATURE OF INSPECTOR	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	81.0		SAND (SP) MED. Dense Sat'd Brown Mostly medium grained + sub rounded.	5 8 5 7		
	82.0		occ. fine-med. grained subrounded gravel	81.8		
	83.0					
	84.0					
	85.0					
	86.0					
	87.0			86.8 5 5 5 11 5 16		Drilled to 89.5' 86.8' - start sampling 86.5' - bottom of Auger. Hole had heaved to 78.5'
	88.0			88.3		No Recovery FILLED AUGERS w/ WATER END SHIFT 5/29/85 Start Shift 5/30/85 Bottom of hole @ ~ 83' W.L. @ 25.5'
	89.0					
	90.0					

DRILLING LOG		DIVISION	INSTALLATION	SHEET <u>10</u> OF 14 SHEETS
1. PROJECT <u>NIROF WELLS</u>		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or BBL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) <u>6-0</u>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING	19. SIGNATURE OF INSPECTOR	
9. TOTAL DEPTH OF HOLE				

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	91.0		SAND (SP) Med Dense Sat'd Brown Mostly Med. grndd, subrounded occass fine gravel some silt			
	92.0					
	93.0					
	94.0					
	95.0					
	96.0					
	97.0					
	98.0		occasional small clayey blebs			Drilled to 99.5' Hole heaved ~15' Worked sampler to 90.9 Auger @ 97.4 started blows @ 91.5'
	99.0					
	100.0					
				99.5 5	D-10	Blw counts not representative
				60	99.5- 100.9	Very HIGH

DRILLING LOG		DIVISION	INSTALLATION	SHEET 11 OF 14 SHEETS
1. PROJECT NIROP WELLS			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DAYUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
101.0			SAND (SP) Med. Dense - Dense Sat'd Brown Mostly Med grained, subrounded occass. fine gravel w/ some silt			Drill Rig Down Pulled 65' casing END SHIFT 5/30/85 START SHIFT 6/3/85 Repaired rig & drilled to 60' START SHIFT 6/4/85 Hole depth 60' W.L. 25.1' Pulled out all casing, bit bridged in casing Drilled back to 30'
102.0						
103.0						
104.0						
105.0						
106.0						
107.0						
108.0						
109.0						
110.0						

PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE <input type="checkbox"/> STARTED <input type="checkbox"/> COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
111.0			SAND (SP) MED. DENSE SAT'D Brown Mostly med. grained			Drilled to 115' Put sampler into 112.5'. One tap w/ hammer put it down to 115'
112.0			Some gravel - fine - medium subrounded			
113.0			Small amount of silt			
114.0						
115.0			CLAYEY SAND Finer grained sand w/ a small amount of clay	115.0	5 D-11	
					6 1152	
					5 -1162	
					9	
116.0			GRAVEL	5		
				13		
				116.5		
117.0						
118.0						
119.0						
120.0						

DRILLING LOG		VISION	INSTALLATION	SHEET 13 OF 14 SHEETS
1. PROJECT N/ROP Wells		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

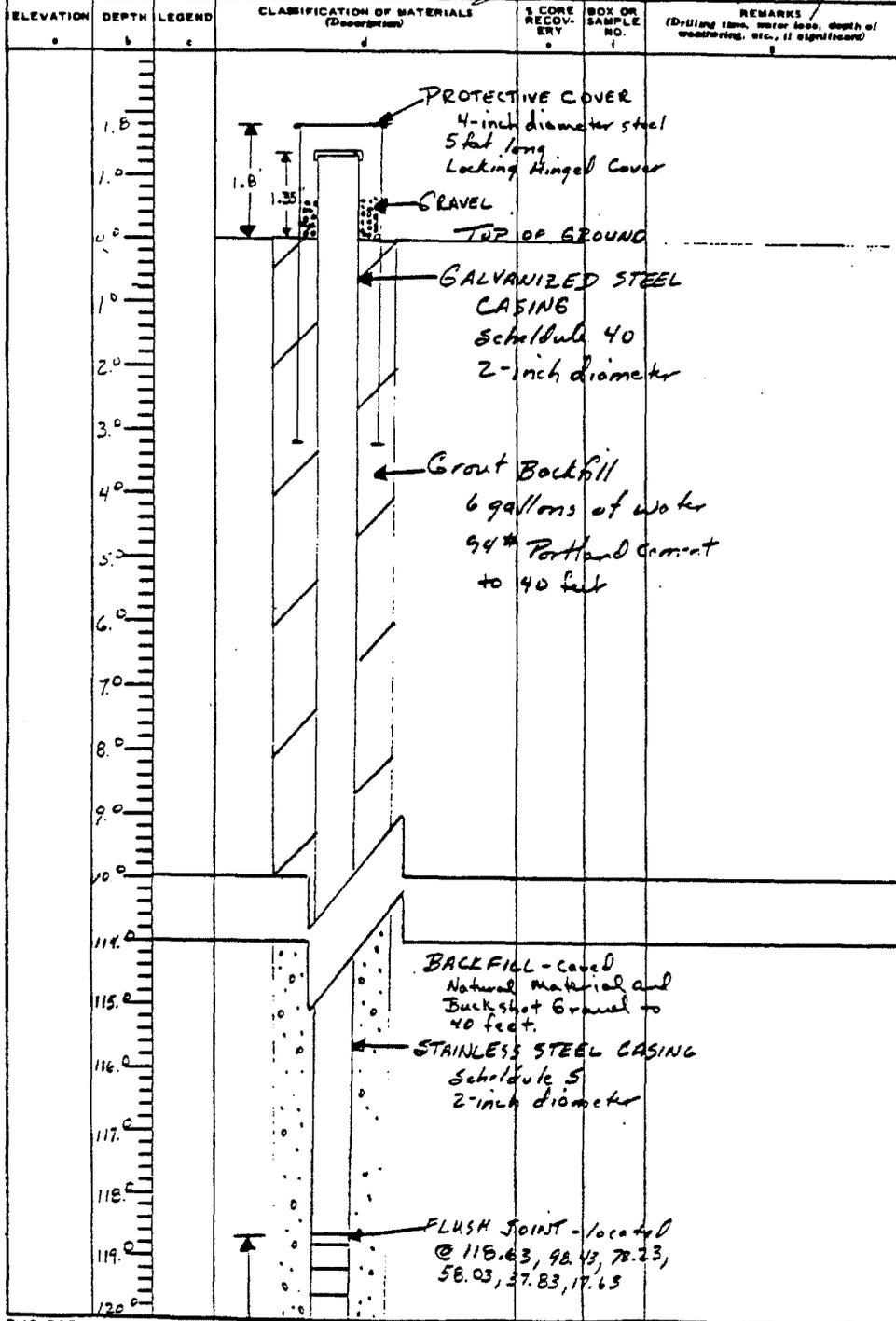
ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
121			SAND (SP) Med. Dense Sat'd Brown Med. sand, sub- rounded w/ some fine-med. gravel			
122						
123						
124						
125			Silty SAND (SP) Med. Dense SAT'd Brown Fine Sand Subrounded.	124.5 5 23 5 15 5 6 126.1	D-12 -1259	0.6' recovered
126						
127						
128			SAND (SP) Med. Dense Sat'd Brown Med sand - subrounded some fine-med gravel.			
129						
130						
130.8				5 13		

Form No. 1836

DRILLING LOG	DIVISION	INSTALLATION	SHEET 14 OF 14 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)		11. DAYON FOR ELEVATION SHOWN (TBM or B.M.)	
3. DRILLING AGENCY		12. MANUFACTURER'S DENOMINATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR	

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
130.0			SAND, silty (SP) Dense Sat'd Brown Mostly medium grained, subrounded occasional small gravelly lenses	5		Roc = 1.5
				13		
				5	D-13	
131.0				19	130	
				5	131.5	
			37			
			131.5			
132.0			Bottom of boring			END SHIFT 6/5/95
133.0						
134.0						
135.0						

1. PROJECT MKV ANA		OF 2 SHEETS	
2. LOCATION (Coordinate or Station) NIRUP WELLS FRIDLEY, MN		10. SIZE AND TYPE OF BIT	
3. DRILLING AGENCY US-CE-C		11. DATUM FOR ELEVATION SHOWN (TBM = B.M.)	
4. HOLE NO. (As shown on drawing title and file number) 6-D		12. MANUFACTURER'S DESIGNATION OF DRILL	
5. NAME OF DRILLER M. O'MALLEY		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		14. TOTAL NUMBER CORE BOXES	
7. THICKNESS OF OVERBURDEN		15. ELEVATION GROUND WATER	
8. DEPTH DRILLED INTO ROCK		16. DATE MOLE	
9. TOTAL DEPTH OF MOLE		17. ELEVATION TOP OF MOLE	
		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR Thomas McDaniel	



DRILLING LOG		DIVISION	INSTALLATION	SHEET 2 OF 2 SHEETS
1. PROJECT NIROP WELLS			10. SIZE AND TYPE OF BIT	
2. LOCATION (Coordinates or Station)			11. DAYUM FOR ELEVATION SHOWN (YEN = MSL)	
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL	
4. HOLE NO. (As shown on drawing title and file number) 6-D			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED COMPLETED	
8. DEPTH DRILLED INTO ROCK			17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE			18. TOTAL CORE RECOVERY FOR BORING	
			19. SIGNATURE OF INSPECTOR	

ELEVATION e	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY g	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) h
121.0						
122.0						
123.0						
124.0						
125.0						
126.0						
127.0						
128.0						
129.0						
130.0						
131.0						
132.0						

10.2

BACKFILL
Caved Natural Material
+ Buckshot Gravel

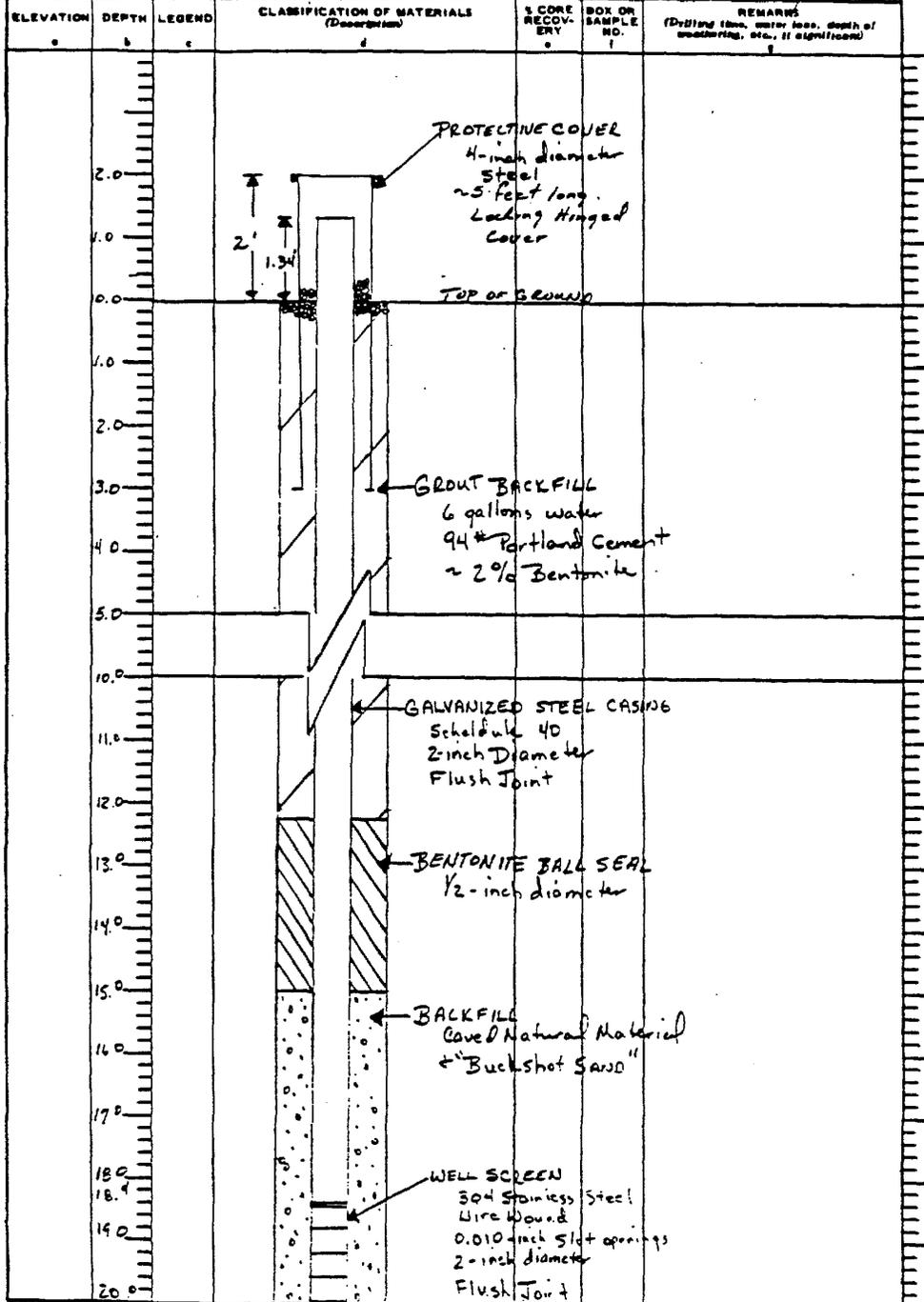
WELL SCREEN
304 Stainless Steel
Wire Wound
0.010 slot openings
2-inch diameter

BOTTOM PLATE
Stainless Steel

1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT 6" DIA Hollow stem auger	
2. LOCATION (County or State) FITOLEY, MN		11. DATUM FOR ELEVATION (KNOWN TYPE - ELL)	
3. DRILLING AGENCY KS-CE-1		12. MANUFACTURER'S DESIGNATION OF DRILL CME 75	
4. HOLE NO. (As shown on drawing title and file number) 7-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN DISTURBED: 0 UNDISTURBED: 0	
5. NAME OF DRILLER M. O'Malley		14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	
7. THICKNESS OF OVERBURDEN 28.6' ±		16. DATE HOLE STARTED: 5/28/85 COMPLETED: 5/28/85	
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE	
9. TOTAL DEPTH OF HOLE 28.6'		18. TOTAL CORE RECOVERY FOR BORING	
		19. SIGNATURE OF INSPECTOR <i>Thomas McDaniel</i>	

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
10			Sand/Clay (CL) Med. stiff-stiff			Logged from auger cuttings See log of 5-D for more detail.
20			Moist Black Med. sand - subrounded occ. gravel.			
30						
40						
50			CLAYEY SAND (SC-CL)			
60			SANDY CLAY med. stiff- med. dense slight plasticity			
70			lt brown changing to grayish brown			
80			Med. sand - subrounded			
90						

DRILLING LOG		MRD	DMARR	OF 2 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (County or Station) FRIDLEY MN		11. DAYUM FOR ELEVATION SHOWN (TBM or BBL)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF GRILL		
4. HOLE NO. (As shown on drawing title and file number) 7-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M O'Malley		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. DATE HOLE STARTED 5/20/85	15. DATE HOLE COMPLETED 5/20/85	
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR M. Daniel		



DRILLING LOG		DIVISION	INITIALS	SHEET 2 OF 2 SHEETS
1. PROJECT <i>NIROP WELLS</i>		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DIRECTION FOR ELEVATION SHOWN (TYPE OF BELL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) <i>7-5</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE	STARTED	COMPLETED
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING	%	
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
21.0						
22.0						
23.0						
24.0						
25.0						
26.0						
27.0						
28.0						
28.6						
29.0						

DRILLING LOG		DIVISION	PREPARED FOR	OF 3 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (BM or ABL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 7-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11.0		SAND (SP) Med. Dense Moist Grayish Brown Med. sand - sub- rounded.			
	12.0					
	13.0					
	14.0					
	15.0					
	16.0					
	17.0					
	18.0					
	19.0					
	20.0					

DRILLING LOG		DIVISION	INSTALLATION	SHEET 3 OF 3 SHEETS	
1. PROJECT NIRUP WELLS			10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)			11. DAYON FOR ELEVATION SHOWN (TWN or BLM)		
3. DRILLING AGENCY			12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 7-5			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER			14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER	16. DATE HOLE STARTED	
7. THICKNESS OF OVERBURDEN			17. ELEVATION TOP OF HOLE		COMPLETED
8. DEPTH DRILLED INTO ROCK			18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE			19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g	
21.0			SAND (SP) Med. Dense Moist - Sat'd Grayish Brown Med. Sand - sub- rounded				
22.0							
23.0							
24.0							
25.0							
26.0							
27.0							
28.0							
29.2				Bottom of Boring			
30.0							

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 5, 1986
 Surface Elevation NA Boring No. 7-0

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Yellowish Brown Med. Sand (SP) Trace Silt		22	25	34	81					
10	Brown Sand, Trace Gravel		19	18	19	56					
15	Brown Sand, Trace Gravel		10	12	16	38					
20	Brown Sand, Trace Gravel		8	15	15	38					
25	Brown Sand, Trace Gravel		8	9	14	31					
30	Brown Sand, Trace Gravel		5	6	8	19					
35	Brown Sand, Trace Gravel		5	6	10	21					

Water Level Observations

W.L. 23' While Drilling
 W.L.

Boring Initiated Feb. 5, 1986
 Boring Completed Feb. 7, 1986
 Type of Boring Mud Rotary
 Drilled by D. Erickson

LOG OF SUBSURFACE DATA

Client FWC
 Project Off-Site monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Feb 5 1987
 Surface Elevation NA Boring No. 7

Depth (ft.)	SOIL DESCRIPTION Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	FIELD TESTING DATA				LABORATORY TESTING DATA				
			Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
40	Gray Fine Sand Trace Grvl	(SP)	16	19	16	51					
45	Gray Fine-Coarse Sand Trace Gravel	(SP)	29	19	20	68					
50	Gray Fine-Coarse Sand, Trace Gravel	(SP)	20	17	17	54					
55	Gray-Brown Silty Clay, Trace Fine Sand	(CL)	21	23	30	74					
60	Gray-Brown Sandy Clay Trace Gravel	(CL-SC)	20	30	40	90					
65	Gray-Brown Silty Clay	(CL-ML)	19	29	32	80					
70	No recovery		15	24	29	68					

Water Level Observations

W.L. _____ @ _____
 W.L. _____ @ _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 5, 1986
 Surface Elevation NA Boring No. 7-D

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
75	Brown-Gray Silt	(ML)	25	35	42	102					
80	Gray-Brown Fine Sand Trace Gravel & Clay	(SM-SC)	22	35	43	100					
85	Gray-Brown Fine Sand, Trace Gravel & Clay	(SM-SC)	60	80	80	220					
90	Gray-Brown Fine Sand, Trace Gravel & Clay	(SM-SC)	20	27	26	73					
95	Gray-Brown Fine Sand, Trace Gravel & Clay	(SM-SC)	60	60	60	180					
100	Gray-Brown Fine Sand, Trace Gravel & Clay	(SM-SC)	25	40	60	125					
105	Fine Sand, Little Silt & Gravel	(SC-SM)	30	50	55	135					

Water Level Observations

W.L. _____ ⊕ _____
 W.L. _____ ⊕ _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 5, 1988
 Surface Elevation NA Boring No. 7-D

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
110	Fine Sand, Trace Gravel, Trace Silt	(SP-SM)	22	15	15	52					
115	Fine Sand, Trace Gravel, Trace Silt	(SP-SM)	66	65	100	231					
120	Weathered Dolomite Yellow-Brown E.O. Boring		65	80	200	345					

Water Level Observations

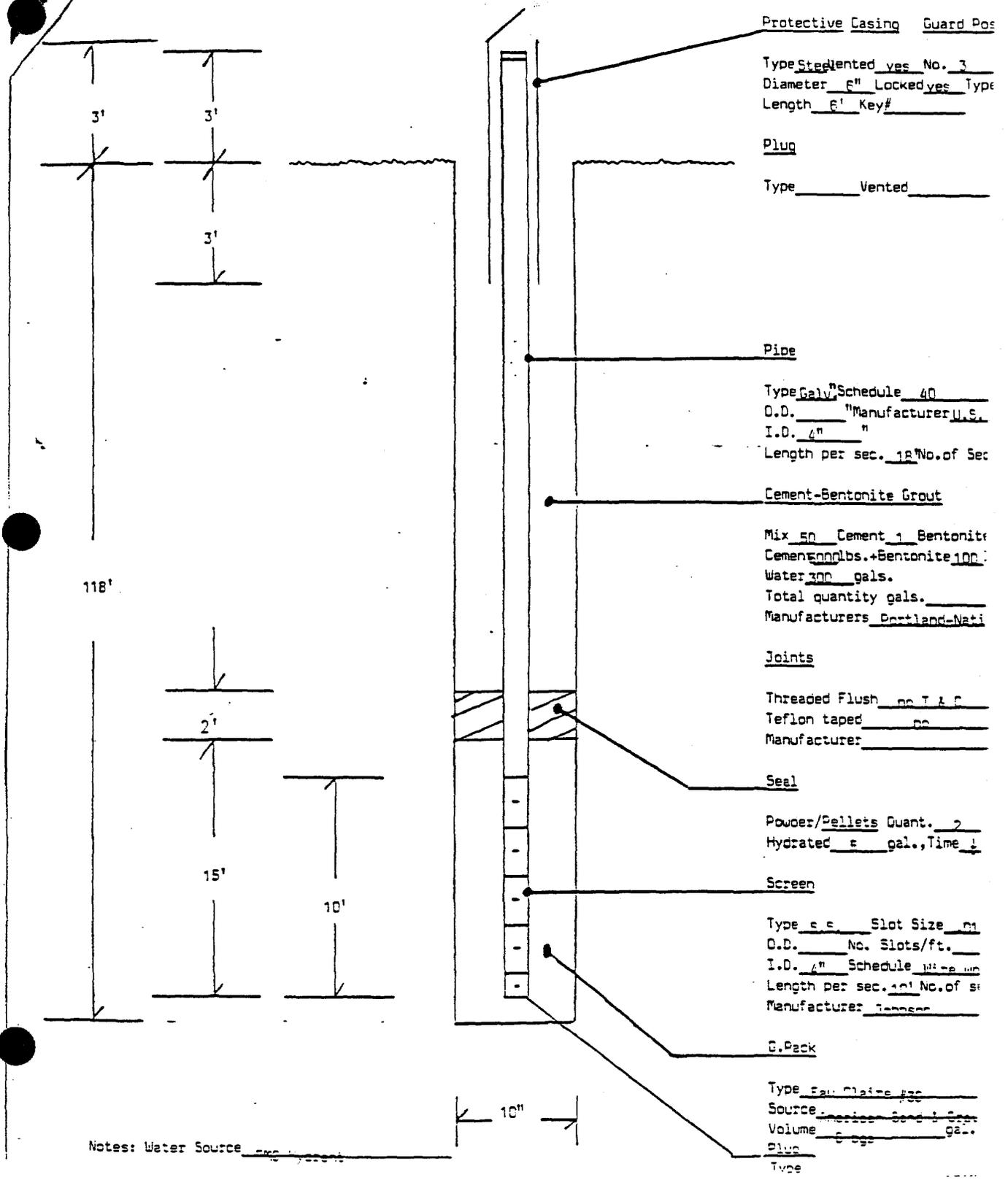
W.L. _____ @ _____
 W.L. _____ @ _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

0. DRIVATION WELL INSTALLATION DIAGRAM

WELL NO. 7-D

Site EMC Date: 2/18/86
 By: Bernerson-Caswell, Inc. Project No.:



Protective Casing Guard Post
 Type Sted yes No. 3
 Diameter 6" Locked yes Type
 Length 6' Key#

Plug
 Type Vented

Pipe
 Type Galv Schedule 40
 O.D. Manufacturer U.S.
 I.O. 4"
 Length per sec. 12' No. of Sec

Cement-Bentonite Grout
 Mix 50 Cement 1 Bentonite
 Cement 500 lbs. + Bentonite 100
 Water 300 gals.
 Total quantity gals.
 Manufacturers Portland-Nati

Joints
 Threaded Flush no T & C
 Teflon taped no
 Manufacturer

Seal
 Powder/Pellets Quant. 2
 Hydrated gal., Time 1

Screen
 Type Slot Size
 O.D. No. Slots/ft.
 I.O. 4" Schedule 40
 Length per sec. 10' No. of sec
 Manufacturer Tenneco

G. Pack
 Type Eq. Claine #30
 Source American Sand & Gravel
 Volume 6 gal.
 Plug
 Type

Notes: Water Source

DRILLING LOG		MRO	OMAHA	OF 3 SHEETS
1. PROJECT		NIROP WELLS		
2. LOCATION (Community or Section)		FRIDLEY, MN		
3. DRILLING AGENCY		USCE-L		
4. HOLE NO. (As shown on drawing title and file number)		B-5		
5. NAME OF DRILLER		M. O'MALLEY		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		DES. FROM VERT.		
7. THICKNESS OF OVERBURDEN		30'±		
8. DEPTH DRILLED INTO ROCK		0		
9. TOTAL DEPTH OF HOLE		30'		
10. SIZE AND TYPE OF BIT		6" Dia Hollow Stem Auger		
11. DATE FOR ELEVATION (When = 0)				
12. MANUFACTURER'S DESIGNATION OF DRILL		CME-75		
13. TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		13. DISTURBED	13. UNDISTURBED	
		6		
14. TOTAL NUMBER CORE BOXES		1/16		
15. ELEVATION GROUND WATER				
16. DATE HOLE		16. STARTED	16. COMPLETED	
		6/10/45	6/13/45	
17. ELEVATION TOP OF HOLE				
18. TOTAL CORE RECOVERY FOR BORING		11%		
19. SIGNATURE OF INSPECTOR		Thomas H. T. [Signature]		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	RECOVERY PERCENT	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	0.0		Topsoil			Surface gravel layer
	1.0		Med. dense Moist Block			
	2.0		clayey granular, sandy			
	3.0					
	4.0					
	4.5			4.5		
	5.0		SAND			
	5.0		Loose	4	D-1	
	5.0		Med	3	4.5-5.8	Following 1.5'
	5.0		Sl. silty	4		
	5.0		20% fine gravel	5		
	6.0		10% yellowish Brown	4		
	6.0		Med gravel	6.0		
	7.0		lean clay granular Gray			
	8.0					
	9.0					
	10.0					

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 8-5		
PROJECT NIPON WELLS			INSTALLATION OMAHA		SHEET 3 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	SOX OR SAMPLE NO f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23.0		SILT SAND (S-M) Loose			
	24.0					
	25.0			25.0		SAND ~ 5' Slightly weathered
				2	D-5	Sample
				2	25-	Sample
				2	24.5	Field Recovery
	26.0			2		
	27.0			2		
	28.0		Sand, yellow, brown mostly medium to fine and coarse sand to mostly medium	28.5		Sand hard in upper part of sand lens about 2 ft
	29.0			2	D-6	
				2	29.5	
	30.0		Bottom of Series	2		

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 8-5		
PROJECT NIROP WELLS			INSTALLATION OMAHA		SHEET 2 OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc. if significant)
a	b	c	d	e	f	g
12.0			GROUT BACKFILL			
13.0			GALVANIZED STEEL CASING Schedule 40 2-inch diameter			
14.0			BENTONITE BALL BACKFILL			
15.0						
16.0						
17.0						
18.0						
19.0			FLUSH JOINT			
20.0						
21.0						
22.0			SCREEN 304 stainless steel 2-inch diameter Schedule 5 0.010-inch slots			
23.0						
24.0						
25.0			SAND BACKFILL Natural Caved Material and "Buckshot Gravel"			
26.0						
27.0						
28.0						
29.0			BOTTOM PLATE Stainless Steel Welded			
30.0			BOTTOM OF BORING			

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 17, 1986
 Surface Elevation NA Boring No. B-0

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Lt Brown Sand Med. to Coarse	(SP)	10	20	22	52					
10	Brown Sand Medium	(SP)	7	10	10	27					
15	Lt Brown Fine Sand	(SP)	6	7	20	33					
20	Brown Silty Sand To of Gravels	(SP-SM)	8	15	15	38					
25	Fine Brown Silty Sand	(SM)	5	5	5	15					
30	Fine Brown Sand	(SP-SM)	5	3	5	13					
35	Fine Brown Sand	(SP-SM)	12	8	10	30					

Water Level Observations

W.L. 25' ⊗ While Drilling
 W.L. _____ ⊗ _____

Boring Initiated 2/17/86

Boring Completed 2/18/86

Type of Boring Mud Rotary

Drilled by Dan Erickson

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 17, 1986
 Surface Elevation Boring No.

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows	Blows	Blows	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
			1st 6"	2nd 6"	3rd 6"						
40	Fine Brown Sand	(SP-SM)	10	12	12	34					
45	Fine Sand - Brown	(SP)	9	12	18	39					
50	Fine Brown Sand	(SP)	12	15	21	48					
55	Fine Brown Sand	(SP)	15	17	31	63					
60	Fine Brown Sand-Trace Gravel	(SP)	10	19	21	50					
65	Fine Brown Sand - Trace Gravel	(SP)	13	25	21	59					
70	Fine Brown Sand-Trace Gravel	(SP)	21	25	30	76					

Water Level Observations

W.L. _____ ⊕ _____
 W.L. _____ ⊕ _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Feb. 17, 1986
 Surface Elevation NA Boring No. B-D

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
75	Fine Brown Sand	(SP)	32	54	32	118					
80	Fine to Med. Brown Sand Trace Gravel	(SP)	14	20	20	54					
85	Fine-Coarse Brown Sand Trace Gravel	(SW)	10	12	11	33					
90	Fine-Medium Brown Sand	(SP)	13	19	25	57					
95	Fine-Med. Brown Sand	(SP)	15	19	23	57					
100	Fine-Med. Brown Sand	(SP)	19	20	23	62					
105	Fine-Coarse Brown Sand & Gravel	(SW)	15	15	13	43					

Water Level Observations

W.L. _____
 W.L. _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC
 Project Off-Site Monitoring Well
 Location Fridley, MN.

Project No. 85-20 Date Feb. 17,
 Surface Elevation NA Boring No. 6-2

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
110	Fine-Med. Brown Sand Trace Gravel	(SP)	23	25	19	67					
115	Brown Sand, Little Gravel	(SW)	33	28	19	80					
120	Fine Brown Sand	(SP)	22	22	50	94					
125	Sandy Gravel Brown	(GW)	20	29	31	80					
130	Dolomite		25	25	25	75					
133	Prairie Du Chem Dolomite Bedrock E.O. Boring										

Water Level Observations

W.L. _____
 W.L. _____

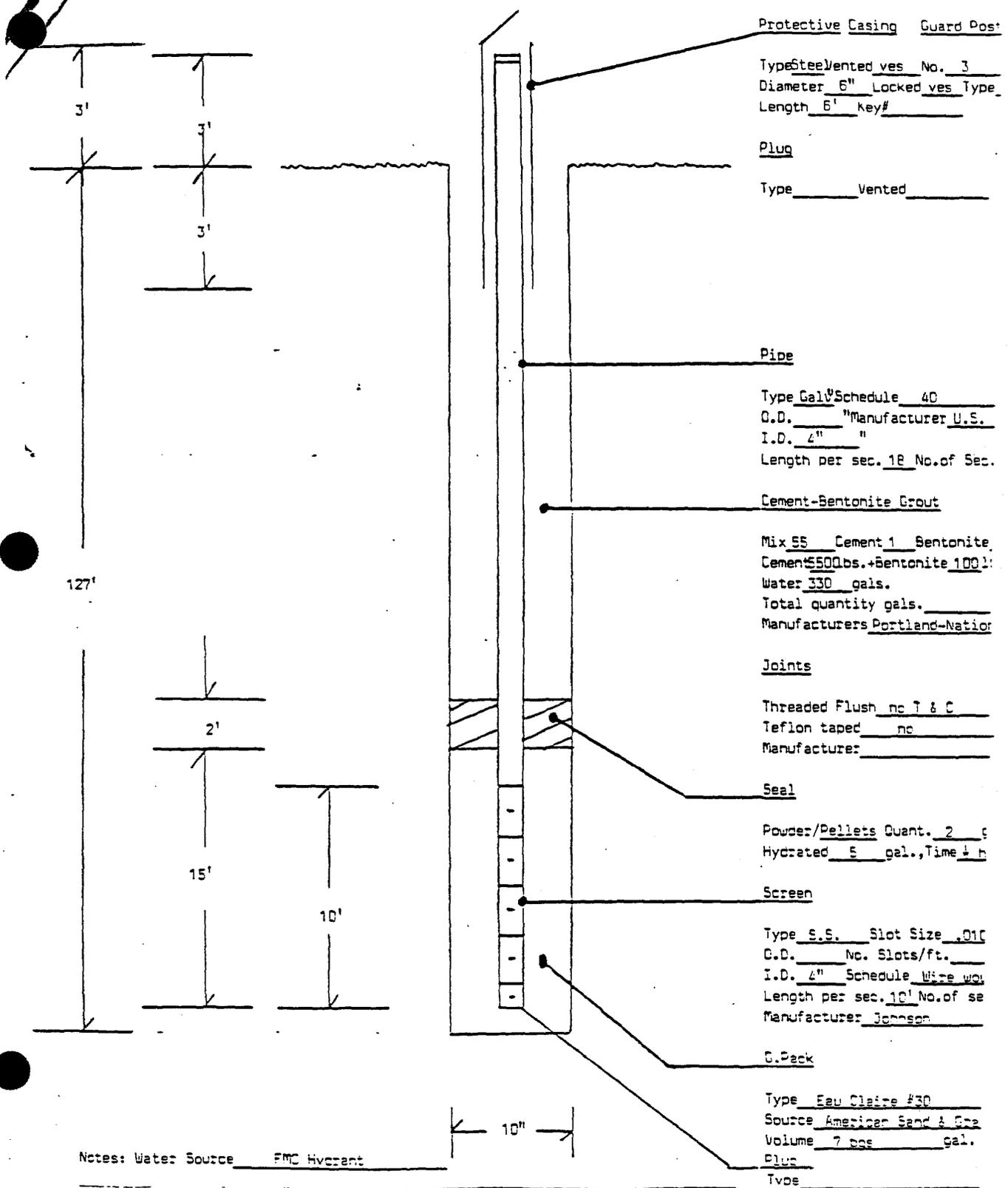
Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

0. DRIVATION WELL INSTALLATION DIAGRAM

WELL NO. 8-D

Site FMC Date: 2/24/88

By: Bergerson-Caswell, Inc. Project No.: _____



Protective Casing Guard Post

Type Steel Vented ves No. 3
Diameter 6" Locked ves Type
Length 6' key# _____

Plug
Type _____ Vented _____

Pipe
Type Galv Schedule 40
O.D. _____ "Manufacturer U.S.
I.D. 4" "
Length per sec. 18 No. of Sec. _____

Cement-Bentonite Grout
Mix 55 Cement 1 Bentonite
Cement 500 lbs. + Bentonite 100 lbs.
Water 330 gals.
Total quantity gals. _____
Manufacturers Portland-Nation

Joints
Threaded Flush no T & C
Teflon taped no
Manufacturers: _____

Seal
Powder/Pellets Quant. 2 g
Hydrated 5 gal., Time 1 h

Screen
Type S.S. Slot Size .010
O.D. _____ No. Slots/ft. _____
I.D. 4" Schedule Wire wpt
Length per sec. 10' No. of sec _____
Manufacturer Johnson

C. Deck
Type Eau Claire #30
Source American Sand & Gr
Volume 7 bps gal.
Plug
Type _____

Notes: Water Source FMC Hydrant

DRILLING LOG		DIVISION MIL	INSTALLATION 2/10/65	SHEET 1 OF 2 SHEETS
1. PROJECT 1111 WELLS		10. SIZE AND TYPE OF BIT 1 1/2" Dia. H.S. 4-6		
2. LOCATION (Continent or Station) 1111 WELLS		11. DAYUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY 115-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL CME-75		
4. HOLE NO. (As shown on drawing title and file number) 9.5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN 6		
5. NAME OF DRILLER M. O'Malley		14. TOTAL NUMBER CORE BOXES NA		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED DES. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN 30+		16. DATE HOLE STARTED 6/10/65 COMPLETED 6/11/65		
8. DEPTH DRILLED INTO ROCK 0		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING 1.4		
		19. SIGNATURE OF INSPECTOR T. J. ... M.D.		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	SCORE e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	0.0		Topsoil	5		
	1.0		SANDY CLAY			
	2.0		Moist Black sandy soil + organic mat'l			
	3.0					
	4.0					
	4.5			4.5		
	5.0			5	D-1	Recovery = 1.4'
	5.5			15	4.9	
	6.0		GRAVELLY SILT SAND (SM)	5	5.9	
	6.5		Med. Dense - Dense	16		
	7.0		Moist Brown sandy soil + organic mat'l	5		
	7.5		Med. dense gravel	11		
	8.0			6.0		
	9.0					
	10.0					
	11.0					
	12.0					

ENG FORM 1836 MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.

(TRANSLUCENT)

PROJECT
1111 WELLS

HOLE NO.
9.5

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No.		
PROJECT		INSTALLATION		SHEET		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	23.0		SILT/SAND (SM) Med. Dense Sand Reddish Brown occ. silt fine sand occ. gravel Subsided			
	24.0			24.0		
				5	D-5	
				7	240	
				5	-25.2	
	25.0			10		
				5		
			SILTY SAND (SM) Med. Dense Sand	11		
	26.0			25.5		
			Brown Massive fine grained occ. gravel Subsided			Drilled to 30'. Lost auger @ ~ 26'. Could not retrieve the fine foot section of hollow stem auger from bottom. Left it & moved 5 feet north and continued boring to 30 feet.
	27.0					
			GRAVEL 4 to 2 inches diameter 2 to 2" maximum dia. recovered			
	28.0					
			SILTY SAND (SM) Dense Brown Sand Reddish Brown occ. silt occ. fine gravel Subsided			
	30.0			30.0	7-6	
					20-	
				5	30-	
	31.0					
				5		
				7		
	32.0					
			Bottom of boring			

DRILLING LOG		DIVISION MAD	INSTALLATION OMAHA	SHEET 1 OF 2 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT 6 inch dia hollow stem		
2. LOCATION (Coordinates or Station) FRIDLEY, MN		11. DATUM FOR ELEVATION (MOUTH OF WELL or BELL) Average		
3. DRILLING AGENCY US-CC-C		12. MANUFACTURER'S DESIGNATION OF DRILL CME-75		
4. HOLE NO. (As shown on drawing title and file number) 9-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M. O. Malley		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE HOLE	STARTED
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF HOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR Thomas McDaniel		

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
2.0						
1.0						
0.0						
1.0						
2.0						
3.0						
4.0						
5.0						
6.0						
7.0						
8.0						
9.0						
10.0						
11.0						

PROTECTIVE CASING
4-inch diameter
steel
5 feet long
Locking Hinged Coupler
TOP OF GROUND

GALVANIZED STEEL
CASING
Schedule 40
2-inch Diameter
Flush Joint

GROUT BACKFILL
6 gallons water
94% Cement

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 9-5		
PROJECT NIRUP WELLS			INSTALLATION DMPHM			
PROJECT			SHEET 2		OF 2 SHEETS	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
12.2						
13.0			Bentonite Bolt seal			
14.0			GALVANIZED STEEL CASING			
15.0						
16.0						
17.0						
18.0			FLUSH JOINT			
19.0						
20.0						
21.0						
22.0			BACKFILL Covered natural material "Buckshot + Gravel"			
23.0						
24.0						
25.0			WELL SCREEN 304 Stainless steel Wire Wound 0.010 inch slot openings 2-inch diameter Flush Joint			
26.0						
27.0						
28.0			BOTTOM PLATE Welded			
29.0						
30.0						
31.0						
32.0			Bottom of Boring			

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 14, 1986
 Surface Elevation NA Boring No. E-D

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	White Fine Sand - Fill	(SM)	2	1	2	5					
10	Organic Fine Sand-Fill	(SP)	3	3	5	11					
15	Brown Sand	(SP-SM)	16	16	14	46					
20	Lt Brown Sand	(SP)	8	8	11	27					
25	Lt Brn Sand	(SP)	11	14	20	45					
30	DK Brown Sand Med. to Coarse	(SP)	9	10	20	39					
35	Lt Brown Sand Trace Gravel	(SP-SM)	12	17	16	45					

Water Level Observations

W.L. 27 ft. While Drilling
 W.L. _____ _____

Boring Initiated Jan. 14, 1986
 Boring Completed Feb. 1, 1986
 Type of Boring Mud Rotary
 Drilled by D. Erickson

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 14, 1986
 Surface Elevation NA Boring No. G-D

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
40	Lt Brown Sand	(SP)	4	9	10	23					
45	Lt Brown Sand	(SP)	7	11	15	33					
50	Lt Brown Sand-Trace Silt	(SM)	7	8	7	22					
55	Lt Brown Fine Sand	(SM)	10	13	18	41					
60	Brown Sand Med. to Coarse	(SM)	17	16	16	49					
65	Brown Sand Trace Gravel Medium to Coarse	(SP)	10	10	11	31					
70	Lt. Brown Sand Trace Gravel	(SP-SM)	17	23	25	65					

Water Level Observations

W.L. _____
 W.L. _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 14, 1986
 Surface Elevation NA Boring No. 9-0

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
75	Brown Sand Trace Silt	(SM)	18	20	26	64					
80	Lt Brown Sand Trace Gravel	(SP-SM)	16	21	40	77					
85	Lt Brown Fine Sand	(SM)	23	33	39	95					
90	Lt Brown Fine Sand	(SM)	22	23	35	80					
95	Lt Brown Fine Sand	(SM)	23	33	32	88					
100	Brown Sand Med. to Coarse	(SP)	25	30	33	88					
105	Lt Brown Fine Sand	(SM)	35	42	23/4"	100					

Water Level Observations

W.L. _____ ⊕ _____
 W.L. _____ ⊕ _____

Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. BS-20
 Surface Elevation NA

Date Jan. 14, 1986
 Boring No. 9-D

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
110	Brown Sand Trace Gravel Med. to Coarse	(SP)	16	17	20	53					
115	Brown Sand Trace Gravel	(SP)	16	19	24	59					
120	Brown Sand Trace Gravel	(SP)	17	22	32	71					
125	Dk Gray Clay	(CH)	27	28	32	67					
130	Prairie Du Chein Lime- stone Bedrock E.O. Boring										
135											
140											

Water Level Observations

W.L. _____ @ _____
 W.L. _____ @ _____

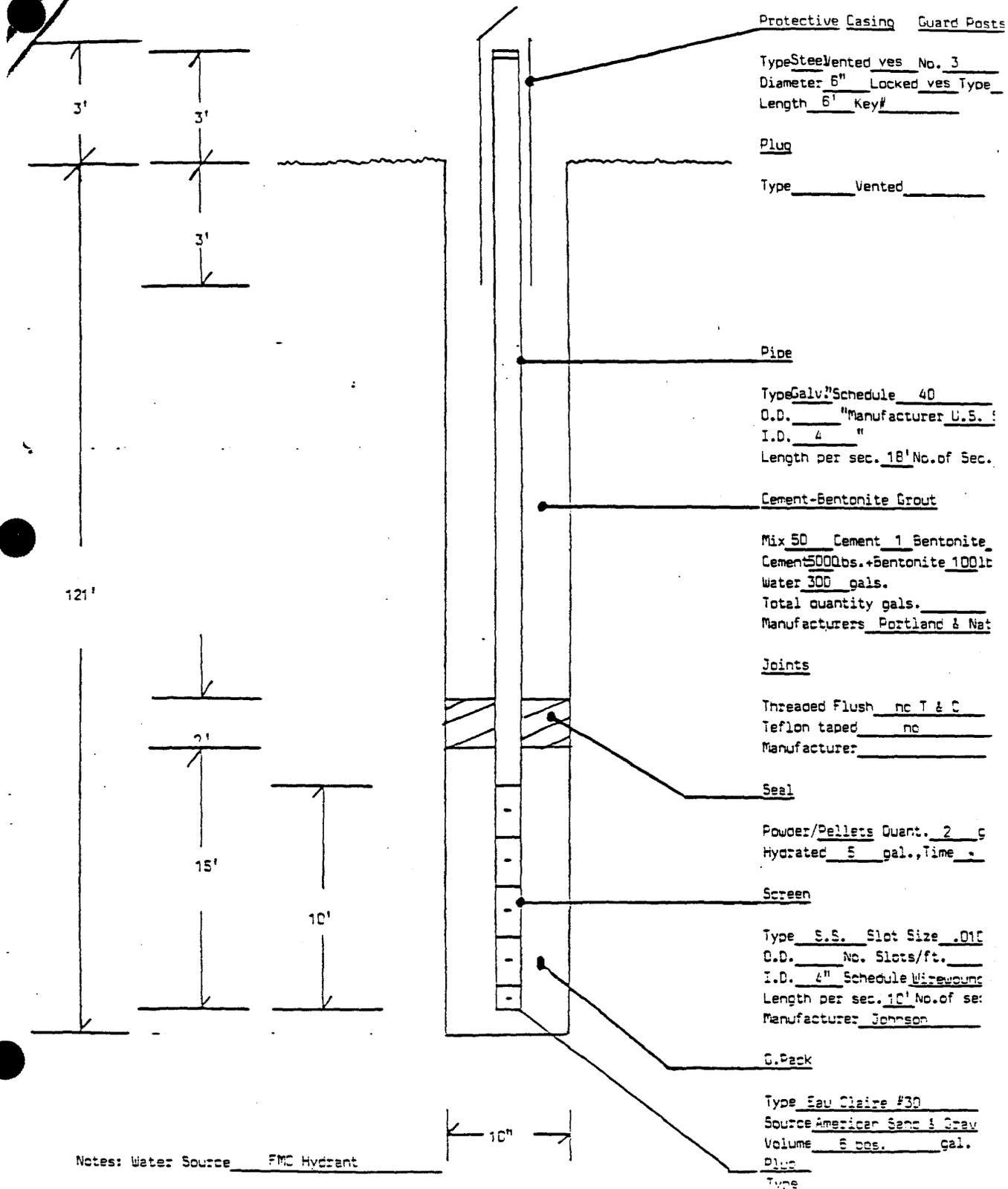
Boring Initiated _____
 Boring Completed _____
 Type of Boring _____
 Drilled by _____

EXCAVATION WELL INSTALLATION DIAGRAM

WELL NO. 9-D

Site FMC Date: 2-5-86

By: Bergerson-Caswell, Inc. Project No.: _____



Protective Casing Guard Posts

Type Steel Vented yes No. 3
 Diameter 6" Locked yes Type _____
 Length 6' Key# _____

Plug
 Type _____ Vented _____

Pipe
 Type Galv. Schedule 40
 O.D. _____ " Manufacturer U.S.
 I.D. 4 "
 Length per sec. 18' No. of Sec. _____

Cement-Bentonite Grout
 Mix 50 Cement 1 Bentonite
 Cement 500 lbs. + Bentonite 100 lb
 Water 300 gals.
 Total quantity gals. _____
 Manufacturers Portland & Nat

Joints
 Threaded Flush no T & C
 Teflon taped no
 Manufacturer: _____

Seal
 Powder/Pellets Quant. 2 g
 Hydrated 5 gal., Time _____

Screen
 Type S.S. Slot Size .010
 O.D. _____ No. Slots/ft. _____
 I.D. 4" Schedule Wirewound
 Length per sec. 10' No. of sec. _____
 Manufacturer Johnson

G.Pack
 Type Eau Claire #30
 Source American Sand & Gravel
 Volume 6 cu. gal.
 Plug
 Type _____

Notes: Water Source FMC Hydrant

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 10-5		
PROJECT NTR OF WELLS			INSTALLATION DMAHG		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
			SKM, silty (SP)	5		
			MED (SP)	10		
			Moist	5		
	11.0		14 Brownish yellow	11		
			w/ some fine - med sand			
			Subrounded grains			
	12.0					
	13.0					
	14.0					
				14.5		
				5	D-3	Ree = 1.5'
	15.0			5	14.5-	
				5	15.0	
				5		
	16.0		--- FINE GRAVEL	2		
				16.0		
	17.0					
	18.0		SAND (ST)			
			Loose			
			Moist - Wet			
	19.0		Loose			
			Gravelly - fine - med.	19.5	D-4	Ree = 12'
			Subrounded	5	19.5	
	20.0			5	20.0	
				5		
	21.0			5		
				4		
	22.0					

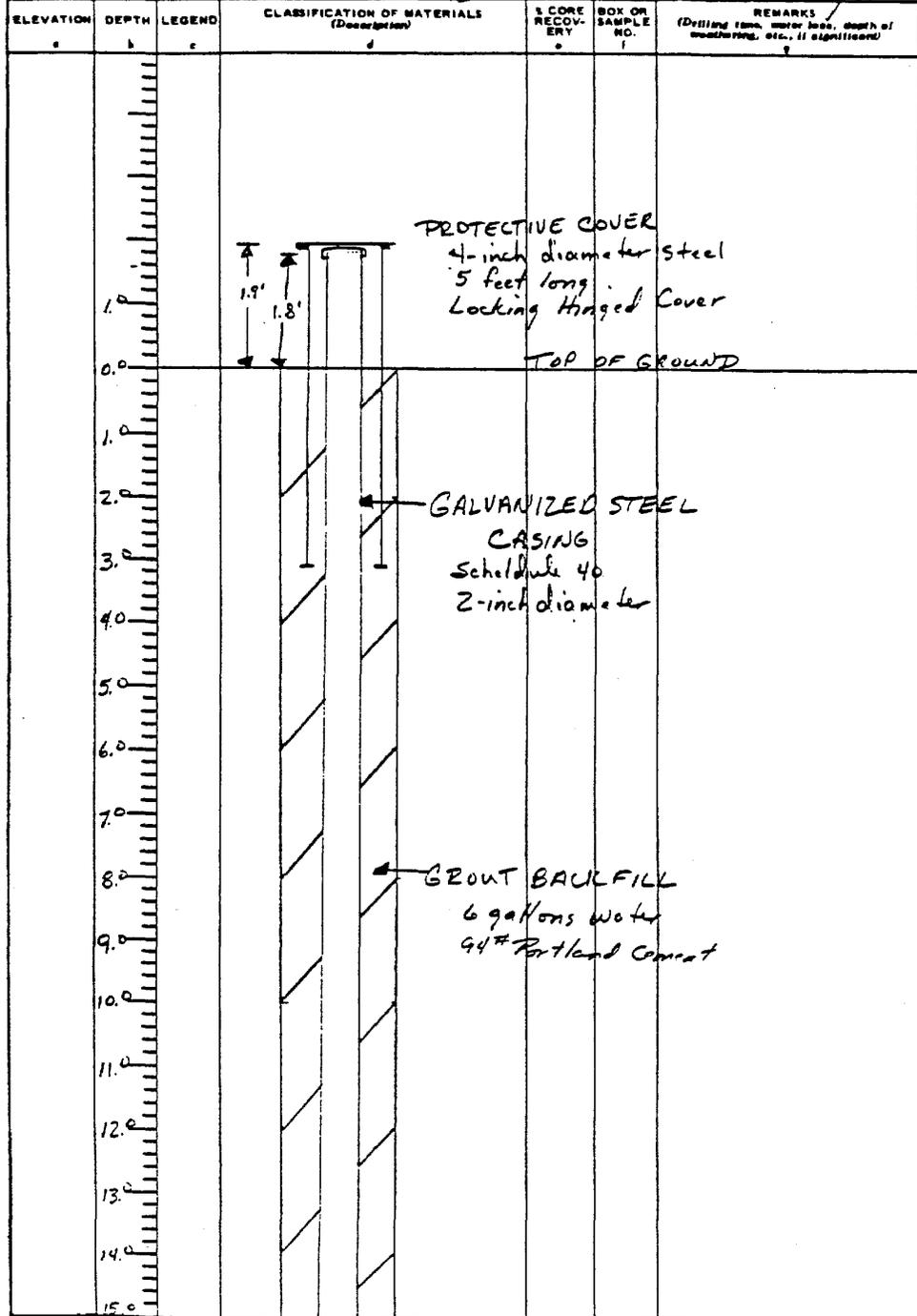
PROJECT
NIPRO WELLS

INSTALLATION
OMAHA

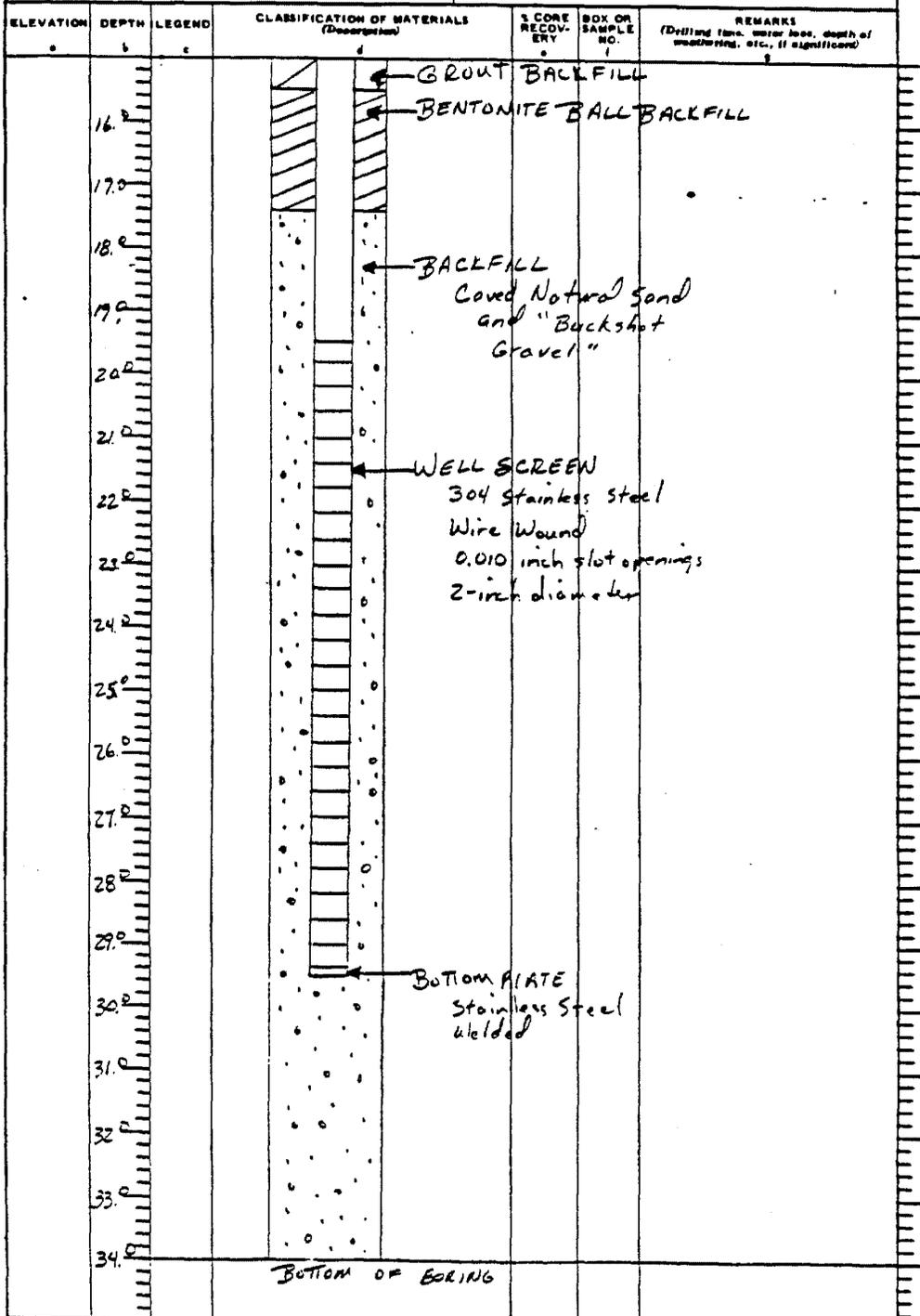
SHEET
3
OF 3 SHEETS

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOVERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling rate, water loss, depth of weathering, etc., if significant) g
23.0			Sand Med. Dense = 1/2"			
27.0			Gray Mostly med - coarse silty sand substr. - up to 1/2" gravelly part dis.	24.5		Heaved
25.0				5 8	D-5	Full barrel
				5 4	24.5 -26	
26.0				5 2B		Gravel in barrel
				26.0		
27.0						
28.0						
29.0						Sand heaved up sieves, etc.
30.0			SAND (SP) Loose Sot'd Lt. Gray Med-fine substr. sand occ. gravel	31.3 5 4	D-6	Toe = 1.5'
31.0				5 5	30.3 31.8	
32.0				5 2		
				31.5		
33.0						
34.0						

DRILLING LOG		DIVISION MRO	INSTALLATION OMAHA	SHEET 1 OF 2 SHEETS
1. PROJECT NIRUP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or State) FRIDLEY, MN		11. DATUM FOR ELEVATION SHOWN (VEN or MSL)		
3. DRILLING AGENCY US-CE-C		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 10-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER M. O'Malley		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER	16. DATE MOLE STARTED	COMPLETED 6/7/85
7. THICKNESS OF OVERBURDEN		17. ELEVATION TOP OF MOLE		
8. DEPTH DRILLED INTO ROCK		18. TOTAL CORE RECOVERY FOR BORING		
9. TOTAL DEPTH OF HOLE		19. SIGNATURE OF INSPECTOR <i>Thomas McParish</i>		



DRILLING LOG		DIVISION	INSTALLATION	SHEET 2 OF 2 SHEETS
1. PROJECT <i>NIROP WELLS</i>		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or MSL)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) <i>10-5</i>		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN	DISTURBED	UNDISTURBED
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE STARTED _____ COMPLETED _____		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		
		19. SIGNATURE OF INSPECTOR		



Hole No. 11-5

DRILLING LOG		DIVISION MRO		INSTALLATION OMAHA		SHEET 1 OF 3 SHEETS	
1. PROJECT NIROP WELLS				10. SIZE AND TYPE OF BIT 6" Open-Flt. balling			
2. LOCATION (Coordinates or Station) Fribley Mo				11. BAYON FOR ELEVATION SHOWN (TSA or BSL) 5 ft. auger			
3. DRILLING AGENCY US-CE-C				12. MANUFACTURER'S DESIGNATION OF DRILL CME-75			
4. HOLE NO. (As shown on drawing HHS and Site number) 11-5				13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN 0		DISTURBED 0	
5. NAME OF DRILLER M O'Malley				14. TOTAL NUMBER CORE BOXES —			
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.				15. ELEVATION GROUND WATER			
7. THICKNESS OF OVERBURDEN 3 1/4'				16. DATE HOLE STARTED 6/2/85		COMPLETED 6/10/85	
8. DEPTH DRILLED INTO ROCK 0'				17. ELEVATION TOP OF HOLE			
9. TOTAL DEPTH OF HOLE 38'				18. TOTAL CORE RECOVERY FOR BORING N/A			
				19. SIGNATURE OF INSPECTOR <i>[Signature]</i>			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
a	b	c	d	e	f	g
	0.0		CLAYEY SAND (SC)			
	1.0		Med. Dense Moist Black			
	2.0		Medium Grained Mostly subround			
	3.0					
	4.0					
	5.0		SAND (SP)			
	6.0		Med. Dense - Loose Moist			
	7.0		Reddish Brown w/ little clay Mostly medium grained subrounded			
	8.0					
	9.0					
	10.0					

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 11-5		
PROJECT NIROP WELLS			INSTALLATION DMR/HK		SHEET 2 OF 3 SHEETS	
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	11'		SAND (SP) Med. Dense - Loose Moist Fossiliferous w/ small shells & fish like clay			
	12'		mostly medium sand some silt possible fish			
	13'					
	14'		SAND (SP), silty Med. Dense			
	15'		Brown Finer grained some silt subrounded			
	16'					
	17'					
	18'					
	19'					chatter from cobble
	20'					
	21'					
	22'					

DRILLING LOG (Cont Sheet)		ELEVATION TOP OF HOLE		Hole No. 11-5		
PROJECT NIRUP WELLS			INSTALLATION DMAHA			
			SHEET 3 OF 3 SHEETS			
ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV. ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
	23.0		SANDY CLAY (SC) Med. stiff wet-sat'd Reddish brown Very sandy subrounded grains medium grained sandy occ. gravel			
	24.0					
	25.0					
	26.0					
	27.0		SAND Med. Dense - Dense sat'd Brown Mostly med grained subrounded sand Some silt			
	28.0					
	29.0					
	30.0					
	31.0					
	32.0					
	33.0					
	34.0		Bottom of boring			

PROJECT: NIROP WELLS
 LOCATION: FRIDLEY, MN
 DRILLING AGENCY: US-CE-C
 HOLE NO.: 11-5
 NAME OF DRILLER: M. O'Malley
 DIRECTION OF HOLE: VERTICAL
 DATE HOLE: 6/6/85
 SIGNATURE OF INSPECTOR: [Signature]

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	% CORE RECOVERY	BOX OR SAMPLE NO.	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant)
1.8			PROTECTIVE COVER 4-inch diameter steel 5 feet long Locking Hinged Cover			
1.0						
2.0			TOP OF GROUND			
1.0			GALVANIZED STEEL CASING Schedule 40 2-inch diameter			
2.0						
3.0						
4.0			GROUT BACKFILL 6 gallons water 94# Portland Cement			
5.0						
6.0						
7.0						
8.0						
9.0						
10.0						
11.0						
12.0						
13.0						
14.0						
15.0						
16.0			BENTONITE BALL BACKFILL			
17.0						
18.0			SAND BACKFILL			

DRILLING LOG		DIVISION	INSTALLATION	SHEET 2 OF 2 SHEETS
1. PROJECT NIROP WELLS		10. SIZE AND TYPE OF BIT		
2. LOCATION (Coordinates or Station)		11. DATUM FOR ELEVATION SHOWN (TBM or B.M.)		
3. DRILLING AGENCY		12. MANUFACTURER'S DESIGNATION OF DRILL		
4. HOLE NO. (As shown on drawing title and file number) 11-5		13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		
5. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		
6. DIRECTION OF HOLE <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.		15. ELEVATION GROUND WATER		
7. THICKNESS OF OVERBURDEN		16. DATE HOLE		
8. DEPTH DRILLED INTO ROCK		17. ELEVATION TOP OF HOLE		
9. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING %		
		19. SIGNATURE OF INSPECTOR		

ELEVATION a	DEPTH b	LEGEND c	CLASSIFICATION OF MATERIALS (Description) d	% CORE RECOV- ERY e	BOX OR SAMPLE NO. f	REMARKS (Drilling time, water loss, depth of weathering, etc., if significant) g
19.0	19.5					
20.0						
21.0						
22.0						
23.0						
24.0						
25.0						
26.0						
27.0						
28.0						
29.0						
30.0						
31.0						
32.0						
33.0						
34.0						

FLUSH JOINT

WELL SCREEN
304 Stainless Steel
Wire Wound
0.010 inch slot openings
2-inch diameter

BACKFILL MATERIAL
Covered Natural
Sand and "Buckshot
Gravel"

BOTTOM PLATE
Stainless Steel,
welded

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 13, 1985
 Surface Elevation NA Boring No. 12-E

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Blk Organic Topsoil	(DL)	6	5	4	15					
10	Lt Brown Sand	(SP)	1	1	3	5					
15	Lt. Brown Sand	(SP)	4	5	5	14					
20	Lt Brown Sand	(SP)	5	5	10	20					
25	Dk Brown Sand Med. to Coarse	(SP)	3	3	5	11					
30	Dk. Brn. Sand tr./grvl. Dk Brown Sand Med. to Coarse	(SP)	3	3	5	11					
35	E.O. Boring	(SP)	2	2	6	10					

Water Level Observations

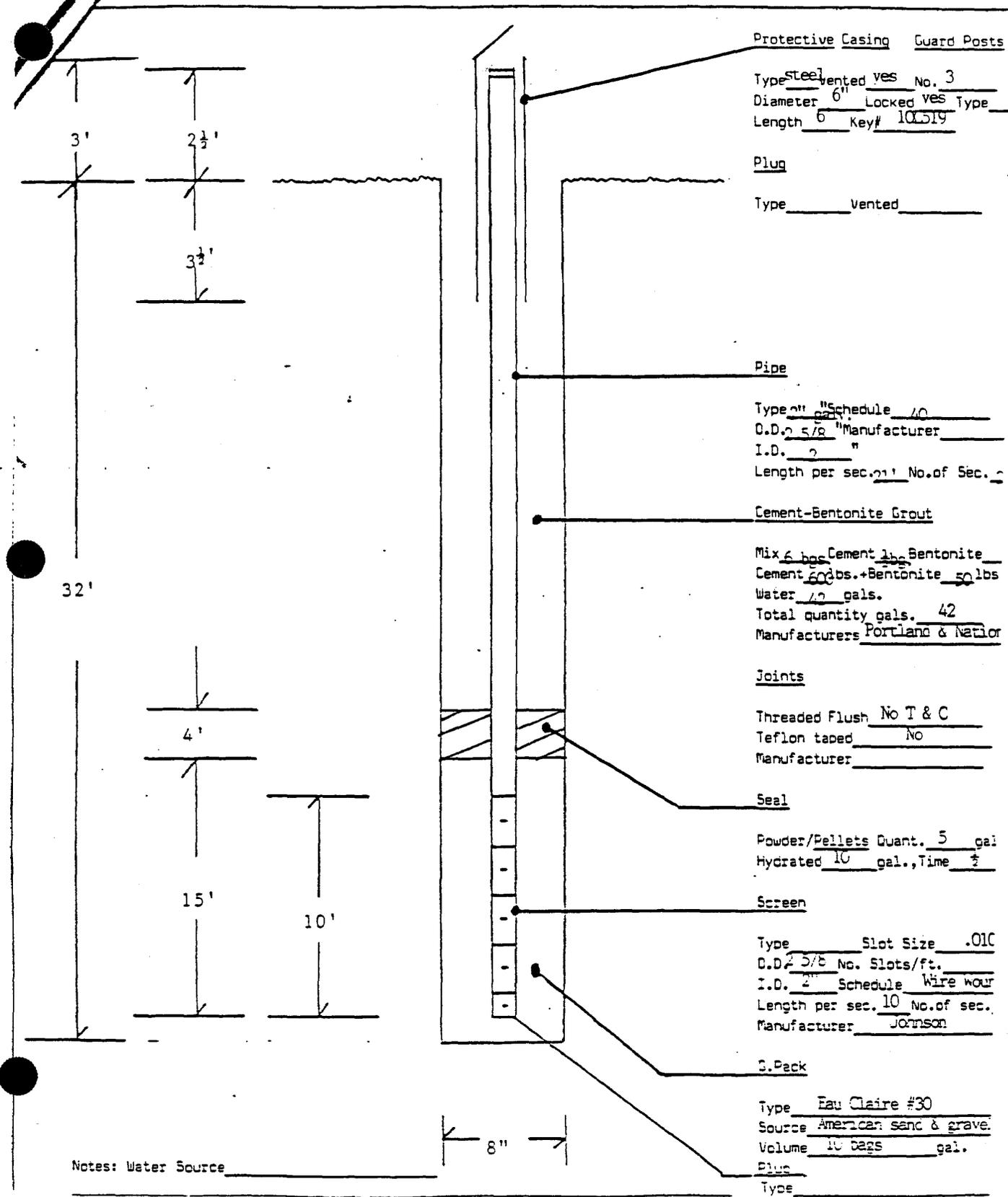
W.L. 19 ft. While Drilling
 W.L. 19 ft. Dec. 31, 1985

Boring Initiated Dec. 30, 1985
 Boring Completed Dec. 31, 1985
 Type of Boring Auger
 Drilled by D.A. Mudge

OBSERVATION WELL INSTALLATION DIAGRAM

WELL NO. 12-S

Site EMC - NAVPRO Date: 12/30/85
 By: Bergerson-Caswell Project No.: 85-20



Protective Casing Guard Posts

Type steel vented yes No. 3
 Diameter 6" Locked yes Type
 Length 6 Key# 10LS19

Plug
 Type Vented

Pipe
 Type 0" Schedule 40
 O.D. 5/8" Manufacturer
 I.D. 2"
 Length per sec. 21' No. of Sec. 2

Cement-Bentonite Grout
 Mix 6 bags Cement 1 bag Bentonite
 Cement 60 lbs. + Bentonite 50 lbs
 Water 10 gals.
 Total quantity gals. 42
 Manufacturers Portland & Natlor

Joints
 Threaded Flush No T & C
 Teflon taped No
 Manufacturer

Seal
 Powder/Pellets Quant. 5 gal
 Hydrated 10 gal., Time 1/2

Screen
 Type Slot Size .010
 O.D. 5/8" No. Slots/ft.
 I.D. 2" Schedule Wire mesh
 Length per sec. 10 No. of sec.
 Manufacturer Johnson

S. Pack
 Type Eau Claire #30
 Source American sand & gravel
 Volume 10 bags gal.
 Plus
 Type

Notes: Water Source

LOG OF SUBSURFACE DATA

Client FMC-Navdro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 2, 1986
 Surface Elevation NA Boring No. 17-6

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	qest psf	s est psf	qu psf	DD pcf	MC %
5	Dk Brown Sand Trace Gravel	(SM)	2	2	4	8					
10	Brown Sand Med. to Coarse	(SP)	1	2	5	8					
15	Lt Brown Sand Trace Gravel	(SP)	8	10	12	30					
20	Lt Brown Sand Fine to Medium	(SP)	3	6	10	19					
25	Brown Clayey Sand	(SC)	7	3	4	14					
30	Lt Brown Sand Fine to Medium	(SP)	4	6	12	22					
35	E.O. Boring										

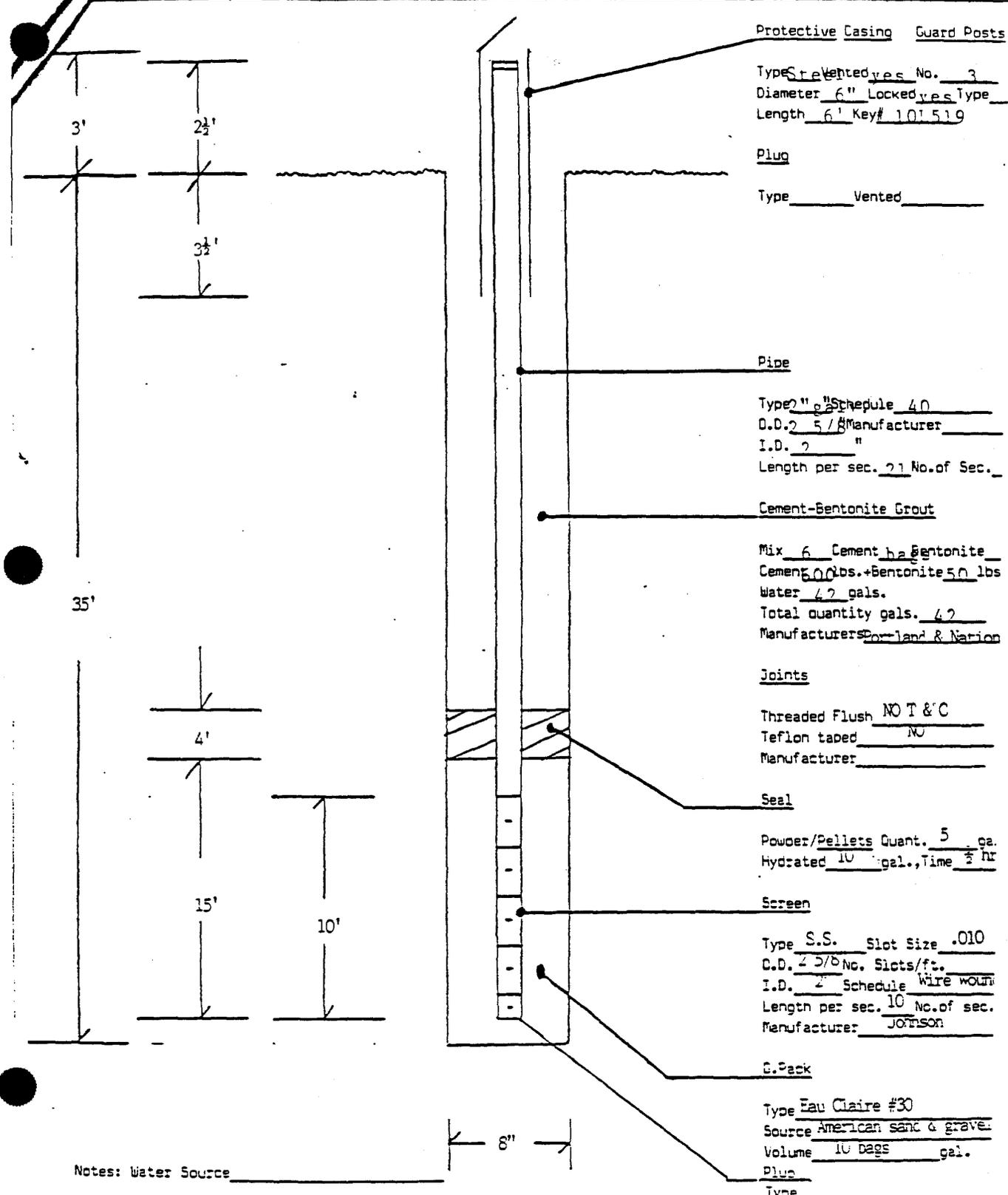
Water Level Observations

W.L. 18 ft. While Drilling
 W.L. 18 ft. 1/3/86

Boring Initiated Jan. 2, 1986
 Boring Completed Jan. 2, 1986
 Type of Boring Auger
 Drilled by D.A. Nuppe

OBSERVATION WELL INSTALLATION DIAGRAM
 Site FMC - NAVPRO Date: 1/2/86
 By: Bergerson-Caswell Project No.: 85-20

WELL NO. 13-S



Protective Casing Guard Posts

Type Steel Vented yes No. 3
 Diameter 6" Locked yes Type _____
 Length 6' Key# 101519

Plug
 Type _____ Vented _____

Pipe
 Type 2" Schedule 40
 O.D. 2 5/8" Manufacturer _____
 I.D. 2" "
 Length per sec. 21 No. of Sec. _____

Cement-Bentonite Grout
 Mix 6 Cement lb Bentonite _____
 Cement 50 lbs. + Bentonite 50 lbs
 Water 42 gals.
 Total quantity gals. 42
 Manufacturer Corland & Nation

Joints
 Threaded Flush NO T & C
 Teflon taped NO
 Manufacturer _____

Seal
 Powder/Pellets Quant. 5 ga.
 Hydrated 10 gal., Time 1/2 hr

Screen
 Type S.S. Slot Size .010
 O.D. 2 5/8" No. Slots/ft. _____
 I.D. 2" Schedule Wire wound
 Length per sec. 10 No. of sec. _____
 Manufacturer Johnson

G-Pack
 Type Eau Claire #30
 Source American sand & gravel
 Volume 10 bags gal.
 Plug _____
 Type _____

Notes: Water Source _____

LOG OF SUBSURFACE DATA

Client FMC-Navro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 8, 1985
 Surface Elevation NA Boring No. 1

SOIL DESCRIPTION		FIELD TESTING DATA				LABORATORY TESTING DATA					
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Blk Sandy topsoil Organic	(CL)	5	5	9	19					
10	Lt Brown Sand Medium	(SP)	3	2	7	12					
15	Brown Sand Medium	(SP)	2	2	5	9					
20	Brown Sand Trace Gravel-Some Silt	(SM)	2	2	5	9					
25	Brown Sand Trace Silt	(SM)	2	2	2	6					
30	Brown Sand Trace Silt E.O. Boring	(SM)	14	7	8	29					
35											

Water Level Observations

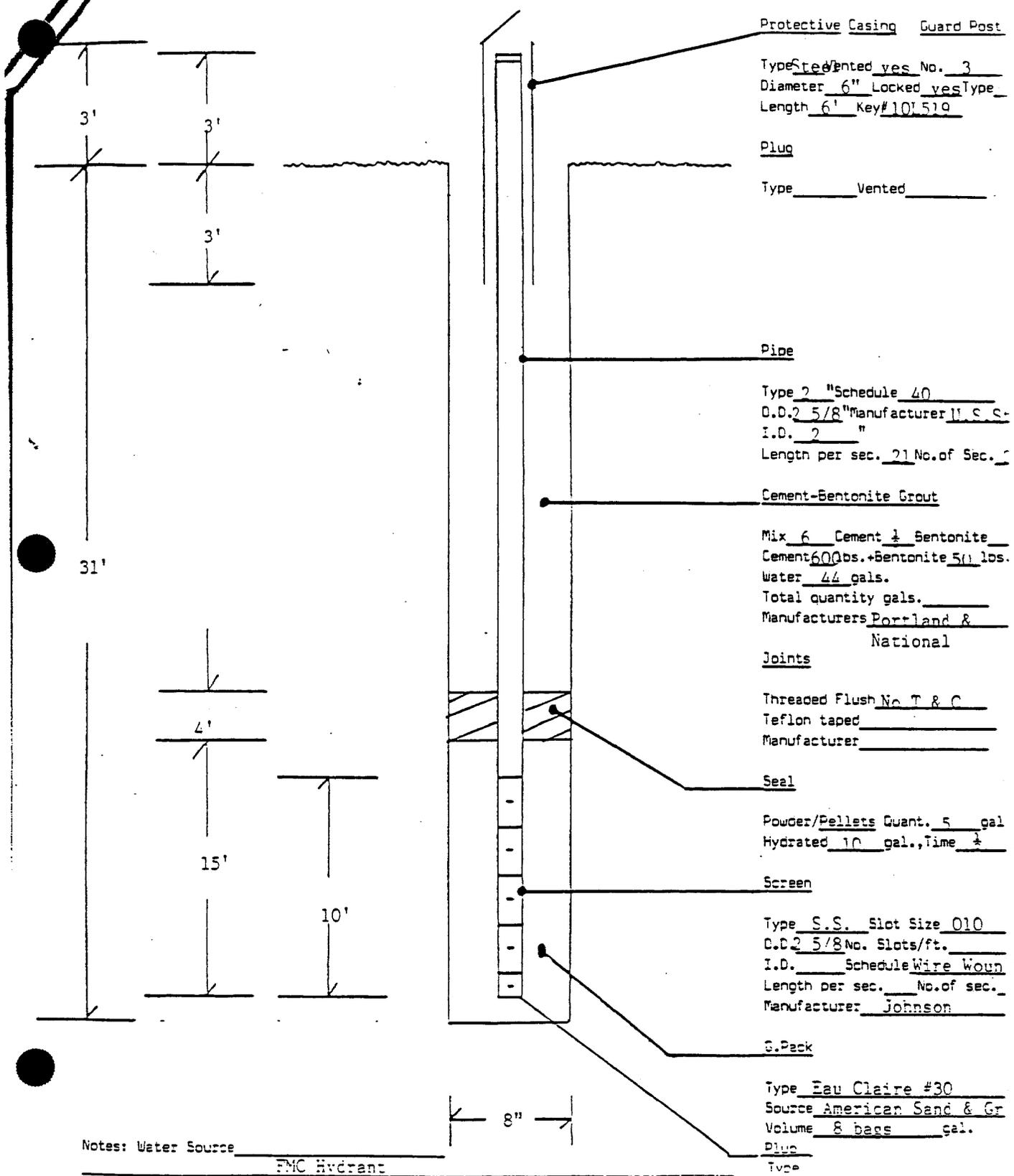
W.L. 17 ft. While Drilling
 W.L. _____ _____

Boring Initiated Jan. 8, 1985
 Boring Completed Jan. 8, 1985
 Type of Boring Auger
 Drilled by D.A. Nuppe

OBSTRUCTION WELL INSTALLATION DIAGRAM

WELL NO. 14-S

Site FMC Date: 1/8/86
 By: Bergerson-Caswell Project No.: 85-20



Protective Casing Guard Post

Type Steel Vented yes No. 3
 Diameter 6" Locked yes Type
 Length 6' Key # 101519

Plug
 Type Vented

Pipe
 Type 2 "Schedule 40
 O.D. 2 5/8" Manufacturer U.S.S.
 I.D. 2 "
 Length per sec. 21 No. of Sec.

Cement-Bentonite Grout
 Mix 6 Cement 1 Bentonite
 Cement 60 lbs. + Bentonite 50 lbs.
 Water 44 gals.
 Total quantity gals.
 Manufacturers Portland &
National

Joints
 Threaded Flush No. T & C
 Teflon taped
 Manufacturer

Seal
 Powder/Pellets Quant. 5 gal
 Hydrated 10 gal., Time

Screen
 Type S.S. Slot Size 010
 O.D. 2 5/8 No. Slots/ft.
 I.D. Schedule Wire Wound
 Length per sec. No. of sec.
 Manufacturer Johnson

G. Pack
 Type Eau Claire #30
 Source American Sand & Gr
 Volume 8 bags gal.

Plug
 Type

Notes: Water Source FMC Hydrant

LOG OF SUBSURFACE DATA

Client FMC-Navpro Project No. 85-20 Date Jan. 9, 1985
 Project Off-Site Monitoring Wells Surface Elevation NA Boring No. 15-5
 Location Fridley, MN.

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Dk Brown Sand Trace Organic	(SM-ML)	2	2	3	7					
10	Lt Brown Sand	(SP)	2	2	4	8					
15	Lt Brown Sand	(SP)	8	7	7	22					
20	Lt Brown Sand Med to Coarse	(SP)	4	5	8	17					
25	Lt Gray Sand Trace Silt	(SM)	4	5	6	15					
30	Lt Gray Sand Trace Silt	(SM)	3	6	10	19					
E.O. Boring											

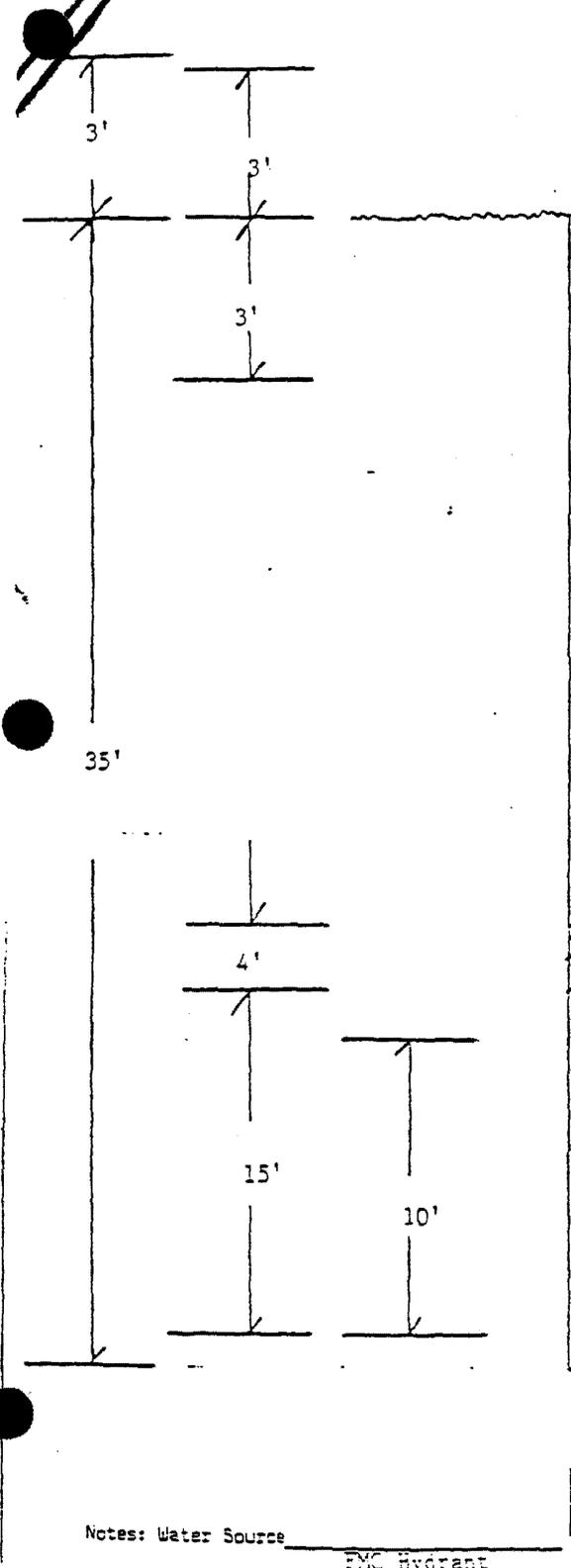
Water Level Observations

W.L. 17 ft. While Drilling
 W.L. _____ _____

Boring Initiated Jan. 9, 1985
 Boring Completed Jan. 9, 1985
 Type of Boring Auger
 Drilled by D.A. Nubbe

OBSERVATION WELL INSTALLATION DIAGRAM
 Site FMC Date: 1/8/86
 By: Bergerson-Caswell Project No.: 85-20

WELL NO. 15-S



Protective Casing Guard Posts

Type Stainless yes No. 3
 Diameter 6" Locked yes Type _____
 Length 6' Key# 101519

Plug
 Type _____ Vented _____

Pipe
 Type 2" Schedule 40
 O.D. 2 5/8" Manufacturer U.S. St
 I.D. 2"
 Length per sec. 21 No. of Sec. 2

Cement-Bentonite Grout
 Mix 6 Cement 1 Bentonite _____
 Cement 600 lbs. + Bentonite 50 lbs.
 Water 42 gals.
 Total quantity gals. 42
 Manufacturers Portland & National

Joints
 Threaded Flush No T & C
 Teflon taped No
 Manufacturer: _____

Seal
 Powder/Pellets Quant. 5 gal
 Hydrated 10 gal., Time 1 hr

Screen
 Type S.S. Slot Size .010
 C.D. 2 5/8" No. Slots/ft. _____
 I.D. 2" Schedule Wire Wo
 Length per sec. 10' No. of sec. _____
 Manufacturer: Johnson

S. Pack
 Type Fan Claine #30
 Source American Sand & G
 Volume 10 bags gal.
 Plug
 Type _____
 Manufacturer: _____

LOG OF SUBSURFACE DATA

Client FMC-Navpro Project No. 85-20 Date Dec. 31, 1985
 Project Off-Site Monitoring Wells Surface Elevation NA Boring No. 15-6
 Location Fridley, MN.

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows	Blows	Blows	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
			1st 6"	2nd 6"	3rd 6"						
5	Lt. Brown Sand	(SM)	2	2	4	8					
10	Lt Brown Sand Trace Gravel	(SP-SM)	2	3	5	10					
15	Lt Brown Sand	(SP)	4	5	8	17					
20	Lt Brown Sand -Moist	(SM)	8	9	12	29					
25	Lt Brown Sand Med. to coarse	(SP-SM)	4	5	6	17					
30	Lt Brown Sand	(SM)	3	4	8	15					
	Lt Brown Sand	(SM)	4	6	6	18					
	E.O. Boring										

Water Level Observations

W.L. 18 Ft. While Drilling
 W.L. 18 ft. Jan. 2, 1985

Boring Initiated Dec. 31, 1985
 Boring Completed Dec. 31, 1985
 Type of Boring Auger
 Drilled by D.A. Nubbe

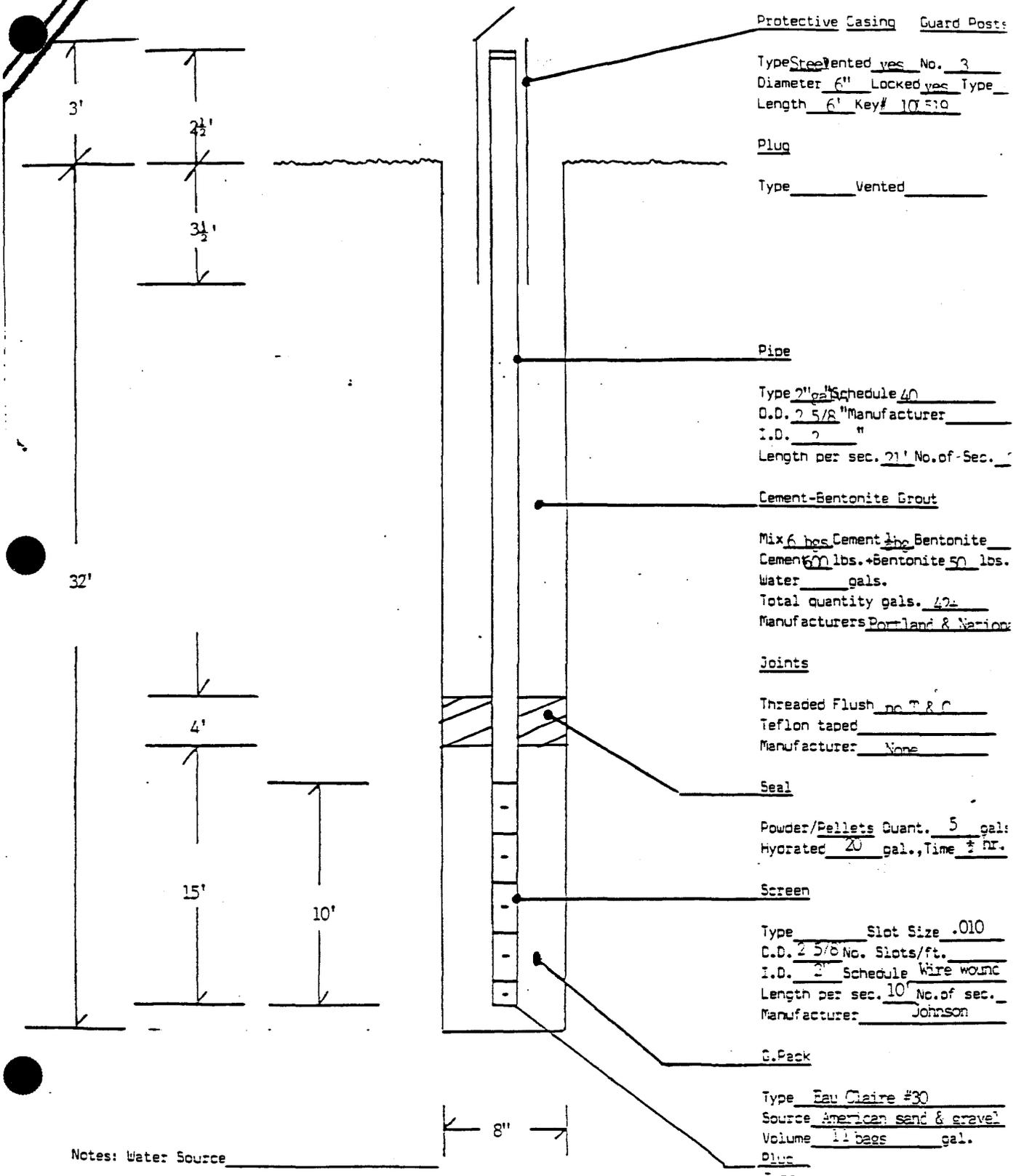
OBSERVATION WELL INSTALLATION DIAGRAM

WELL NO. 16-S

Site FMC-NAVPRO

Date: 12/31/85

By: Bergerson-Caswell Project No.: 85-20



Protective Casing Guard Posts

Type Steel Vented yes No. 3
 Diameter 6" Locked yes Type _____
 Length 6' Key# 10510

Plug
 Type _____ Vented _____

Pipe
 Type 2" galv Schedule 40
 O.D. 2 5/8" Manufacturer _____
 I.D. 2"
 Length per sec. 21' No. of Sec. 1

Cement-Bentonite Grout
 Mix 6 bags Cement 1/2 Bentonite _____
 Cement 60 lbs. + Bentonite 50 lbs.
 Water _____ gals.
 Total quantity gals. 42
 Manufacturers Portland & Nations

Joints
 Threaded Flush no T & C
 Teflon taped _____
 Manufacturer None

Seal
 Powder/Pellets Quant. 5 gals.
 Hydrated 20 gal., Time 1/2 hr.

Screen
 Type _____ Slot Size .010
 O.D. 2 5/8 No. Slots/ft. _____
 I.D. 2" Schedule Wire wound
 Length per sec. 10' No. of sec. _____
 Manufacturer Johnson

G.Pack
 Type Eau Claire #30
 Source American sand & gravel
 Volume 11 bags gal.
 Plus _____
 Type _____

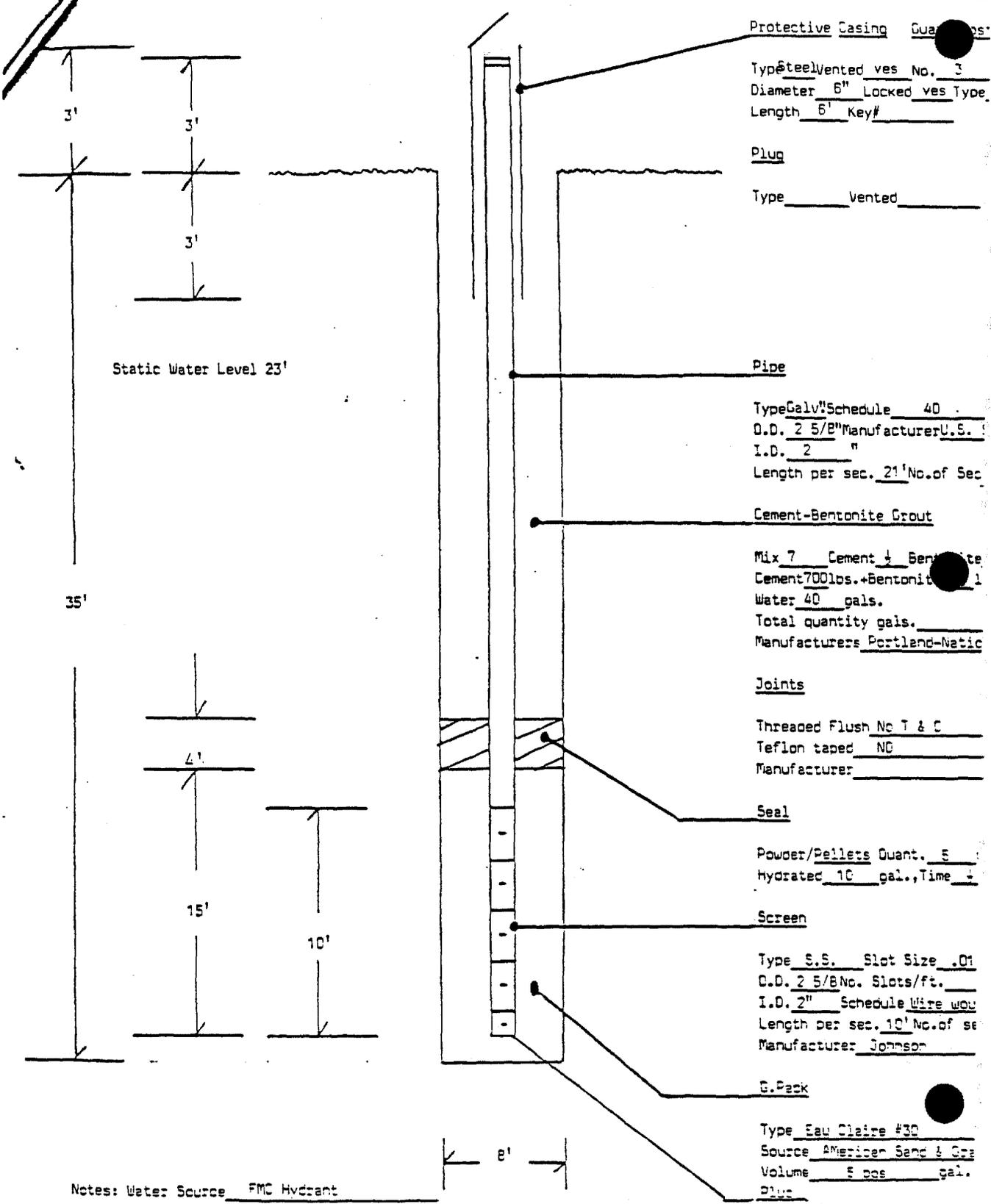
Notes: Water Source _____

OB. VATION WELL INSTALLATION DIAGR.

WELL NO. 17-S

Site FMC Date: 2/6/86

By: Engineering Services, Inc. Project No.:



Protective Casing Galv 3

Type Steel Vented yes No. 3

Diameter 6" Locked yes Type

Length 5' Key#

Plug

Type Vented

Pipe

Type Galv Schedule 40

O.D. 2 5/8" Manufacturer U.S.

I.D. 2 "

Length per sec. 21' No. of Sec

Cement-Bentonite Grout

Mix 7 Cement 4 Bentonite

Cement 700 lbs. + Bentonite 1

Water 40 gals.

Total quantity gals.

Manufacturers Portland-Natic

Joints

Threaded Flush No T & C

Teflon taped NO

Manufacturer

Seal

Powder/Pellets Quant. 5

hydrated 10 gal., Time

Screen

Type S.S. Slot Size .01

O.D. 2 5/8 No. Slots/ft.

I.D. 2" Schedule Wire WOU

Length per sec. 10' No. of sec

Manufacturer Johnson

G. Pack

Type Eau Claire #30

Source American Sand & Gr

Volume 5 pos gal.

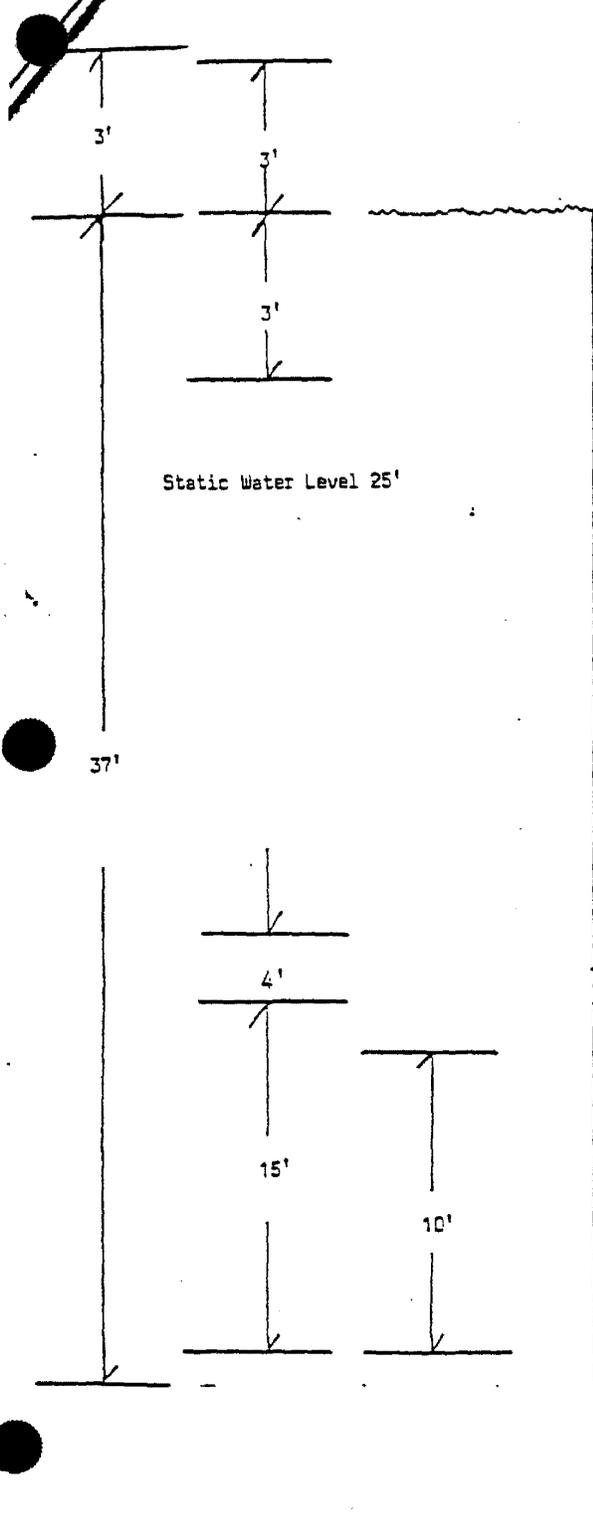
Plus

Type

Notes: Water Source FMC Hydrant

OB. VATION WELL INSTALLATION DIAGRA.
 Site FWC Date: 2/6/86
 By: Bergerson-Caswell, Inc. Project No.: _____

WELL NO. 16-S



Protective Casing Guard Posts

Type Steel Vented yes No. 1
 Diameter 6" Locked yes Type _____
 Length 6' Key# _____

Plug
 Type _____ Vented _____

Pipe
 Type Galv. Schedule 40
 O.D. 2 5/8" Manufacturer J. E. G.
 I.D. 2 1/4"
 Length per sec. 21' No. of Sec. _____

Cement-Bentonite Grout
 Mix 8 Cement 1 Bentonite _____
 Cement 800 lbs. + Bentonite 50 lbs.
 Water 500 gals.
 Total quantity gals. _____
 Manufacturers Portland-Nation

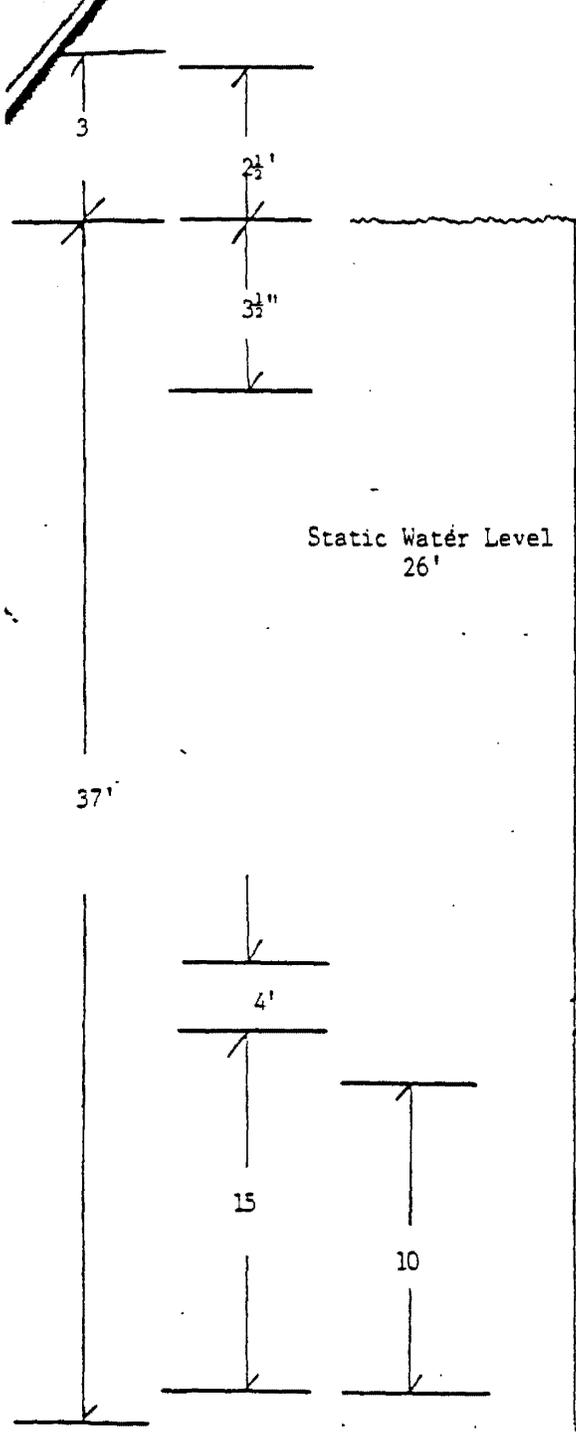
Joints
 Threaded Flush no T & E _____
 Teflon taped no _____
 Manufacturer _____

Seal
 Powder/Pellets Quant. 5 lbs
 Hydrated 10 gal., Time 1 h

Screen
 Type Stainless Slot Size .010
 O.D. 2 5/8 No. Slots/ft. _____
 I.D. 2 Schedule 40
 Length per sec. 10' No. of sec _____
 Manufacturer Johnson

G-Pack
 Type Sau Grade #30
 Source American Sand & Gravel
 Volume 7 cu. ft. gal. _____
 Plus _____
 Type _____
 Volume _____

Notes: Water Source FWC Hydrant



Protective Casing Guard

Type Steel tented yes No. 3
 Diameter 6" Locked yes type
 Length 5' Key# 107510

Plug
 Type Vented yes

Pipe
 Type Galv Schedule 40
 O.D. 2 5/8" Manufacturer U.S. Ste
 I.D. 2"
 Length per sec. 21 No. of Sec.

Cement-Bentonite Grout
 Mix 10 Cement 1 Bento
 Cement 100 lbs. + Bentonite lbs
 Water 600 gals.
 Total quantity gals. 615
 Manufacturers Portland & Natio

Joints
 Threaded Flush NO (T & C)
 Teflon taped No
 Manufacturer:

Seal
~~ROCK~~ Pellets Quant. 5 gal.
 Hydrated 10 gal., Time ± hr

Screen
 Type Slot Size .010
 O.D. 2 5/8" No. Slots/ft.
 I.D. 2" Schedule
 Length per sec. 10 No. of sec.
 Manufacturer: Johnson

G.Pack
 Type Eau Claire #30
 Source American Sand & Gravel
 Volume 10 bags gal.
 Plug
 Type Plate

Notes: Water Source FMC Hydrant

LOG OF SUBSURFACE DATA

Client FMC-Navpro
 Project Off-Site Monitoring Wells
 Location Fridley, MN.

Project No. 85-20 Date Jan. 13, 1988
 Surface Elevation NC Boring No. 20-5

SOIL DESCRIPTION			FIELD TESTING DATA				LABORATORY TESTING DATA				
Depth (ft.)	Color, Texture, Consistency, Drilling Notes, Remarks	Geologic Material	Blows 1st 6"	Blows 2nd 6"	Blows 3rd 6"	Total Blow Count	q _{est} psf	s _{est} psf	q _u psf	DD pcf	MC %
5	Lt. Brown Sand	(SP)	4	5	8	17					
10	Lt. Brown Sand	(SP)	3	6	7	16					
15	Lt. Brown Sand	(SP)	5	7	8	20					
20	Lt. Brown Sand	(SP)	6	6	5	17					
25	Dk. Brown Sand Trace (SM) Gravel		3	3	6	12					
30	Dk. Brown Sand Trace (SM) Gravel		3	4	7	14					
35 E.O. Boring											

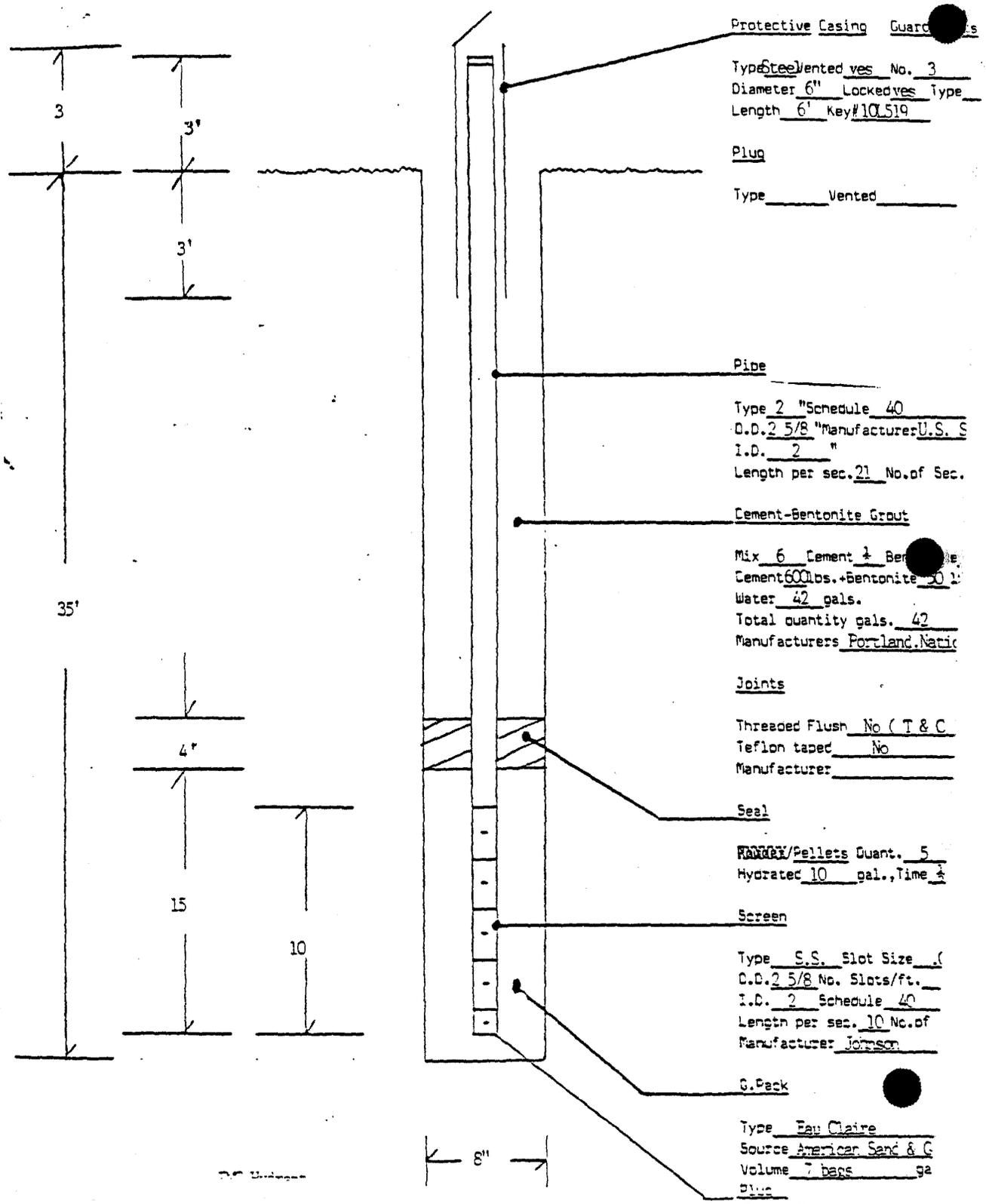
Water Level Observations

W.L. 25 ft. While Drilling
 W.L.

Boring Initiated Jan. 3, 1988
 Boring Completed Jan. 3, 1988
 Type of Boring Auger
 Drilled by D.E. Nippe

OBSERVATION WELL INSTALLATION DIAGRAM

Site FMC Date: Jan. 13, 1986 WELL NO. 20-S
 By: Bergerson-Caswell Project No.: 85-20



Protective Casing Guard As

Type Steel Vented ves No. 3
 Diameter 6" Locked ves Type _____
 Length 6' Key # 10LS19

Plug
 Type _____ Vented _____

Pipe
 Type 2" Schedule 40
 O.D. 2 5/8" Manufacturer U.S.S.
 I.D. 2"
 Length per sec. 21 No. of Sec. _____

Cement-Bentonite Grout
 Mix 6 Cement 4 Ber De
 Cement 600 lbs. + Bentonite 50 lbs.
 Water 42 gals.
 Total quantity gals. 42
 Manufacturers Portland, Natic

Joints
 Threaded Flush No (T & C)
 Teflon taped No
 Manufacturer _____

Seal
FRANBY Pellets Quant. 5
 Hydrated 10 gal., Time 4

Screen
 Type S.S. Slot Size (
 O.D. 2 5/8 No. Slots/ft. _____
 I.D. 2 Schedule 40
 Length per sec. 10 No. of _____
 Manufacturer Johnson

G. Pack
 Type Eau Claire
 Source American Sand & G
 Volume 7 bags _____ ga
 Blue _____

9. NIROP WATER LEVEL DATA

Fridley/NIROP Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
13-S	08-19-86	834.59	18.72	815.87
14-S	08-19-86	835.99	20.00	815.99
15-S	08-19-86	834.83	18.65	816.18
16-S	08-19-86	837.26	21.54	815.72
17-S	08-19-86	835.75	23.63	812.12
18-S	08-19-86	834.08	26.49	807.59
19-S	08-19-86	834.56	31.28	803.28
20-S	08-19-86	837.62	21.19	816.43
FMC-33	08-19-86	837.05	21.44	815.61
1-S	09-02-86	837.14	21.13	816.01
1-D	09-02-86	836.75	21.41	815.34
1-PC	09-02-86	837.63	21.70	815.93
2-S	09-02-86	836.07	20.32	815.75
2-D	09-02-86	836.04	20.32	815.72
2-PC	09-02-86	838.05	22.57	815.48
3-S	09-02-86	836.75	21.05	815.70
3-D	09-02-86	837.48	22.39	815.09
3-PC	09-02-86	839.21	23.57	815.64
4-S	09-02-86	837.45	21.34	816.11
4-D	09-02-86	834.79	26.37	808.42
4-PC	09-02-86	834.75	19.72	815.03
5-S	09-02-86	835.06	20.29	814.77
5-D	09-02-86	836.00	20.18	815.82
6-S	09-02-86	835.73	21.16	814.57
6-D	09-02-86	835.69	26.78	808.91
7-S	09-02-86	835.97	20.13	815.84
7-D	09-02-86	835.63	30.31	805.32
8-S	09-02-86	835.76	19.97	815.79
8-D	09-02-86	834.02	26.43	807.59
9-S	09-02-86	836.68	20.66	816.02
9-D	09-02-86	834.30	31.51	802.79
10-S	09-02-86	835.89	20.82	815.07
11-S	09-02-86	835.89	27.06	808.83
12-S	09-02-86	838.51	22.65	815.86
13-S	09-02-86	834.59	18.68	815.91
14-S	09-02-86	835.99	20.02	815.97
15-S	09-02-86	834.83	18.69	816.14
16-S	09-02-86	837.26	21.47	815.79
17-S	09-02-86	835.75	23.70	812.05
18-S	09-02-86	834.08	26.47	807.61
19-S	09-02-86	834.56	31.39	803.17
20-S	09-02-86	837.62	21.28	816.34
FMC-33	09-02-86	837.05	21.40	815.65

Fridley/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
3-D	08-05-86	837.48	22.69	814.79
3-PC	08-05-86	839.21	23.99	815.22
4-S	08-05-86	837.45	21.17	816.28
4-D	08-05-86	834.79	26.33	808.46
4-PC	08-05-86	834.75	20.13	814.62
5-S	08-05-86	835.06	20.15	814.91
5-D	08-05-86	836.00	20.22	815.78
6-S	08-05-86	835.73	21.01	814.72
6-D	08-05-86	835.69	26.87	808.82
7-S	08-05-86	835.97	20.17	815.80
7-D	08-05-86	835.63	30.40	805.23
8-S	08-05-86	835.76	20.03	815.73
8-D	08-05-86	834.02	26.51	807.51
9-S	08-05-86	836.68	20.72	815.96
9-D	08-05-86	834.30	31.52	802.78
10-S	08-05-86	835.89	20.81	815.08
11-S	08-05-86	835.89	27.03	808.86
12-S	08-05-86	838.51	22.62	815.89
13-S	08-05-86	834.59	18.67	815.92
14-S	08-05-86	835.99	19.93	816.06
15-S	08-05-86	834.83	18.57	816.26
16-S	08-05-86	837.26	21.55	815.71
17-S	08-05-86	835.75	23.53	812.22
18-S	08-05-86	834.08	26.44	807.64
19-S	08-05-86	834.56	31.38	803.18
20-S	08-05-86	837.62	21.27	816.35
FMC-33	08-05-86	837.05	21.37	815.68
1-S	08-19-86	837.14	21.13	816.01
1-D	08-19-86	836.75	21.39	815.36
1-PC	08-19-86	837.63	21.61	816.02
2-S	08-19-86	836.07	20.42	815.65
2-D	08-19-86	836.04	20.40	815.64
2-PC	08-19-86	838.05	22.55	815.50
3-S	08-19-86	836.75	21.08	815.67
3-D	08-19-86	837.48	22.56	814.92
3-PC	08-19-86	839.21	23.76	815.45
4-S	08-19-86	837.45	21.38	816.07
4-D	08-19-86	834.79	26.29	808.50
4-PC	08-19-86	834.75	19.81	814.94
5-S	08-19-86	835.06	20.25	814.81
5-D	08-19-86	836.00	20.23	815.77
6-S	08-19-86	835.73	21.10	814.63
6-D	08-19-86	835.69	26.80	808.89
7-S	08-19-86	835.97	20.20	815.77
7-D	08-19-86	835.63	30.25	805.38
8-S	08-19-86	835.76	19.95	815.81
8-D	08-19-86	834.02	26.41	807.61
9-S	08-19-86	836.68	20.87	815.81
9-D	08-19-86	834.30	31.39	802.91
10-S	08-19-86	835.89	20.87	815.02
11-S	08-19-86	835.89	26.98	808.91
12-S	08-19-86	838.51	22.69	815.82

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
11-S	07-08-86	835.89	26.91	808.98
12-S	07-08-86	838.51	22.59	815.92
13-S	07-08-86	834.59	18.48	816.11
14-S	07-08-86	835.99	19.89	816.10
15-S	07-08-86	834.83	18.49	816.34
16-S	07-08-86	837.26	21.44	815.82
17-S	07-08-86	835.75	23.51	812.24
18-S	07-08-86	834.08	26.43	807.65
19-S	07-08-86	834.56	31.40	803.16
20-S	07-08-86	837.62	21.18	816.44
FMC-33	07-08-86	837.05	21.36	815.69
1-S	07-22-86	837.14	20.79	816.35
1-D	07-22-86	836.75	21.01	815.74
1-PC	07-22-86	837.63	21.24	816.39
2-S	07-22-86	836.07	20.17	815.90
2-D	07-22-86	836.04	20.14	815.90
2-PC	07-22-86	838.05	22.27	815.78
3-S	07-22-86	836.75	20.85	815.90
3-D	07-22-86	837.48	22.44	815.04
3-PC	07-22-86	839.21	23.61	815.60
4-S	07-22-86	837.45	21.06	816.39
4-D	07-22-86	834.79	26.01	808.78
4-PC	07-22-86	834.75	19.58	815.17
5-S	07-22-86	835.06	20.04	815.02
5-D	07-22-86	836.00	20.01	815.99
6-S	07-22-86	835.73	20.91	814.82
6-D	07-22-86	835.69	26.52	809.17
7-S	07-22-86	835.97	19.97	816.00
7-D	07-22-86	835.63	29.94	805.69
8-S	07-22-86	835.76	19.82	815.94
8-D	07-22-86	834.02	26.19	807.83
9-S	07-22-86	836.68	20.60	816.08
9-D	07-22-86	834.30	31.07	803.23
10-S	07-22-86	835.89	20.67	815.22
11-S	07-22-86	835.89	26.82	809.07
12-S	07-22-86	838.51	22.47	816.04
13-S	07-22-86	834.59	18.50	816.09
14-S	07-22-86	835.99	19.78	816.21
15-S	07-22-86	834.83	18.42	816.41
16-S	07-22-86	837.26	21.30	815.96
17-S	07-22-86	835.75	23.42	812.33
18-S	07-22-86	834.08	26.25	807.83
19-S	07-22-86	834.56	30.92	803.64
20-S	07-22-86	837.62	20.96	816.66
FMC-33	07-22-86	837.05	21.21	815.84
1-S	08-05-86	837.14	21.05	816.09
1-D	08-05-86	836.75	21.72	815.03
1-PC	08-05-86	837.63	21.98	815.65
2-S	08-05-86	836.07	20.42	815.65
2-D	08-05-86	836.04	20.42	815.62
2-PC	08-05-86	838.05	22.86	815.19
3-S	08-05-86	836.75	21.00	815.75

Fridley/NIRDP Water Elevations

Station #	Date	Top of Casino	Corrected Depth to Water	Elevation
3-S	06-24-86	836.75	20.92	815.83
3-D	06-24-86	837.48	22.57	814.91
3-PC	06-24-86	839.21	23.82	815.39
4-S	06-24-86	837.45	21.50	815.95
4-D	06-24-86	834.79	25.76	809.03
4-PC	06-24-86	834.75	19.56	815.19
5-S	06-24-86	835.06	19.96	815.10
5-D	06-24-86	836.00	19.90	816.10
		0.00	0.00	0.00
6-S	06-24-86	835.73	20.98	814.75
6-D	06-24-86	835.69	26.26	809.43
7-S	06-24-86	835.97	19.88	816.09
7-D	06-24-86	835.63	29.56	806.07
8-S	06-24-86	835.76	19.71	816.05
8-D	06-24-86	834.02	25.70	808.32
9-S	06-24-86	836.68	20.92	815.76
9-D	06-24-86	834.30	30.65	803.65
10-S	06-24-86	835.89	20.73	815.16
11-S	06-24-86	835.89	26.54	809.35
12-S	06-24-86	838.51	22.49	816.02
13-S	06-24-86	834.59	18.40	816.19
14-S	06-24-86	835.99	19.68	816.31
15-S	06-24-86	834.83	18.21	816.62
16-S	06-24-86	837.26	21.36	815.90
17-S	06-24-86	835.75	23.45	812.30
18-S	06-24-86	834.08	25.97	808.11
19-S	06-24-86	834.56	30.53	804.03
20-S	06-24-86	837.62	20.87	816.75
FMC-33	06-24-86	837.05	21.29	815.76
1-S	07-08-86	837.14	21.06	816.08
1-D	07-08-86	836.75	21.22	815.53
1-PC	07-08-86	837.63	21.31	816.32
2-S	07-08-86	836.07	20.31	815.76
2-D	07-08-86	836.04	20.25	815.79
2-PC	07-08-86	838.05	22.36	815.69
3-S	07-08-86	836.75	21.03	815.72
3-D	07-08-86	837.48	22.50	814.98
3-PC	07-08-86	839.21	23.64	815.57
4-S	07-08-86	837.45	21.37	816.08
4-D	07-08-86	834.79	26.14	808.65
4-PC	07-08-86	834.75	19.52	815.23
5-S	07-08-86	835.06	20.22	814.84
5-D	07-08-86	836.00	20.01	815.99
6-S	07-08-86	835.73	21.06	814.67
6-D	07-08-86	835.69	26.64	809.05
7-S	07-08-86	835.97	19.98	815.99
7-D	07-08-86	835.63	30.53	805.10
8-S	07-08-86	835.76	19.86	815.90
8-D	07-08-86	834.02	26.35	807.67
9-S	07-08-86	836.68	20.80	815.88
9-D	07-08-86	834.30	31.52	802.78
10-S	07-08-86	835.89	20.85	815.04

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
5-D	01-24-86	836.00	21.10	814.90
8-S	01-24-86	835.76	0.00	835.76
9-S	01-24-86	836.68	21.87	814.81
10-S	01-24-86	835.89	21.70	814.19
11-S	01-24-86	835.89	27.60	808.29
6-D	01-24-86	835.69	27.50	808.19
12-S	01-24-86	838.51	23.61	814.90
13-S	01-24-86	834.59	19.63	814.96
14-S	01-24-86	835.99	20.97	815.02
15-S	01-24-86	834.83	19.94	814.89
16-S	01-24-86	837.26	22.30	814.96
20-S	01-24-86	837.62	23.07	814.55
1-S	03-30-86	837.14	21.78	815.36
1-D	03-30-86	836.75	21.20	815.55
1-PC	03-30-86	837.63	21.23	816.40
2-S	03-30-86	836.07	20.78	815.29
2-D	03-30-86	836.04	20.90	815.14
2-PC	03-30-86	838.05	22.31	815.74
3-S	03-30-86	836.75	20.68	816.07
FMC-33	03-30-86	837.05	21.97	815.08
3-D	03-30-86	837.48	22.64	814.84
3-PC	03-30-86	839.21	23.60	815.61
4-S	03-30-86	837.45	22.44	815.01
4-D	03-30-86	834.79	26.60	808.19
4-PC	03-30-86	834.75	19.50	815.25
5-S	03-30-86	835.06	20.40	814.66
6-S	03-30-86	835.73	21.60	814.13
7-S	03-30-86	835.97	20.70	815.27
5-D	03-30-86	836.00	20.69	815.31
8-S	03-30-86	835.76	20.49	815.27
9-S	03-30-86	836.68	20.72	815.96
10-S	03-30-86	835.89	21.40	814.49
11-S	03-30-86	835.89	27.20	808.69
6-D	03-30-86	835.69	26.68	809.01
12-S	03-30-86	838.51	23.35	815.16
13-S	03-30-86	834.59	19.30	815.29
14-S	03-30-86	835.99	20.70	815.29
15-S	03-30-86	834.83	19.45	815.38
16-S	03-30-86	837.26	21.92	815.34
17-S	03-30-86	835.75	24.15	811.60
7-D	03-30-86	835.63	29.65	805.98
18-S	03-30-86	834.08	26.23	807.85
8-D	03-30-86	834.02	25.17	808.85
19-S	03-30-86	834.56	30.63	803.93
9-D	03-30-86	834.30	30.80	803.50
20-S	03-30-86	837.62	22.63	814.99
1-S	06-24-86	837.14	20.89	816.25
1-D	06-24-86	836.75	21.16	815.59
1-PC	06-24-86	837.63	21.19	816.44
2-S	06-24-86	836.07	20.22	815.85
2-D	06-24-86	836.04	20.18	815.86
2-PC	06-24-86	838.05	22.32	815.73

Fridlev/NIROP Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
5-S	09-25-85	835.06	21.40	813.66
6-S	09-25-85	835.73	22.22	813.51
7-S	09-25-85	835.97	21.57	814.40
5-D	09-25-85	836.00	21.60	814.40
8-S	09-25-85	835.76	0.00	835.76
9-S	09-25-85	836.68	22.45	814.23
10-S	09-25-85	835.89	22.08	813.81
11-S	09-25-85	835.89	27.62	808.27
6-D	09-25-85	835.69	27.28	808.41
3-PC	09-25-85	839.21	25.19	814.02
3-PC	06-19-85	839.21	24.55	814.66
1-S	01-06-86	837.14	22.04	815.10
1-D	01-06-86	836.75	20.18	816.57
1-PC	01-06-86	837.63	21.95	815.68
2-S	01-06-86	836.07	21.15	814.92
2-D	01-06-86	836.04	0.00	836.04
2-PC	01-06-86	838.05	22.83	815.22
3-S	01-06-86	836.75	21.83	814.92
FMC-33	01-06-86	837.05	22.22	814.83
3-D	01-06-86	837.48	23.07	814.41
3-PC	01-06-86	839.21	24.21	815.00
4-S	01-06-86	837.45	22.40	815.05
4-D	01-06-86	834.79	21.72	813.07
4-PC	01-06-86	834.75	0.00	834.75
5-S	01-06-86	835.06	0.00	835.06
6-S	01-06-86	835.73	21.78	813.95
7-S	01-06-86	835.97	20.94	815.03
5-D	01-06-86	836.00	21.09	814.91
8-S	01-06-86	835.76	0.00	835.76
9-S	01-06-86	836.68	21.95	814.73
10-S	01-06-86	835.89	21.59	814.30
11-S	01-06-86	835.89	27.14	808.75
6-D	01-06-86	835.69	0.00	835.69
12-S	01-06-86	838.51	23.55	814.96
13-S	01-06-86	834.59	19.53	815.06
14-S	01-06-86	837.26	22.50	814.76
1-S	01-24-86	837.14	22.12	815.02
1-D	01-24-86	836.75	21.85	814.90
1-PC	01-24-86	837.63	22.25	815.38
2-S	01-24-86	836.07	21.32	814.75
2-D	01-24-86	836.04	21.25	814.79
2-PC	01-24-86	838.05	23.01	815.04
3-S	01-24-86	836.75	22.07	814.68
FMC-33	01-24-86	837.05	22.37	814.68
3-D	01-24-86	837.48	23.05	814.43
3-PC	01-24-86	839.21	24.11	815.10
4-S	01-24-86	837.45	22.59	814.86
4-D	01-24-86	834.79	27.05	807.74
4-PC	01-24-86	834.75	0.00	834.75
5-S	01-24-86	835.06	21.02	814.04
6-S	01-24-86	835.73	21.93	813.80
7-S	01-24-86	835.97	21.22	814.75

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
2-D	06-10-85	836.04	21.45	814.59
2-PC	06-10-85	838.05	24.10	813.95
3-S	06-10-85	836.75	22.10	814.65
FMC-33	06-10-85	837.05	22.41	814.64
3-D	06-10-85	837.48	24.12	813.36
3-PC	06-10-85	839.21	25.37	813.84
4-S	06-10-85	837.45	22.50	814.95
4-D	06-10-85	834.79	26.32	808.47
4-PC	06-10-85	834.75	21.25	813.50
5-S	06-10-85	835.06	21.02	814.04
6-S	06-10-85	835.73	21.84	813.89
7-S	06-10-85	835.97	21.23	814.74
5-D	06-10-85	836.00	21.29	814.71
8-S	06-10-85	835.76	21.07	814.69
9-S	06-10-85	836.68	22.06	814.62
10-S	06-10-85	835.89	21.72	814.17
11-S	06-10-85	835.89	27.35	808.54
6-D	06-10-85	835.69	27.02	808.67
1-S	06-19-85	837.14	21.85	815.29
1-D	06-19-85	836.75	21.90	814.85
		0.00	0.00	0.00
1-PC	06-19-85	837.63	21.96	815.67
2-S	06-19-85	836.07	21.00	815.07
2-D	06-19-85	836.04	20.96	815.08
2-PC	06-19-85	838.05	23.10	814.95
3-S	06-19-85	836.75	21.74	815.01
FMC-33	06-19-85	837.05	0.00	837.05
3-D	06-19-85	837.48	23.40	814.08
4-S	06-19-85	837.45	22.34	815.11
4-D	06-19-85	834.79	26.41	808.38
4-PC	06-19-85	834.75	20.21	814.54
5-S	06-19-85	835.06	20.85	814.21
6-S	06-19-85	835.73	21.71	814.02
7-S	06-19-85	835.97	20.83	815.14
5-D	06-19-85	836.00	20.85	815.15
8-S	06-19-85	835.76	20.68	815.08
9-S	06-19-85	836.68	21.85	814.83
10-S	06-19-85	835.89	21.48	814.41
11-S	06-19-85	835.89	27.20	808.69
6-D	06-19-85	835.69	26.90	808.79
1-S	09-25-85	837.14	22.51	814.63
1-D	09-25-85	836.75	22.55	814.20
1-PC	09-25-85	837.63	22.53	815.10
2-S	09-25-85	836.07	21.69	814.38
2-D	09-25-85	836.04	21.67	814.37
2-PC	09-25-85	838.05	23.72	814.33
3-S	09-25-85	836.75	22.46	814.29
FMC-33	09-25-85	837.05	22.85	814.20
3-D	09-25-85	837.48	23.60	813.88
4-S	09-25-85	837.45	23.00	814.45
4-D	09-25-85	834.79	26.89	807.90
4-PC	09-25-85	834.75	0.00	834.75

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
4-PC	03-29-85	836.12	21.34	814.78
5-S	03-29-85	835.06	21.09	813.97
6-S	03-29-85	835.73	21.93	813.80
1-S	04-12-85	837.14	22.06	815.08
1-D	04-12-85	836.75	21.59	815.16
1-PC	04-12-85	837.63	21.55	816.08
2-S	04-12-85	836.07	21.04	815.03
2-D	04-12-85	836.04	20.98	815.06
2-PC	04-12-85	838.05	22.73	815.32
3-S	04-12-85	836.75	21.90	814.85
FMC-33	04-12-85	837.05	22.24	814.81
3-D	04-12-85	837.48	23.12	814.36
3-PC	04-12-85	839.21	24.06	815.15
4-S	04-12-85	837.45	22.61	814.84
4-D	04-12-85	834.79	26.54	808.25
4-PC	04-12-85	836.12	21.23	814.89
5-S	04-12-85	835.06	20.94	814.12
6-S	04-12-85	835.73	21.80	813.93
1-S	01-18-85	837.14	22.30	814.84
1-D	01-18-85	836.75	21.92	814.83
1-PC	01-18-85	837.63	21.93	815.70
2-S	01-18-85	836.07	21.27	814.80
2-D	01-18-85	836.04	21.22	814.82
2-PC	01-18-85	838.05	23.08	814.97
3-S	01-18-85	836.75	22.07	814.68
FMC-33	01-18-85	837.05	22.45	814.60
3-D	01-18-85	837.48	23.50	813.98
3-PC	01-18-85	839.21	24.56	814.65
4-S	01-18-85	837.45	22.75	814.70
4-D	01-18-85	834.79	27.34	807.45
4-PC	01-18-85	836.12	21.61	814.51
5-S	01-18-85	835.06	21.21	813.85
6-S	01-18-85	835.73	22.06	813.67
1-S	04-26-85	837.14	22.06	815.08
1-D	04-26-85	836.75	21.66	815.09
1-PC	04-26-85	837.63	21.62	816.01
2-S	04-26-85	836.07	21.07	815.00
2-D	04-26-85	836.04	20.99	815.05
2-PC	04-26-85	838.05	22.79	815.26
3-S	04-26-85	836.75	21.90	814.85
FMC-33	04-26-85	837.05	22.26	814.79
3-D	04-26-85	837.48	23.25	814.23
3-PC	04-26-85	839.21	24.27	814.94
4-S	04-26-85	837.45	22.66	814.79
4-D	04-26-85	834.79	26.54	808.25
4-PC	04-26-85	836.12	21.34	814.78
5-S	04-26-85	835.06	21.00	814.06
6-S	04-26-85	835.73	21.83	813.90
1-S	06-10-85	837.14	22.20	814.94
1-D	06-10-85	836.75	22.84	813.91
1-PC	06-10-85	837.63	23.03	814.60
2-S	06-10-85	836.07	21.42	814.65

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
4-S	01-04-85	837.45	22.64	814.81
4-D	01-04-85	834.79	27.08	807.71
4-PC	01-04-85	836.12	21.44	814.68
5-S	01-04-85	835.06	21.10	813.96
6-S	01-04-85	835.73	21.97	813.76
1-S	01-04-85	837.14	22.19	814.95
1-D	01-04-85	836.75	21.72	815.03
1-PC	01-04-85	837.63	21.74	815.89
2-S	01-04-85	836.07	21.16	814.91
2-D	01-04-85	836.04	21.11	814.93
1-S	02-08-85	837.14	22.53	814.61
1-D	02-08-85	836.75	22.14	814.61
1-PC	02-08-85	837.63	22.22	815.41
2-S	02-08-85	836.07	21.52	814.55
2-D	02-08-85	836.04	21.47	814.57
2-PC	02-08-85	838.05	23.32	814.73
3-S	02-08-85	836.75	22.28	814.47
FMC-33	02-08-85	837.05	22.70	814.35
3-D	02-08-85	837.48	23.74	813.74
3-PC	02-08-85	839.21	24.73	814.48
4-S	02-08-85	837.45	23.02	814.43
4-D	02-08-85	834.79	27.74	807.05
4-PC	02-08-85	836.12	21.85	814.27
5-S	02-08-85	835.06	21.39	813.67
6-S	02-08-85	835.73	22.20	813.53
1-S	03-01-85	837.14	22.51	814.63
1-D	03-01-85	836.75	22.05	814.70
1-PC	03-01-85	837.63	22.10	815.53
2-S	03-01-85	836.07	21.51	814.56
2-D	03-01-85	836.04	21.48	814.56
2-PC	03-01-85	838.05	23.21	814.84
3-S	03-01-85	836.75	22.28	814.47
FMC-33	03-01-85	837.05	22.69	814.36
3-D	03-31-85	837.48	23.62	813.86
3-PC	03-01-85	839.21	24.55	814.66
4-S	03-01-85	837.45	23.03	814.42
4-D	03-01-85	834.79	27.63	807.16
4-PC	03-01-85	836.12	21.72	814.40
5-S	03-01-85	835.06	21.38	813.68
6-S	03-01-85	835.73	22.24	813.49
1-S	03-29-85	837.14	22.17	814.97
1-D	03-29-85	836.75	21.73	815.02
1-PC	03-29-85	837.63	21.72	815.91
2-S	03-29-85	836.07	21.14	814.93
2-D	03-29-85	836.04	21.13	814.91
2-PC	03-29-85	838.05	22.87	815.18
3-S	03-29-85	836.75	22.01	814.74
FMC-33	03-29-85	837.05	22.40	814.65
3-D	03-29-85	837.48	23.18	814.30
3-PC	03-29-85	839.21	24.25	814.96
4-S	03-29-85	837.45	22.76	814.69
4-D	03-29-85	834.79	25.54	809.25

Fridlev/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
5-S	11-08-84	835.06	21.30	813.76
6-S	11-08-84	835.73	22.14	813.59
1-S	11-21-84	837.14	22.32	814.82
1-D	11-21-84	836.75	21.84	814.91
1-PC	11-21-84	837.63	21.83	815.80
2-S	11-21-84	836.07	21.34	814.73
2-D	11-21-84	836.04	21.31	814.73
2-PC	11-21-84	838.05	23.00	815.05
3-S	11-21-84	836.75	22.18	814.57
FMC-33	11-21-84	837.05	22.50	814.55
3-D	11-21-84	837.48	23.46	814.02
3-PC	11-21-84	839.21	24.47	814.74
4-S	11-21-84	837.45	22.75	814.70
4-D	11-21-84	834.79	27.18	807.61
4-PC	11-21-84	836.12	21.58	814.54
5-S	11-21-84	835.06	21.30	813.76
6-S	11-21-84	835.73	22.11	813.62
1-S	12-07-84	837.14	22.21	814.93
1-D	12-07-85	836.75	22.24	814.51
1-PC	12-07-84	837.63	22.60	815.03
2-S	12-07-84	836.07	21.32	814.75
2-D	12-07-84	836.04	21.31	814.73
2-PC	12-07-84	838.05	23.56	814.49
3-S	12-07-84	836.75	22.10	814.65
FMC-33	12-07-84	837.05	22.41	814.64
3-D	12-07-84	837.48	23.46	814.02
3-PC	12-07-84	839.21	24.68	814.53
4-S	12-07-84	837.45	22.71	814.74
4-D	12-07-84	834.79	26.78	808.01
4-PC	12-07-84	836.12	22.11	814.01
5-S	12-07-84	835.06	21.22	813.84
6-S	12-07-84	835.75	22.07	813.68
1-S	12-26-84	837.14	22.22	814.92
1-D	12-26-84	836.75	21.55	815.20
1-PC	12-26-84	837.63	21.56	816.07
2-S	12-26-84	836.07	21.16	814.91
2-D	12-26-84	836.04	21.10	814.94
2-PC	12-26-84	838.05	22.69	815.36
3-S	12-26-84	836.75	22.02	814.73
FMC-33	12-26-84	837.05	22.34	814.71
3-D	12-26-84	837.48	23.12	814.36
3-PC	12-26-84	839.21	24.04	815.17
4-S	12-26-84	837.45	22.73	814.72
4-D	12-26-84	834.79	26.52	808.27
4-PC	12-26-84	836.12	21.18	814.94
5-S	12-26-84	835.06	21.14	813.92
6-S	12-26-84	835.73	21.97	813.76
2-PC	01-04-85	838.05	22.92	815.13
3-S	01-04-85	836.75	22.02	814.73
FMC-33	01-04-85	837.05	22.37	814.68
3-D	01-04-85	837.48	23.31	814.17
3-PC	01-04-85	839.21	24.26	814.95

Fridley/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
3-S	08-20-84	836.75	22.31	814.44
FMC-33	08-20-84	837.05	22.61	814.44
3-D	08-20-84	837.48	24.88	812.60
3-PC	08-20-84	839.21	26.02	813.19
4-S	08-20-84	837.45	22.79	814.66
4-D	08-20-84	834.79	28.39	806.40
4-PC	08-20-84	836.12	23.01	813.11
5-S	08-20-84	835.06	21.30	813.76
6-S	08-20-84	835.73	22.13	813.60
1-S	08-01-84	837.14	21.71	815.43
1-D	08-01-84	836.75	22.44	814.31
1-PC	08-01-84	837.63	22.48	815.15
2-S	08-01-84	836.07	20.98	815.09
2-D	08-01-84	836.04	21.02	815.02
2-PC	08-01-84	838.05	23.68	814.37
3-S	08-01-84	836.75	21.65	815.10
FMC-33	08-01-84	837.05	21.96	815.09
3-D	08-01-84	837.48	23.95	813.53
3-PC	08-01-84	839.21	25.36	813.85
4-S	08-01-84	837.45	22.08	815.37
4-D	08-01-84	834.79	27.36	807.43
4-PC	08-01-84	836.12	22.35	813.77
5-S	08-01-84	835.06	20.72	814.34
6-S	08-01-84	835.73	21.56	814.17
1-S	10-25-84	837.14	22.62	814.52
1-D	10-25-84	836.75	22.03	814.72
1-PC	10-25-84	837.63	22.17	815.46
2-S	10-25-84	836.07	21.62	814.45
2-D	10-25-84	836.04	21.31	814.73
2-PC	10-25-84	838.05	23.08	814.97
3-S	10-25-84	836.75	22.32	814.43
FMC-33	10-25-84	837.05	22.82	814.23
3-D	10-25-84	837.48	23.76	813.72
3-PC	10-25-84	839.21	24.82	814.39
4-S	10-25-84	837.45	22.46	814.99
4-D	10-25-84	834.79	27.32	807.47
4-PC	10-25-84	836.12	21.74	814.38
5-S	10-25-84	835.06	21.52	813.54
6-S	10-25-84	835.73	21.98	813.75
1-S	11-08-84	837.14	22.33	814.81
1-D	11-08-84	836.75	21.90	814.85
1-PC	11-08-84	837.63	21.86	815.77
2-S	11-08-84	836.07	21.31	814.76
2-D	11-08-84	836.04	21.29	814.75
2-PC	11-08-84	838.05	23.03	815.02
3-S	11-08-84	836.75	22.18	814.57
FMC-33	11-08-84	837.05	22.51	814.54
3-D	11-08-84	837.48	23.41	814.07
3-PC	11-08-84	839.21	24.92	814.29
4-S	11-08-84	837.45	22.79	814.66
4-D	11-08-84	834.79	26.45	808.34
4-PC	11-08-84	836.12	21.58	814.54

Fridley/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
6-S	06-18-84	835.73	21.19	814.54
1-S	07-02-84	837.14	21.00	816.14
1-D	07-02-84	836.75	21.75	815.00
1-PC	07-02-84	837.63	21.84	815.79
2-S	07-02-84	836.07	20.23	815.84
2-D	07-02-84	836.04	20.22	815.82
2-PC	07-02-84	838.05	22.91	815.14
3-S	07-02-84	836.75	20.93	815.82
FMC-33	07-02-84	837.05	21.25	815.80
3-D	07-02-84	837.48	22.95	814.53
3-PC	07-02-84	839.21	24.38	814.83
4-S	07-02-84	837.45	21.59	815.86
4-D	07-02-84	834.79	24.33	810.46
4-PC	07-02-84	836.12	21.53	814.59
5-S	07-02-84	835.06	20.07	814.99
6-S	07-02-84	835.73	20.91	814.82
1-S	07-16-84	837.14	21.30	815.84
1-D	07-16-84	836.75	21.99	814.76
1-PC	07-16-84	837.63	21.99	815.64
2-S	07-16-84	836.07	20.57	815.50
2-D	07-16-84	836.04	20.58	815.46
2-PC	07-16-84	838.05	23.21	814.84
3-S	07-16-84	836.75	21.32	815.43
FMC-33	07-16-84	837.05	21.59	815.46
3-D	07-16-84	837.48	23.46	814.02
3-PC	07-16-84	839.21	24.86	814.35
4-S	07-16-84	837.45	21.68	815.77
4-D	07-16-84	834.79	26.20	808.59
4-PC	07-16-84	836.12	21.85	814.27
5-S	07-16-84	835.06	20.40	814.66
6-S	07-16-84	835.73	21.22	814.51
1-S	08-13-84	837.14	21.93	815.21
1-D	08-13-84	836.75	22.71	814.04
1-PC	08-13-84	837.63	22.73	814.90
2-S	08-13-84	836.07	21.22	814.85
2-D	08-13-84	836.04	21.31	814.73
2-PC	08-13-84	838.05	23.85	814.20
3-S	08-13-84	836.75	21.95	814.80
FMC-33	08-13-84	837.05	22.27	814.78
3-D	08-13-84	837.48	24.25	813.23
3-PC	08-13-84	839.21	25.57	813.64
4-S	08-13-84	837.45	22.47	814.98
4-D	08-13-84	834.79	27.72	807.07
4-PC	08-13-84	836.12	22.52	813.60
6-S	08-13-84	835.73	21.82	813.91
5-S	08-13-84	835.06	20.99	814.07
1-S	08-20-84	837.14	22.43	814.71
1-D	08-20-84	836.75	23.14	813.61
1-PC	08-20-84	837.63	23.15	814.48
2-S	08-20-84	836.07	21.66	814.41
2-D	08-20-84	836.04	21.66	814.38
2-PC	08-20-84	838.05	24.39	813.66

Fridley/NIROF Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
FMC-33	04-17-84	837.05	22.15	814.90
3-D	04-17-84	837.48	23.49	813.99
3-PC	04-17-84	839.21	24.42	814.79
4-S	04-17-84	837.45	22.95	814.50
4-D	04-17-84	834.79	26.18	808.61
4-PC	04-17-84	836.12	21.37	814.75
5-S	04-17-84	835.06	21.13	813.93
6-S	04-17-84	835.73	21.90	813.83
1-S	05-21-84	837.14	21.60	815.54
1-D	05-21-84	836.75	21.49	815.26
1-PC	05-21-84	837.63	21.47	816.16
2-S	05-21-84	836.07	20.57	815.50
2-D	05-21-84	836.04	20.56	815.48
2-PC	05-21-84	838.05	22.63	815.42
3-S	05-21-84	836.75	21.47	815.28
FMC-33	05-21-84	837.05	21.79	815.26
3-D	05-21-84	837.48	23.05	814.43
3-PC	05-21-84	839.21	24.15	815.06
4-S	05-21-84	837.45	22.32	815.13
4-D	05-21-84	834.79	25.61	809.18
4-PC	05-21-84	836.12	21.18	814.94
5-S	05-21-84	835.06	20.66	814.40
6-S	05-21-84	835.73	21.50	814.23
1-S	06-05-84	837.14	21.65	815.49
1-D	06-05-84	836.75	21.81	814.94
1-PC	06-05-84	837.63	21.80	815.83
2-S	06-05-84	836.07	20.82	815.25
2-D	06-05-84	836.04	20.81	815.23
2-PC	06-05-84	838.05	22.99	815.06
3-S	06-05-84	836.75	21.56	815.19
FMC-33	06-05-84	837.05	21.88	815.17
3-D	06-05-84	837.48	23.47	814.01
3-PC	06-05-84	839.21	24.73	814.48
4-S	06-05-84	837.45	22.76	814.69
4-D	06-05-84	834.79	25.81	808.98
4-PC	06-05-84	836.12	21.69	814.43
5-S	06-05-84	835.06	20.70	814.36
6-S	06-05-84	835.73	21.53	814.20
1-S	06-18-84	837.14	21.26	815.88
1-D	06-18-84	836.75	21.15	815.60
1-PC	06-18-84	837.63	21.02	816.61
2-S	06-18-84	836.07	20.33	815.74
2-D	06-18-84	836.04	20.29	815.75
2-PC	06-18-84	838.05	22.24	815.81
3-S	06-18-84	836.75	21.21	815.54
FMC-33	06-18-84	837.05	21.52	815.53
3-D	06-18-84	837.48	22.68	814.80
3-PC	06-18-84	839.21	23.94	815.27
4-S	06-18-84	837.45	22.09	815.36
4-D	06-18-84	834.79	23.43	811.36
4-PC	06-18-84	836.12	20.79	815.33
5-S	06-18-84	835.06	20.31	814.75

Fridley/NIROF Water Elevations

Station #	Date	Top of Casino	Corrected Depth to Water	Elevation
1-S	06-28-83	837.14	22.12	815.02
1-D	06-28-83	836.75	22.00	814.75
1-PC	06-28-83	0.00	0.00	0.00
2-S	06-28-83	836.07	21.22	814.85
2-D	06-28-83	836.04	21.11	814.93
2-PC	06-28-83	0.00	0.00	0.00
3-S	06-28-83	836.75	22.06	814.69
FMC-33	06-28-83	0.00	0.00	0.00
3-D	06-28-83	837.48	23.50	813.98
3-PC	06-28-83	0.00	0.00	0.00
4-S	06-28-83	837.45	23.05	814.40
4-D	06-28-83	834.79	26.22	808.57
4-PC	06-28-83	0.00	0.00	0.00
5-S	06-28-83	835.06	21.15	813.91
6-S	06-28-83	835.73	21.98	813.75
1-S	10-05-83	837.14	22.50	814.64
1-D	10-05-83	836.75	22.70	814.05
1-PC	10-10-83	837.63	23.30	814.33
2-S	10-06-83	836.07	21.10	814.97
2-D	10-07-83	836.04	22.10	813.94
2-PC	10-13-83	838.05	23.90	814.15
3-S	10-10-83	836.75	22.70	814.05
FMC-33	10-14-83	837.05	23.10	813.95
3-D	10-10-83	837.48	23.60	813.88
3-PC	10-14-83	839.21	25.70	813.51
4-S	10-07-83	837.45	23.60	813.85
4-D	10-10-83	834.79	27.50	807.29
4-PC	10-12-83	836.12	22.60	813.52
5-S	10-07-83	835.06	22.10	812.96
6-S	10-07-83	835.73	22.40	813.33
1-S	04-10-84	837.14	22.08	815.06
1-D	04-10-84	836.75	21.69	815.06
1-PC	04-10-84	837.63	22.62	815.01
2-S	04-10-84	836.07	21.08	814.99
2-D	04-10-84	836.04	21.07	814.97
2-PC	04-10-84	838.05	22.67	815.38
3-S	04-10-84	836.75	21.93	814.82
FMC-33	04-10-84	0.00	0.00	0.00
3-D	04-10-84	837.48	23.44	814.04
3-PC	04-10-84	839.21	24.27	814.94
4-S	04-10-84	837.45	22.95	814.50
4-D	04-10-84	834.79	25.98	808.81
4-PC	04-10-84	836.12	21.27	814.85
5-S	04-10-84	835.06	21.08	813.98
6-S	04-10-84	835.73	21.95	813.78
1-S	04-17-84	837.14	22.38	814.76
1-D	04-17-84	836.75	21.79	814.96
1-PC	04-17-84	837.63	21.62	816.01
2-S	04-17-84	836.07	21.13	814.94
2-D	04-17-84	836.04	21.12	814.92
2-PC	04-17-84	838.05	22.87	815.18
3-S	04-17-84	836.75	22.03	814.72

Fridley/NIROP Water Elevations

Station #	Date	Top of Casing	Corrected Depth to Water	Elevation
1-S	11-17-86	837.14	20.89	816.25
1-D	11-17-86	836.75	20.65	816.10
1-PC	11-17-86	837.63	20.77	816.86
2-S	11-17-86	836.07	20.00	816.07
2-D	11-17-86	836.04	19.92	816.12
2-FC	11-17-86	838.05	21.70	816.35
3-S	11-17-86	836.75	20.75	816.00
3-D	11-17-86	837.48	21.91	815.57
3-FC	11-17-86	839.21	22.81	816.40
4-S	11-17-86	837.45	21.00	816.45
4-D	11-17-86	834.79	25.12	809.67
4-PC	11-17-86	834.75	18.78	815.97
5-S	11-17-86	835.06	19.97	815.09
5-D	11-17-86	836.00	19.88	816.12
6-S	11-17-86	835.73	20.86	814.87
6-D	11-17-86	835.69	25.81	809.88
7-S	11-17-86	835.97	19.80	816.17
7-D	11-17-86	835.63	28.45	807.18
8-S	11-17-86	835.76	19.69	816.07
8-D	11-17-86	834.02	25.12	808.90
9-S	11-17-86	836.68	19.84	816.84
9-D	11-17-86	834.30	29.62	804.68
10-S	11-17-86	835.89	20.58	815.31
11-S	11-17-86	835.89	25.97	809.92
12-S	11-17-86	838.51	22.32	816.19
13-S	11-17-86	834.59	18.34	816.25
14-S	11-17-86	835.99	19.74	816.25
15-S	11-17-86	834.83	18.39	816.44
16-S	11-17-86	837.26	21.00	816.26
17-S	11-17-86	835.75	23.40	812.35
18-S	11-17-86	834.08	25.20	808.88
19-S	11-17-86	834.56	29.48	805.08
20-S	11-17-86	837.62	21.35	816.27
FMC-33	11-17-86	837.05	21.07	815.98

10. GROUND WATER ANALYTICAL DATA

JOB DESCRIPTION: HIROP (CHAIN OF CUSTODY)		FILTERED SAMPLES-DISSOLVED METALS								JOB FILE: 95117	
REPORT DATE: 16 JAN 87		RDGE444E110000 1803								EST. COMP. DATE: 07 JAN 87	
		RECEIPT DATE: 19 NOV 86									
		COLUMN... 10	11	12	13	14	15	16			
		ANALYSIS.. 15	17	19	22	23	25	26			
B * DENOTES PPB		PPH..... 2H	BA	CA	HO	HI	K	NA	ROW		
LAB ID	PROJECT ID										
95117	DUPL 1-11-17-86	CONC 0.129 * 0.152 * 157 * 29.5 * 1.02 * 0.05 * 6.27 * XREC 101 * 105 * 111 * 107 * 102 * 102 * 109 * DUPL 0.132 * 0.156 * 163 * 30.9 * 1.03 * 4.00 * 6.60 * OID 51206356* 51207006* 51006352* 51006350* 51206346* 51006356* 51006350* HGA AUTH								1	
95118	DUPL 2-11-17-86	CONC 0.172 * 0.118 * 128 * 32.0 * 0.027 * 6.49 * 25.1 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 20557000* 51006356* 51006350* HGA AUTH								2	
95119	DUPL 9-11-17-86	CONC 1.86 * 0.147 * 157 * 52.4 * 1.98 * 4.92 * 10.6 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 51206346* 51006356* 51006350* HGA AUTH								3	
95120	8-6-11-17-86-1050	CONC 0.151 * 0.165 * 157 * 30.1 * 1.04 * 0.05 * 7.09 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 51206346* 51006356* 51207005* HGA AUTH								4	
95121	9-9-11-17-86-1649	CONC 0.184 * 0.109 * 193 * 39.0 * 0.026 * 5.49 * 26.2 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 20557000* 51006356* 51006350* HGA AUTH								5	
95122	15-9-11-17-86-1597	CONC 1.84 * 0.196 * 159 * 53.4 * 1.96 * 4.92 * 10.6 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 51206346* 51006356* 51006350* HGA AUTH								6	
95123	FHC 93-11-17-86-1240	CONC 0.526 * 0.120 * 200 * 53.4 * 1.00 * 0.36 * 7.19 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51006352* 51006350* 51206346* 51006356* 51006350* HGA AUTH								7	
95124	RINSATE BLK 11-17-86 1921	CONC <0.050 * <0.010 * <0.100 * <0.010 * <0.050 * <0.100 * <0.100 * XREC * * * * * * * * * DUPL * * * * * * * * * OID 51206356* 51207006* 51207005* 51006350* 51206346* 51207005* 51207005* HGA AUTH								8	
ZN	ZINC		BA	BARIUM		CA	CALCIUM				
HO	MAGNESIUM		HI	MANGANESE		K	POTASSIUM				
NA	SODIUM										

INMAC

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)

RD6E444E110000 HMO3

JOB FILE: 95117

REPORT DATE: 16 JAN 87

RECEIPT DATE: 19 NOV 86

EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	COLUMN ANALYSIS	10	11	12	13	14	15	16	ROW
			PPH. ZN	BA	CA	MO	MN	K	NA	
95125	TRIP BLK 11-17-86	CONC	40.030	40.010	40.100	40.100	40.050	40.100	40.100	9
		ZREC	100							
		DUPL	<0.030							
		OID	51206956	51207006	51207005	51006950	51206946	51207005	51207005	
			HQA AUTH							
95126	R-D 11-10-86-1640	CONC	1.09	0.090	119	54.9	0.760	4.51	11.0	10
		ZREC		104						
		DUPL		0.094						
		OID	51206356	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95127	2-S 11-10-86-1090	CONC	0.051	0.105	169	96.6	0.190	3.69	5.99	11
		ZREC								
		DUPL								
		OID	51206356	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95120	17-S 11-10-86-1544	CONC	2.21	0.050	170	54.9	0.980	9.85	16.0	12
		ZREC								
		DUPL								
		OID	51206956	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95129	7-D 11-10-86-1415	CONC	1.23	0.111	113	52.4	0.403	4.75	9.36	13
		ZREC								
		DUPL								
		OID	51206356	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95130	1-PG 11-10-86-1111	CONC	0.060	0.119	81.5	45.0	0.046	3.28	12.9	14
		ZREC								
		DUPL								
		OID	51206356	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95131	10-S 11-10-86-105P	CONC	4.71	0.095	157	54.1	0.920	2.07	0.10	15
		ZREC								
		DUPL								
		OID	51206956	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
95192	19-S 11-10-86-695P	CONC	5.70	0.092	66.0	10.0	0.094	2.22	41.1	16
		ZREC								
		DUPL								
		OID	51206356	51207006	51207005	51006350	51206346	51206357	51006350	
			HQA AUTH							
ZN	ZINC		BA	BARIUM		CA	CALCIUM			
MG	MAGNESIUM		MN	MANGANESE		K	POTASSIUM			
NA	SODIUM									

INMAC

JOB DESCRIPTION: NIROF (CHAIN-OF-CUSTODY)
 REPORT DATE: 16 JAN 87

FILTERED SAMPLES-DISSOLVED METALS
 RD6E444E110000 HNO3
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95117
 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	0.005	0.0002	0.002	0.002	0.002	0.002	0.004	0.001	0.005	0.001	
AS	CD	CR	CU	PB	HO	NI	SE	AO	NON				
95125	TRIP-BLK-11-17-86	GONG	106	110	115	100	95	99	103	102	100	9	
		ZREC	106	110	115	100	95	99	103	102	100	9	
		DUPL	0.005					0.0008		0.005			
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95126	9-D-11-18-86-1640	GONG										10	
		ZREC										10	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95127	2-9-11-18-86-1090	GONG										11	
		ZREC										11	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95128	17-8-11-18-86-1944	GONG										12	
		ZREC										12	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95129	7-D-11-18-86-1415	GONG										13	
		ZREC										13	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95130	1-PG-11-18-86-1111	GONG										14	
		ZREC										14	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95131	18-6-11-18-86-405F	GONG										15	
		ZREC										15	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			
95132	19-8-11-18-86-695P	GONG										16	
		ZREC										16	
		DUPL											
		OID	01307006	20566364	20566358	20566353	20566364	09656329	20566353	01307008	20567005		
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH			

INMAC

AS ARSENIC CD CADMIUM CR CHROMIUM
 CU COPPER PB LEAD HO MERCURY
 NI NICKEL SE SELENIUM AO SILVER

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY)

RD6E444E1100000 IN03

JOB FILE: 95117

REPORT DATE: 16 JAN 87

RECEIPT DATE: 19 NOV 86

EST. COMP. DATE: 07 JAN 87

COLUMN...		1	2	3	4	5	6	7	8	9	
ANALYSIS..		2	3	4	5	6	7	8	9	10	
PPH.....AS		AS	CD	CR	CU	PB	HG	NI	SE	AG	
LAB ID	PROJECT ID										
95133	9 B-11-18-86-646P	CONC	<0.008	* 0.0007	* 0.002	* 0.002	* 0.011	* 0.0004	* 0.001	* 0.005	* 0.002
		XREC	109	M	M	M	M	M	M	M	M
		DUPL	<0.005	M	M	M	M	<0.0008	M	<0.005	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95134	2 PG-11-19-86-938A	CONC	<0.005	* 0.0005	* 0.002	* 0.003	* 0.003	* 0.0004	* 0.007	* 0.005	* 0.001
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95135	2 PG-11-19-86-1010A	CONC	<0.005	* 0.0005	* 0.002	* 0.003	* 0.001	* 0.0004	* 0.001	* 0.005	* 0.001
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95136	4 G-11-19-86-1922A	CONC	<0.005	* 0.0006	* 0.002	* 0.009	* 0.001	* 0.0004	* 0.009	* 0.005	* 0.001
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95137	4 PG-11-19-86-1200P	CONC	<0.005	* 0.0005	* 0.001	* 0.002	* 0.001	* 0.0004	* 0.014	* 0.005	* 0.001
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95138	5 G-11-19-86-1290P	CONC	<0.005	* 0.0007	* 0.002	* 0.004	* 0.001	* 0.0004	* 0.012	* 0.005	* 0.001
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH
95139	16 G-11-19-86-915F	CONC	<0.005	* 0.0010	* 0.001	* 0.004	* 0.003	* 0.0004	* 0.005	* 0.005	* 0.003
		XREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		OID	01307006	* 20556364	* 20556358	* 20556353	* 20556364	* 09656329	* 20566353	* 01307008	* 20567005
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH

AS ARSENIC CD CADMIUM CR CHROMIUM
 CU COPPER PB LEAD HG MERCURY
 NI NICKEL SE SELENIUM AG SILVER

EXTERNAL QA SAMPLE IREC 103X 93X

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 2) *****

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)

RDGE444E1100000 HND3

JOB FILE: 95294

REPORT DATE: 15 JAN 87

RECEIPT DATE: 25 NOV 86

EST. COMP. DATE: 07 JAN 87

COLUMN... 10 11 12
 ANALYSIS.. 15 17 23

B : DENOTES FFB
 LAB ID PROJECT ID

PEM:.....ZN BA MN

ROW

95294 RINGATE BLK CONG 40.090 * 40.010 * 40.090 *
 11-20-86 1159 ZREC * * *
 DUPL * * *
 QID 51206957 * 51207006 * 51206957 *

1

ZN ZINC BA DARIUN HGA AUTH MN MANGANESE

INMAC

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 16 JAN 87

FILTERED SAMPLES-DISSOLVED METALS

RDGE: 444E110000 HNO3

JOB FILE: 95117

EST. COMP. DATE: 07 JAN 87

RECEIPT DATE: 19 NOV 86

COLUMN... 1 2 3 4 5 6 7 8 9
 ANALYSIS.. 2 5 6 7 9 10 11 12 13
 B. DENOTES PPB PPM.....AS ED ER EU EB EN NI SE AO
 LAB ID PROJECT ID ROW

HMAC

LAB ID	PROJECT ID	CONC	1	2	3	4	5	6	7	8	9	10	11	12	13
95117	DUPL 1 11-17-86	CONC	<0.005	* 0.0003	* 0.002	* 0.002	* 0.003	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC	106					117		92					1
		DUPL	<0.005					<0.0008		<0.005					
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95118	DUPL 2 11-17-86	CONC	<0.005	* 0.0004	* 0.002	* 0.004	* 0.003	* <0.0004	* <0.001	* 0.051	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													2
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95119	DUPL 9 11-17-86	CONC	0.019	* 0.0008	* 0.002	* 0.002	* 0.003	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													3
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95120	9-8-11-17-86 1950	CONC	<0.005	* 0.0003	* 0.003	* 0.003	* 0.002	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													4
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95121	9-8-11-17-86 1649	CONC	<0.005	* 0.0006	* 0.003	* 0.005	* 0.003	* <0.0004	* <0.001	* 0.049	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													5
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95122	15-8-11-17-86 1597	CONC	0.014	* 0.0008	* 0.002	* 0.002	* 0.003	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													6
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95123	FMG 93 11-17-86 1240	CONC	<0.005	* 0.0004	* 0.001	* 0.002	* 0.003	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													7
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
95124	RINSAIE BLK 11-17-86 1821	CONC	<0.005	* 0.0004	* 0.001	* 0.003	* 0.002	* <0.0004	* <0.001	* <0.005	* <0.001	* <0.0008	* <0.001	* <0.005	* <0.001
		ZREC													8
		DUPL													
		OID	01307006*	20566364*	20556358*	20556359*	20556364*	09656329*	20566353*	01307008*	20567005*				
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH		HGA AUTH		HGA AUTH				
AS	ARSENIC			CD	CADMIUM			CR	CHROMIUM						
CU	COPPER			PB	LEAD			HO	MERCURY						
NI	NICKEL			SE	SELENIUM			AO	SILVER						

OIL DESCRIPTION (CHAIN OF CUSTODY) NOG6444E1100000 INNO3
 PRINT DATE: 127 JAN 07 RECEIPT DATE: 19 NOV 86 JOB FILE 195140
EST. COMP. DATE: 06 JAN 87

LAB ID	PROJECT ID	PPH.....ZN	DA	CA	MN	HOW
5140	DUPL 1 11-17-86	CONC 1.43	* 0.194	* 173.0	* 1.53	1
		ZREC 97.3	* 97	* 09.5	* 106	
		DUPL 1.44	* 0.197	* 177.0	* 1.50	
		OTD 51206357*	51207007*	51806356*	51206357*	HGA AUTH
5141	DUPL 2 11-17-86	CONC 1.19	* 0.514	* 06.5	* 1.13	2
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51206357*	51207007*	51806356*	51206357*	HGA AUTH
5142	DUPL 3 11-17-86	CONC 20.7	* 0.160	* 380	* 2.49	3
		ZREC 100	*	*	*	
		DUPL 20.9	*	*	*	
		OTD 51207005*	51207007*	51806356*	51206357*	HGA AUTH
5143	3-8 11-17-86 1050	CONC 1.52	* 0.080	* 169	* 1.56	4
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51206357*	51207007*	51806356*	51206357*	HGA AUTH
5144	9-8 11-17-86 1449	CONC 3.15	* 0.906	* 154	* 2.54	5
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51206357*	51207007*	51806356*	51206357*	HGA AUTH
5145	15-6 11-17-86 1937	CONC 25.4	* 0.172	* 207	* 2.46	6
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51207005*	51207007*	51806356*	51206357*	HGA AUTH
5146	RINSATE BLK 11-17-86 1021	CONC <0.030	* <0.010	* <0.100	* <0.030	7
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51206357*	51207007*	51207005*	51206357*	HGA AUTH
5147	TRIP BLANK 11-17-86	CONC <0.030	* <0.010	* <0.100	* <0.030	8
		ZREC	*	*	*	
		DUPL	*	*	*	
		OTD 51206357*	51207007*	51207005*	51206357*	HGA AUTH

ZINC DA BARIUM CA CALCIUM
 MANGANESE

EXTERNAL QA SAMPLE IREC 100X 95X 103X 98X

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 2) *****

UNFILTERED SAMPLE TOTAL METALS

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY)

RD6E444E110000 HMO3

JOB FILE: 95234

REPORT DATE: 15 JAN 87

RECEIPT DATE: 25 NOV 86

EST. (COMP. DATE): 07 JAN 87

COLUMN...	1	2	3	4	5	6	7	8	9
ANALYSIS...	2	5	6	7	9	10	11	12	13
PPH.....	AS	CO	CR	CU	PB	HG	NI	SE	AG
LAB ID	PROJECT ID								

95234	RINSATE BLK	0000	<0.005	* 0.0003	* 0.007	* 0.004	* <0.001	* <0.0004	* 0.005	* <0.005	* <0.001	*
	11-20-86 1159	XREC	100	* 100	* 90	* 115	* 95	* 10.7	* 90	* 108	* 110	* 1
		DUPL	<0.005	*	*	*	*	* <0.0008	*	* <0.005	*	*
		QID	01907007*	20557005*	20557006*	20557006*	20556364*	07056327*	20557000*	01907013*	20567006*	*

AS	ARSENIC	CD	HOA AUTH				CR	CHROMIUM
CU	COPPER	PB	HOA AUTH				HG	MERCURY
NI	NICKEL	SE	HOA AUTH				AG	SILVER

INMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 10 OF 10)

JOB DESCRIPTION: WTRC - WDMA
 REPORT DATE: 07-MAY-84

UDROP: WDMA
 RECEIPT DATE: 01 APR 84

JOB FILE: 191940
 EST. COMP. DATE: 16 MAY 84

R - DENOTES PPE
 LAB ID PROJECT ID

CONC... 37 38 39
 ANALYSIS... 98 99 100
 CPM... ETHEN ACFO ACRY

LAB ID	PROJECT ID	CONC	37	38	39	98	99	100	
21242	WELL-20-S	CONC	<0.005	X <0.10	X <0.10	X	X	X	9
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21242	FIELD BARR	CONC	<0.005	X <0.10	X <0.10	X	X	X	10
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21250	WELL-12-S	CONC	<0.005	X <0.10	X <0.10	X	X	X	11
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21251	WELL-17-S	CONC	<0.005	X <0.10	X <0.10	X	X	X	12
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21252	WELL-7-B	CONC	<0.005	X <0.10	X <0.10	X	X	X	13
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21253	WELL-10-S	CONC	<0.005	X <0.10	X <0.10	X	X	X	14
		ZREC	89.5	X	118.5	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				
21254	WELL-9-B	CONC	<0.005	X <0.10	X <0.10	X	X	X	15
		ZREC	X	X	X	X	X	X	
		DWFL	X	X	X	X	X	X	
		QID	08936101X	08936101X	08936101X				

ETHEN ETHYLENENE

ACFO ACRYLONITRILE

ACRY ACRYLONITRILE

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)			UNFILTERED SAMPLES-TOTAL METALS										JOB FILE: 95140		
REPORT DATE: 27 JAN 87			RECEIPT DATE: 19 NOV 86										EST. COMP. DATE: 06 JAN 87		
ANALYSIS: 2			1	2	3	4	5	6	7	8	9	10	11	12	13
PPH: AS			AS	CD	CR	CU	PB	HI	NI	SE	AD	ROW			
LAB ID	PROJECT ID	PPH	AS	CD	CR	CU	PB	HI	NI	SE	AD	ROW			
95140	DUPL 1 11-17-86	CONC	<0.005	* 0.0010	* 0.009	* 0.019	* 0.033	* <0.0004	* 0.035	* <0.005	* 0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	94	*	*	*	*	* 99	*	* 138	*	* <0.005	* 138	*	* 1
		DUPL	<0.005	*	*	*	*	* <0.0000	*	* <0.005	*	* <0.005	*	* <0.005	* <0.005
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	20556357*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95141	DUPL 2 11-17-86	CONC	0.006	* 0.0019	* 0.123	* 0.181	* 0.049	* <0.0004	* 0.155	* 0.035	* <0.001	* <0.001	* <0.001	* <0.001	* <0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 2
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	51206357*	51206356*	20556364*	09656329*	51206357*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95142	DUPL 3 11-17-86	CONC	0.043	* 0.0159	* 0.009	* 0.046	* 0.048	* <0.0004	* 0.033	* <0.005	* <0.001	* <0.001	* <0.001	* <0.001	* <0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 3
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	51206357*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95143	3-S 11-17-86 1058	CONC	<0.005	* 0.0014	* 0.009	* 0.024	* 0.171	* <0.0004	* 0.018	* <0.005	* 0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 4
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	20557007*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95144	9-S 11-17-86 1649	CONC	0.023	* 0.0034	* 0.267	* 0.377	* 0.174	* <0.0004	* 0.332	* 0.076	* 0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 5
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	51206356*	51206356*	20556364*	09656329*	51206357*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95145	15-S 11-17-86 1537	CONC	0.045	* 0.0194	* 0.011	* 0.089	* 0.174	* <0.0004	* 0.059	* <0.005	* <0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 6
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	51206357*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95146	RINGSIDE BLK 11-17-86 1821	CONC	<0.005	* 0.0002	* 0.004	* 0.005	* 0.009	* <0.0004	* 0.017	* <0.005	* <0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	*	*	* 110	* 90	* 95	*	* 95	*	* 105	*	* 105	*	* 7
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	20557007*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH									
95147	TRIP BLANK 11-17-86	CONC	<0.005	* 0.0005	* 0.002	* 0.007	* 0.007	* <0.0004	* 0.010	* <0.005	* <0.001	* <0.005	* 0.001	* <0.005	* 0.001
		ZREC	*	*	*	*	*	*	*	*	*	*	*	*	* 8
		DUPL	*	*	*	*	*	*	*	*	*	*	*	*	*
		OTD	01307007*	20557027*	20556356*	20556356*	20556364*	09656329*	20557007*	01307013*	20557005*	01307013*	20557005*	01307013*	20557005*
				HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH
AS	ARSENIC	CD	CADMIUM	CR	CHROMIUM	CU	COPPER	HI	HINCHUM	NI	NICKEL	SE	SELENIUM	AD	SILVER

INMAC

EXTERNAL QA SAMPLE IREC 106X 101X 101X 105X 103X 104X 89X 102X 18X

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY DATA REPORTING SHEET (SHEET 6 OF 10)

JOB DESCRIPTION: KNIROP
 REPORT DATE: 09-MAY-86
 D. DENOTES REP
 LAB ID PROJECT ID

CHLOROPHENOL
 RECEIPT DATE: 01 APR 86
 ANALYSIS: 19 20 21 22 23 24 25 26 27
 PER: CHLOR 12DCE 111TCA C-CL-4 BRCL2H D1CLPR 1CLPRE TCE BERCH

JOB FILE: 91940
 EST. COMP. DATE: 16 MAY 86

LAB ID	PROJECT ID	CONC	19	20	21	22	23	24	25	26	27	UNIT
91948	WELL-23-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	9
		DNFL	x	x	x	x	x	x	x	x	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91949	FIELD-BLANK	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	10
		DNFL	x	x	x	x	x	x	x	x	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91950	WELL-12-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	11
		DNFL	x	x	x	x	x	x	x	x	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91961	WELL-17-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.19	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	12
		DNFL	x	x	x	x	x	x	x	0.20	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91962	WELL-7-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	13
		DNFL	x	x	x	x	x	x	x	x	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91963	WELL-18-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2.9	<0.005	h
		ZREC	90.75	102.5	83.5	81.75	91.25	95	x	72.5	94.25	h
		DNFL	x	x	x	x	x	x	x	x	x	14
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x
91964	WELL-8-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5.7	<0.005	h
		ZREC	x	x	x	x	x	x	x	x	x	15
		DNFL	x	x	x	x	x	x	x	x	x	x
		DID	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	08936101	x

CHLOR 1,1,1-TRICHLOROETHANE
 C-CL-4 1,2-DICHLOROPROPANE
 1CLPRE TRANS-1,3-DICHLOROPROPENE
 12DCE 1,2-DICHLOROETHANE
 BRCL2H BROMODICHLOROETHANE
 TCE TRICHLOROETHENE
 111TCA 1,1,1-TRICHLOROETHANE
 D1CLPR 1,2-DICHLOROPROPANE
 BERCH 1,1,1,2-TETRACHLOROETHANE

JOB DESCRIPTION: HIROF
 REPORT DATE: 07 MAY 84

QUANTA

HIROF-QUANTA-
 RECEIPT DATE: 10 APR 84

JOB FILE: 91940
 EST. COMP. DATE: 13 MAY 84

6 - DENOTES P/B
 LAB ID PROJECT ID

COLUMN... 19 20 21 22 23 24 25 26 27
 ANALYSIS... 80 81 83 87 84 85 86 87 89
 ICPN... CHCL3 120CE 1117CA C-CL-4 BRCL2H BTCLFR CLPRE TCE DBCRCH

LAB ID	PROJECT ID	CONC	20	21	22	23	24	25	26	27
21210	WELL 9-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.25	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21211	WELL 12-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.042	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.039	<0.005
		QID	08936101X							
21212	WELL 14-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.096	<0.005
		ZREC	X	X	99	67	X	X	X	67
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21213	WELL 13-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21214	WELL 14-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21215	WELL 15-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.017	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21216	WELL 5-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							
21217	WELL 4-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0067	<0.005
		ZREC	X	X	X	X	X	X	X	X
		DNFL	X	X	X	X	X	X	X	X
		QID	08936101X							

CHCL3 CHLOROFORM
 C-CL-4 CARBON TETRACHLORIDE

120CE 1,2-DICHLOROETHANE
 BRCL2H BROMODICHLOROETHANE
 TCE TRICHLOROETHENE

1117CA 1,1,1-TRICHLOROETHANE
 BTCLFR 1,2-DICHLOROBENZENE
 DBCRCH 0,0-DIBROMOCHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY DATA REPORTING SHEET (SHEET 2 OF 10)

JOB DESCRIPTION		GROUP DATA										JOB FILE # 91940	
REPORT DATE: 07 MAY 68		RECEIPT DATE: 01 APR 68										EST. COMP. DATE: 16 MAY 68	
ANALYSIS PER		1	2	3	4	5	6	7	8	9			
LAB ID PROJECT ID		FD	Zn	NI	PCB016	PCB221	PCB232	PCB242	PCB248	PCB254	R01		
21948	WELL-20-S	COND	0.152	1.25	1.71	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	9	
		SPEC	101	105									
		DUP	4.20	1.74									
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21948	FIELD BLANK	COND	18	18	18	18	18	18	18	18	18	10	
		ZINC											
		DUP											
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21950	WELL-12-S	COND	0.388	8.11	10.7	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	11	
		SPEC											
		DUP											
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21951	WELL-17-S	COND	0.050	4.56	1.46	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	12	
		SPEC											
		DUP				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21952	WELL-7-0	COND	0.034	10.2	0.855	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	13	
		SPEC					80						
		DUP											
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21953	WELL-18-S	COND	0.123	9.08	1.38	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	14	
		SPEC											
		DUP											
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
21954	WELL-8-0	COND	0.112	14.7	0.883	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	15	
		SPEC											
		DUP											
		QID	20566126	51206119	51206115	07976120	07976120	07976120	07976120	07976120	07976120		
			HGA AUTH	HGA AUTH									
PH	LEAD	Zn	ZINC	NI	MANGANESE								
PCB016	PCB-1014	PCB221	PCB-1221	PCB232	PCB-1232								
PCB242	PCB-1242	PCB248	PCB-1248	PCB254	PCB-1254								

JOB DESCRIPTION: NITRO
 REPORT DATE: 07 MAY 86
 LAB ID PROJECT ID

UNITA
 RECEIPT DATE: 01 APR 86
 ANALYSIS: 10 11 12 13 14 15 16 17 18
 59 72 73 74 75 76 77 78 79
 PCB250 C1E1 E1E1 V1C1 C1E1 M1C1 D1C1E1 I1D1C1E1

JOB FILE: 91940
 EST. COMP. DATE: 16 MAY 86

LAB ID	PROJECT ID	CONC	REC	DUFL	Q1D	10	11	12	13	14	15	16	17	18					
91940	WELL 7-D	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	0.013	*
91941	WELL 18-C	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*
91942	WELL 16-B	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*
91943	WELL 13-B	RECEIVED	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*
91944	WELL 14-B	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*
91945	WELL 15-B	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	0.0056	*	<0.005	*	<0.005	*	<0.005	*
91946	WELL 5-D	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*
91947	WELL 6-D	<0.0002	*	<0.010	*	<0.010	*	<0.010	*	<0.010	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*

PCB250 PCB 1260
 C1E1 VINYL CHLORIDE
 I1D1C1E1 1,1-DICHLOROETHANE

C1E1 CHLOROETHANE
 C1E1 CHLOROETHANE
 I1D1C1E1 1,1-DICHLOROETHANE

M1C1 BROMOMETHANE
 D1C1E1 METHYLENE CHLORIDE
 D1C1E1 TRANS-1,2-DICHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 4)

JOB DESCRIPTION: NITROP 4L11A
 RECEIPT DATE: 01 MAY 86

NITROP CHAIN
 RECEIPT DATE: 29 JAN 86

JOB FILE: 190741
 EST. COM. DATE: 04 APR 85

ANALYSIS: 28 29 30 31 32 33 34 35 36
 PHEN. C1ETRE C1GR3 T1ETA T1ETE T1UCH C1BEN ETBEN ACRO ACRY
 DENOTES PPM LAB ID PROJECT ID

LAB ID	PROJECT ID	CONC	28	29	30	31	32	33	34	35	36
90711	WELL 7-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.10
		ZREC	X	X	X	X	X	X	X	X	X
		DUPL	X	X	X	X	X	X	X	X	X
		QID	08936030K								
90712	WELL 9-S	CONC	<0.005	<0.005	<0.005	0.21	<0.005	<0.005	<0.005	<0.10	<0.10
		ZREC	X	X	X	X	X	X	X	X	X
		DUPL	X	X	X	X	X	X	X	X	X
		QID	08936030K								
90713	WELL 10-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.10
		ZREC	X	X	X	X	X	X	X	X	X
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.10
		QID	08936030K								
90714	WELL 11-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.10	<0.10
		ZREC	91.75	95.5	98.75	95.5	95.25	X	X	X	106.25
		DUPL	X	X	X	X	X	X	X	X	X
		QID	08936030K								

C1ETRE 2-CHLOROETHYL VINYL ETHER C1GR3 DIBROMOETH
 T1ETA 1,1,2,2-TETRACHLOROETHANE T1UCH
 C1BEN CHLOROBENZENE
 ETBEN ETHYLBENZENE ACRO ACROLEIN
 ACRY ACRYLONITRILE

JOB DESCRIPTION: KNITROF OXIMIA
 REPORT DATE: 01 MAY 86

HIROP CHAIA---
 RECEIPT DATE: 29 JAN 86

JOB FILE: 90761
 EST. COMP. DATE: 04 APR 86

COL 10	11	12	13	14	15	16	17	18	
ANALYSIS.. 74	75	76	77	78	79	80	81	82	
PERL.....	VICL	CIET	NICL	DELE	DI1CE	DI1CLE	CI1CL3	DI1DCE	DI1TCA

1 2 DENOTES PER PROJECT TO

90761	WELL 7-S	CONC	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	0.0065	*
		%REC		*		*		*		*		*		*		*		*		*
		DUFL		*		*		*		*		*		*		*		*		*
		OTD	08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*	

90762	WELL 9-S	CONC	<0.005	*	<0.005	*	<0.005	*	0.0056	*	0.061	*	0.51	*	<0.005	*	<0.005	*	0.29	*
		%REC		*		*		*		*		*		*		*		*		*
		DUFL		*		*		*		*	0.50	*		*		*		*	0.93	*
		OTD	08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*	

90763	WELL 10-S	CONC	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	0.012	*	<0.005	*	<0.005	*	<0.005	*
		%REC		*		*		*		*		*		*		*		*		*
		DUFL	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	0.012	*	<0.005	*	<0.005	*	<0.005	*
		OTD	08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*	

90764	WELL 11-S	CONC	<0.005	*	<0.005	*	<0.005	*	<0.005	*	<0.005	*	0.034	*	<0.005	*	<0.005	*	<0.005	*
		%REC	99.875	*	95.25	*		*	97.5	*	63.25	*	85.25	*	94	*	93.25	*	96.25	*
		DUFL		*		*		*		*		*		*		*		*		*
		OTD	08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*		08936030*	

VI1CL	VINYL CHLORIDE	CIET	CHLOROETHANE	NECL	METHYLENE CHLORIDE
DELE	1,1-DICHLOROETHYLENE	DI1CE	1,1-DICHLOROETHANE	DI1CE	TRANS-1,2-DICHLOROETHYLENE
CI1CL3	CHLOROFORM	DI1DCE	1,2-DICHLOROETHANE	DI1TCA	1,1,1-TRICHLOROETHANE

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 4) *****

JOB DESCRIPTION: NITROP-GRINDA

NITROP-GRINDA----

JOB FILE: 90761

REPORT DATE: 01-MAY-86

RECEIPT DATE: 23 JAN 86

EST. COMP. DATE: 04 APR 86

COLUMN... 19	20	21	22	23	24	25	26	27
ANALYSIS... 83	84	85	86	87	88	89	90	91
PPH..... C-CL-4	BROCL2H	DTCLPR	COLPRE	TCE	BROCLH	COLPRE	112TCA	BENZEN

LAB ID PROJECT ID

(001)

LAB ID	PROJECT ID	CONC	ZREC	DWPL	OTD																		
90761	WELL-7-S	<0.005	X	<0.005	X	<0.005	X	<0.005	X	0.134	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X
										0.131	X												
		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030	
90762	WELL-9-S	<0.005	X	<0.005	X	<0.005	X	<0.005	X	4.2	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X
										3.7	X												
		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030	
90763	WELL-10-S	<0.005	X	<0.005	X	<0.005	X	<0.005	X	0.134	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X
				<0.005	X	<0.005	X	<0.005	X	0.125	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X
		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030	
90764	WELL-11-S	<0.005	X	<0.005	X	<0.005	X	<0.005	X	0.044	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X	<0.005	X
				94.75	X	95.5	X	105.114	X	85.75	X	96.75	X	94.6718	X	79	X	95.75	X	95.75	X	95.75	X
		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030		08936030	

C-CL-4 CARBON TETRACHLORIDE

BROCL2H BROMODICHLOROMETHANE

DTCLPR 1,2-DICHLOROPROPANE

COLPRE TRANS-1,3-DICHLOROPROPENE

TCE TRICHLOROETHENE

BROCLH 1,1-BROMOCHLOROMETHANE

COLPRE CIS-1,3-DICHLOROPROPENE

112TCA 1,1,2-TRICHLOROETHANE

BENZEN BENZENE

JOB DESCRIPTION: NIROP 0413M

NIROP 0413M
RECEIPT DATE: 29 JAN 86

JOB FILE: 90761
EST. CORR. DATE: 04 APR 86

REPORT DATE: 01 MAY 86

B DENOTES DBP
LAB ID PROJECT ID

COLUMB...	1	2	3	4	5	6	7	8	9
ANALYSIS..	53	54	55	56	57	58	59	72	73
PTH.....	PCB014	PCB221	PCB232	PCB242	PCB248	PCB254	PCB260	CHL	BRNE

LAB ID	PROJECT ID	CONC	1	2	3	4	5	6	7	8	9					
90761	WELL-7-S	CONC	<0.0002	x	<0.005	x	<0.005	x								
		ZRFC	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		DUPL	<0.0002	x	<0.0002	x										
		QID	07976119x	08936030x	08936030x											
90762	WELL-9-S	CONC	<0.0002	x	<0.005	x	<0.005	x								
		ZRFC	x	110	x	x	x	x	x	x	x	x	x	x	x	2
		DUPL	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		QID	07976119x	08936030x	08936030x											
90763	WELL-10-S	CONC	<0.0002	x	<0.005	x	<0.005	x								
		ZRFC	x	x	x	x	x	x	x	x	x	x	x	x	x	3
		DUPL	x	x	x	x	x	x	x	x	x	x	<0.005	x	<0.005	x
		QID	07976119x	08936030x	08936030x											
90764	WELL-11-S	CONC	<0.0002	x	<0.005	x	<0.005	x								
		ZRFC	x	x	x	x	x	x	x	x	x	x	x	x	103.25	x
		DUPL	x	x	x	x	x	x	x	x	x	x	x	x	x	x
		QID	07976119x	08936030x	08936030x											

PCB014 PCB-1014
PCB242 PCB-1242
PCB260 PCB-1260

PCB221 PCB-1221
PCB248 PCB-1248
CHL CHL CHOROMETHANE

PCB232 PCB-1232
PCB254 PCB-1254
BRNE BROROMETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 5)

JOB DESCRIPTION: NIROP		NIROP0000000000										JOB FILE: 86378		
REPORT DATE: 18 JUL 85		COLUMN...	28	29	30	31	32	33	34	35	36	EST. COMP. DATE: 12 JUL 85		
		ANALYSIS..	89	90	91	92	93	94	95	96	97			
B I DENOTES TYP		PPH	COLPRE	112ICA	BENZEN	CLEIRE	CHBR3	TCLETA	TCLEIE	TULUEN	CLREN	HOW		
LAB ID	PROJECT ID													
86378	WELL 1-S	CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M
		ZREC		M	M	M	M	M	M	M	M	M	M	1
		DUPL		M	M	M	M	M	M	M	M	M	M	
		DTU	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	
86379	WELL 2-S	CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M
		ZREC		M	M	M	M	M	M	M	M	M	M	2
		DUPL		M	M	M	M	M	M	M	M	M	M	
		DTU	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	
86380	WELL 1-U	CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M
		ZREC		M	M	M	M	M	M	M	M	M	M	3
		DUPL		M	M	M	M	M	M	M	M	M	M	
		DTU	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	
86381	WELL 2-U	CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M	<0.005	M
		ZREC		M	M	M	M	M	M	M	M	M	M	4
		DUPL		M	M	M	M	M	M	M	M	M	M	
		DTU	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	
COLPRE		D15-1 3-DICHLOROPROPENE		112ICA		1 1 2-TRICHLOROETHANE		BENZEN		BENZENE				
CLEIRE		2-CHLOROETHYL VINYL ETHER		CHBR3		BROMOFORM		TCLETA		1 1 2 2-TETRACHLOROETHANE				
TCLEIE		TETRACHLOROETHENE		TULUEN		TOLUENE		CLREN		CILROBENZENE				

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 5)

JOB DESCRIPTION: NRIOP
 REPORT DATE: 18 JUL 85

NIR0P0000000000
 RECEIPT DATE: 30 MAY 85

JOB FILE: 86378
 EST. COMP. DATE: 12 JUL 85

ANALYSIS: 10 11 12 13 14 15 16 17 18
 59 72 73 74 75 76 77 78 79

0 DENOTES PPB
 LAB ID PROJECT ID PPH..... PCB260 CLHE BRPE VIOL CLET PECL DCLTE TIDCE TDICE ROW

86378 WELL-1-S CONC <0.0002 M <0.005 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 07975191M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M

86379 WELL-2-S CONC <0.0002 M <0.005 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 07975191M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M

86380 WELL-1-D CONC <0.0002 M <0.005 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 07975191M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M

86381 WELL-2-D CONC <0.0002 M <0.005 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 07975191M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M 08935155M

PCB260 PCB-1260 CLHE 1 CHLOROMETHANE
 VIOL VINYL CHLORIDE CLET CHLOROETHANE
 DCLTE 1 1-DICHLOROETHENE TIDCE 1 1-DICHLOROETHANE
 PECL METHYLENE CHLORIDE
 TDICE TRANS-1 2-DICHLOROETHENE

JOB DESCRIPTION: N1R0P		N1R0P0000000000										JOB FILE: 86378	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 30 MAY 85										EST. COMP. DATE: 12 JUL 85	
		COLUMN... 19	20	21	22	23	24	25	26	27			
		ANALYSIS... 80	81	82	83	84	85	86	87	88			
W 1 DENOTES PPH	LAB ID	PROJECT ID	PPH.....CHL3	12DCE	111TCA	C CL 4	BRCL2H	DICLPH	4CLPRE	TCE	DBRCLM	ROW	
	86378	WELL 1-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1	
			ZREC	M	M	M	M	M	M	M	M		
			DUPL	M	M	M	M	M	M	M	M		
			OTD	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M		
	86379	WELL 2-S	CONC	<0.005	<0.005	0.0058	<0.005	<0.005	<0.005	<0.005	0.067	2	
			ZREC	M	M	M	M	M	M	M	M		
			DUPL	M	M	M	M	M	M	M	M		
			OTD	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M		
	86380	WELL 1-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3	
			ZREC	M	M	M	M	M	M	M	M		
			DUPL	M	M	M	M	M	M	M	M		
			OTD	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M		
	86381	WELL 2-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4	
			ZREC	M	M	M	M	M	M	M	M		
			DUPL	M	M	M	M	M	M	M	M		
			OTD	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M	08935155M		
CHL3	CHLOROFORM		12DCE	1,2-DICHLOROETHANE			111TCA	1,1,1-TRICHLOROETHANE					
C CL 4	CARBON TETRACHLORIDE		BRCL2H	BROMODICHLOROMETHANE			DICLPH	1,2-DICHLOROPROPANE					
4CLPRE	TRANS-1,3-DICHLOROPROPENE		TCE	TRICHLOROETHENE			DBRCLM	DIBROMOCHLOROMETHANE					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 5)

JOB DESCRIPTION: NITROF		NITROF0000000000										JOB FILE: 86378	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 30 MAY 85										EST. COMP. DATE: 12 JUL 85	
		1	2	3	4	5	6	7	8	9			
ANALYSIS:		9	15	23	53	54	55	56	57	58			
LAB ID	PROJECT ID	PPM	IN	IN	PCB016	PCB221	PCB222	PCB242	PCB248	PCB254	NOM		
86378	WELL 1-S	CONC 0.010	0.256	1.15	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			
		XREC	99.9	104							1		
		DUPL	0.244	1.15									
		DTD	20065183	01205198	01205198	07775191	07775191	07775191	07775191	07775191	07775191		
			NOA AUTH	NOA AUTH									
86377	WELL 2-S	CONC 0.293	3.57	6.90	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			
		XREC									2		
		DUPL											
		DTD	20065183	01205198	01205198	07775191	07775191	07775191	07775191	07775191	07775191		
			NOA AUTH	NOA AUTH									
86380	WELL 1-D	CONC 0.054	2.54	0.065	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			
		XREC									3		
		DUPL											
		DTD	20065183	01205198	01205198	07775191	07775191	07775191	07775191	07775191	07775191		
			NOA AUTH	NOA AUTH									
86381	WELL 2-D	CONC 0.023	1.17	0.316	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			
		XREC									4		
		DUPL											
		DTD	20065183	01205198	01205198	07775191	07775191	07775191	07775191	07775191	07775191		
			NOA AUTH	NOA AUTH									
PCB016	LEAD	PCB1016	PCB221	PCB1221	PCB232	PCB1232	PCB242	PCB1242	PCB248	PCB1248	PCB254 PCB1254		

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 5)

JOB DESCRIPTION: MINOR CANALS		NINDP0000000000										JOB FILE: 86636	
REPORT DATE: 05 JUN 85		RECEIPT DATE: 12 JUN 85										EST. COMP. DATE: 26 JUL 85	
COLIMN...	19	20	21	22	23	24	25	26	27				
ANALYSIS...	00	01	02	03	04	05	06	07	08				
B I DENOTES PPB	PFM.....	CK13	12DCE	111ICA	C CL 4	BNCL2M	DICLPR	+CLPRE	TCE	DNCLM	NON		
LAB ID	PROJECT ID	TELSTA					TELSTA3					NON	
86636	WELL-# 6-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	1	
		XREC											
		DPL											
		DID	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M		
86637	WELL 11-3	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.035	<0.005	2	
		XREC											
		DPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.032	<0.005		
		DID	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M		
86638	WELL 10-6	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.15	<0.005	3	
		XREC											
		DPL								0.12			
		DID	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M		
86639	WELL 7-8	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.15	<0.005		
		XREC	100.75	97	102.75	105.25	100	99.75	99.5238	100.25	104	4	
		DPL								0.15			
		DID	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M	08935169M		
DNCL3	CHLOROFORM	12DCE	1 2-DICHLORETHANE					111ICA	1 1 1-TRICHLOROETHANE				
C CL 4	CARBON TETRACHLORIDE	BNCL2M	BROMODICHLOROMETHANE					DICLPR	1 2 DICHLOROPROPANE				
+CLPRE	TRANS-1 3-DICHLOROPHENE	TCE	TRICHLOROETHENE					DNCLM	DIBROMOCHLOROETHANE				

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 1)

JOB DESCRIPTION: MIRO-OMMA NIB0000000000 JOB FILE: 84634
 REPORT DATE: 05 MAR 85 RECEIPT DATE: 12 JUN 85 EST. COMP. DATE: 26 JUL 85

ANALYSIS: 28 29 30 31 32 33 34 35 36
 PPM: COLPRE 1121CA BENZEN CLETRE (1)BR3 TOLETA TOLEIE Y TOLUEN CLEEN

B DENOTES P/B LAB ID PROJECT ID

86636	WELL-B 6D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC													1
		DUE1													
		DID	08935169M												

86637	WELL 11-8	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC													2
		DUE1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		DID	08935169M												

86638	WELL 10-8	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC													3
		DUE1													
		DID	08935169M												

86639	WELL 7-8	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC		107.25	87		81.5	113.25			97.25	109.5			4
		DUE1													
		DID	08935169M												

COLPRE CIR-1 3-DICHLOROPROPENE 1121CA 1 1 2-TRICHLOROETHANE
 CLETRE 2-CHLOROETHYL VINYL ETHER CHBR3 BROMOFORM
 TOLETA TETRACHLOROETHENE TOLUEN TOLUENE
 TOLEIE 1 1 2 2-TETRACHLOROETHANE
 CLEEN CHLOROETHENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 3)

JOB DESCRIPTION: HHT02-02A1A
 REPORT DATE: 05 AUG 85
 RECEIPT DATE: 12 JUN 85
 JOB FILE: RA634
 EST. COMP. DATE: 23 JUL 85

ANALYSIS: 1 2 3 4 5 6 7 8 9
 ANALYSIS: 2 15 23 33 34 35 37 38
 PCB016 PCB221 PCB232 PCB242 PCB248 PCB254

LAB ID PROJECT ID
 86636 WELL-5 6-5
 CONC 0.016 * 2.30 * 0.361 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 *
 ZREC * * * * * * * * * * * * *
 DUEL * * * * * * * * * * * * *
 DID 20545183 51205212 51205212 07975210 07975210 07975210 07975210 07975210 07975210
 HQA AUTH HQA AUTH

86637 WELL 11-S
 CONC 0.053 * 1.47 * 5.00 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 *
 ZREC * * * * * * * * * * * * *
 DUEL * * * * * * * * * * * * *
 DID 20545183 51205212 51205212 07975210 07975210 07975210 07975210 07975210 07975210
 HQA AUTH HQA AUTH

86638 WELL 10-S
 CONC 0.109 * 1.36 * 8.74 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 *
 ZREC * * * * * * * * * * * * *
 DUEL * * * * * * * * * * * * *
 DID 20545183 51205212 51205212 07975210 07975210 07975210 07975210 07975210 07975210
 HQA AUTH HQA AUTH

86639 WELL 7-S
 CONC 0.007 * 1.16 * 27.5 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 * <0.0002 *
 ZREC * * * * * * * * * * * * *
 DUEL * * * * * * * * * * * * *
 DID 20545183 51205212 51205212 07975210 07975210 07975210 07975210 07975210 07975210
 HQA AUTH HQA AUTH

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

PCB016 PCB-1014 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 PCB232 PCB-1232
 PCB254 PCB-1254

LEAD ZINC MANGANESE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 3)

JOB DESCRIPTION: MINISOP-OMAHA		NIR00000000000										JOB FILE: B6636	
REPORT DATE: 05 AUG 85		RECEIPT DATE: 12 JUN 85										EST. COMP. DATE: 24 JUL 85	
		COLUMN...	10	11	12	13	14	15	16	17	18		
		ANALYSIS...	52	72	73	74	75	76	77	78	79		
W I DENOTES PPM		PTH.....	PCB240	CHL	BVPE	VICL	CLET	MECL	DCLETE	11DCE	*D1CE	ROM	
LAB ID	PROJECT ID												
86636	WELL 9 6-D	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	"	"	"	"	"	"	"	"	"	"	"
		DLE1	"	"	"	"	"	"	"	"	"	"	"
		QID	07975210	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169
86637	WELL 11-8	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.036	"
		ZREC	"	"	"	"	"	"	"	"	"	"	"
		DLE1	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.036	"
		QID	07975210	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169
86638	WELL 10-8	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.015	"
		ZREC	"	"	"	"	"	"	"	"	"	"	"
		DLE1	"	"	"	"	"	"	"	"	"	"	"
		QID	07975210	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169
86639	WELL 7-8	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	"	"	"	"	"	"	"	"	"	"	"
		DLE1	"	"	"	"	"	"	"	"	"	"	"
		QID	07975210	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169	08935169
PCB240	PCB-1260	CHL	1,1-DICHLORoETHANE					BVPE	BROMoETHANE				
VICL	VINYL CHLORIDE	CLET	CHLOROETHANE					MECL	METHYLENE CHLORIDE				
DCLETE	1,1-DICHLOROETHENE	11DCE	1,1-DICHLOROETHANE					*D1CE	TRANS-1,2-DICHLOROETHENE				

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 5)

JOB DESCRIPTION: NIROP CHAM		NIRD0000000000										JOB FILE: 186382	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 10 JUN 85										EST. COMP. DATE: 12 JUL 85	
		COLUMN... 28	29	30	31	32	33	34	35	36	37		
		ANALYSIS.. 89	90	91	92	93	94	95	96	97			
LAB ID	PROJECT ID	CONC	11ZICL	BENZEN	CLETR	CHRO3	TCLETA	TCLETE	TCUEN	CLBEN	ROW		
B6382	WELL 8-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.045	<0.005	<0.005	# 1		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6383	WELL 4-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 2		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6384	WELL 5-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 3		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6385	WELL 3-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 4		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6386	WELL 4-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 5		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6387	WELL 5-D	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 6		
		XREC	#	#	#	#	#	#	#	#	#		
		DUPL	#	#	#	#	#	#	#	#	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
B6388	WELL 3-S	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	# 7		
		XREC	#	97.5	90.5	76.75	103	100.25	94.5	97.75	#		
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	#		
		DTU	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	08935155#	
		CCIPRE	1,1,2,2-TETRACHLOROETHANE		1,1,2-TRICHLOROETHANE		BENZEN		BENZENE				
		CCLETR	2-CHLOROETHYL VINYL ETHER		CHRO3		TCLETA		1,1,2,2-TETRACHLOROETHANE				
		TCLETE	TETRACHLOROETHENE		TOLUEN		TOLUENE		CLBEN		CILGROBENZENE		

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 5 OF 5) *****

JOB DESCRIPTION: NIROP - OHAMA		NIROP0000000000				JOB FILE: 66362	
REPORT DATE: 12 JUL 85		RECEIPT DATE: 04 JUN 85				EST. COMP. DATE: 12 JUL 85	
		COLUMN... 37	38	39	40		
		ANALYSIS.. 98	99	100	154		
B I DENOTES PPM	PTN.....	ETBEN	ACRO	ACRY	ETINPH	ROM	
LAB ID	PROJECT ID						
86382	WELL 6-B	CONC	<0.005	<0.1	<0.1	0.0062	
		XREC					1
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86383	WELL 4-D	CONC	<0.005	<0.1	<0.1	0.0030	
		XREC					2
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86384	WELL 5-B	CONC	<0.005	<0.1	<0.1	0.0026	
		XREC					3
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86385	WELL 3-D	CONC	<0.005	<0.1	<0.1	0.0049	
		XREC					4
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86386	WELL 4-S	CONC	<0.005	<0.1	<0.1	0.0047	
		XREC					5
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86387	WELL 5-D	CONC	<0.005	<0.1	<0.1	0.0036	
		XREC					6
		DUPL					
		DTD	08935155M	08935155M	08935155M	07775191M	
86388	WELL 3-B	CONC	<0.005	<0.1	<0.1	0.0036	
		XREC	96.25				7
		DUPL	<0.005	<0.1	<0.1		
		DTD	08935155M	08935155M	08935155M	07775191M	
ETBEN	ETHYLBENZENE			ACRO	ACROLEIN	ACRY	ACRYLONITRILE
ETINPH	BIS(ETHYL-HEXYL)PHTHALAT						

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 5) *****

JOB DESCRIPTION: NITROP T ONAHA		NITROP0000000000										JOB FILE: 06382	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 04 JUN 85										EST. COMP. DATE: 12 JUL 85	
		COLLIN... 10	11	12	13	14	15	16	17	18			
		ANALYSIS.. 89	72	73	74	75	76	77	78	79			
B DENOTES PPB		PPH..... PCB260	CLME	BRPE	VICL	CLET	NECL	DCLETE	IIDCE	+DICLE	ROW		
LAB ID	PROJECT ID												
86382	WELL 6-B	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.093	
		XREC										1	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86383	WELL 4-D	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										2	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86384	WELL 5-B	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										3	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86385	WELL 3-D	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										4	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86386	WELL 4-B	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										5	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86387	WELL 5-D	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										6	
		DUPL											
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
86388	WELL 3-B	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	0.025	<0.005	<0.005	<0.005	0.097	
		XREC						82.5731	94	95	78.75	7	
		DUPL		<0.005	<0.005	<0.005	<0.005	0.034	<0.005	<0.005	0.104		
		UID	07975191	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	08935155	
PCB260	PCB-1260	CLME	CHLOROMETHANE				BRPE	BROMOMETHANE					
VICL	VINYL CHLORIDE	CLET	CHLOROETHANE				NECL	METHYLENE CHLORIDE					
DCLETE	1,1-DICHLOROETHENE	IIDCE	1,1-DICHLOROETHANE				+DICLE	TRANS-1,2-DICHLOROETHENE					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 5)

JOB DESCRIPTION: NIROP - OHWA		NIROP000000000										JOB FILE: 06392	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 04 JUN 85										EST. COMP. DATE: 12 JUL 85	
		COL 19	20	21	22	23	24	25	26	27			
		ANALYSIS	80	81	82	83	84	85	86	87	88		
B I DENOTES PYP		PPH	CHCL3	12DCE	111TCA	C CL 4	BACL21	DICLPR	TCLPRE	TCE	DBRCLM	ROW	
LAB ID	PROJECT ID												
86382	WELL 5-S	CONC	<0.005	<0.005	<0.043	<0.005	<0.005	<0.005	<0.005	<0.62	<0.005	1	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86383	WELL 4-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86384	WELL 3-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86385	WELL 3-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	4	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86386	WELL 4-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86387	WELL 3-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6	
		ZREC											
		DUPL											
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
86388	WELL 3-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.62	<0.005	7	
		ZREC	94	94.25	106.25	97.5	94.75	96.25	50.25	93.75	94		
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.67	<0.005		
		DTD	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	06733133	
CHCL3	CHLOROFORM	12DCE	1,2-DICHLOROETHANE				111TCA	1,1,1-TRICHLOROETHANE					
C CL 4	CARBON TETRACHLORIDE	BACL21	BROMODICHLOROMETHANE				DICLPR	1,2-DICHLOROPROPANE					
+CLPRE	TRANS-1,3-DICHLOROPROPENE	TCE	TRICHLOROETHENE				DBRCLM	DIBROMOCHLOROMETHANE					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 5 OF 5)

JOB DESCRIPTION: NIHOOP - ONAMA		NIHOOP0000000000		MATER		JOB FILE: 86929	
REPORT DATE: 03 AUG 85		RECEIPT DATE: 21 JUN 85		EST. COMP. DATE: 09 AUG 85			
LAB ID	PROJECT ID	PPM	ETHEN	ACHO	ACHY	ETIPFH	RDH
86929	WELL 1-PC 6/18/85	CONC	<0.005	<0.10	<0.10	<0.00001	1
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86930	WELL 2-PC 6/18/85	CONC	<0.005	<0.10	<0.10	<0.00001	2
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86931	WELL 8-6 6/19/85	CONC	<0.005	<0.10	<0.10	<0.00001	3
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86932	WELL 9-7 6/19/85	CONC	<0.005	<0.10	<0.10	<0.00001	4
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86933	WELL 3-PC 6/20/85	CONC	<0.005	<0.10	<0.10	0.0013	5
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86934	WELL HC-33 /20/85	6 CONC	0.015	<0.10	<0.10	<0.00001	6
		XREC	63.5	89.75	109.5		
		DUEL					
		OID	08935176	08935176	08935176	07975213	
86935	WELL 4-PC 6/20/85	CONC	<0.005	<0.10	<0.10	0.0059	7
		XREC					
		DUEL					
		OID	08935176	08935176	08935176	07975213	
ETHEN		ETHYLBENZENE		ACHO	ACHOLEIN	ACHY	ACRYLONITRILE
ETIPFH		BIS(ETHYLHEXYL)PHTHALATE					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 5)

JOB DESCRIPTION: NIROF - OHWA		NIRUP0000000000										JOB FILE: B4362	
REPORT DATE: 18 JUL 85		RECEIPT DATE: 04 JUN 85										EST. CORR. DATE: 12 JUL 85	
COLUMN... 1		2	3	4	5	6	7	8	9				
ANALYSIS... 9		15	23	53	54	55	56	57	58				
UNIT DENOTES P/B		PPM.....P/B	IN	IN	PCB016	PCB221	PCB232	PCB242	PCB248	PCB254	ROM		
LAB ID	PROJECT ID												
85382	WELL 6-S	CONC 0.294	3.43	4.28	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	1		
		ZREC	104	102									
		DUPL	3.54	4.23									
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85383	WELL 4-U	CONC 0.029	0.462	0.093	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	2		
		ZREC											
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85384	WELL 5-S	CONC 0.022	0.419	4.09	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	3		
		ZREC											
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85385	WELL 3-U	CONC 0.045	4.58	0.081	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	4		
		ZREC							114.4				
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85386	WELL 4-S	CONC 0.084	3.73	1.81	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	5		
		ZREC											
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85387	WELL 5-U	CONC 0.186	6.02	0.312	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	6		
		ZREC											
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
85388	WELL 3-S	CONC 0.026	1.37	3.16	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	7		
		ZREC											
		DUPL											
		OTD	20585183	51205198	51205198	07975191	07975191	07975191	07975191	07975191	07975191		
		HOA AUTH											
P/B	LEAD		ZN	ZINC			MN	MANGANESE					
PCB016	PCB-1016		PCB221	PCB-1221			PCB232	PCB-1232					
PCB242	PCB-1242		PCB248	PCB-1248			PCB254	PCB-1254					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 5)

JOB DESCRIPTION: NIROP - GRWA		NIROP0000000000										WATER		JOB FILE: B4225	
REPORT DATE: 05 AUG 85		RECEIPT DATE: 21 JAN 85										EST. COMP. DATE: 09 AUG 85			
		COLLN...	19	20	21	22	23	24	25	26	27				
		ANALYSIS...	80	81	82	83	84	85	86	87	88				
LAB ID	PROJECT ID	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NON
86929	WELL 1-PC 6/18/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86930	WELL 2-PC 6/18/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0087	<0.005		2
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86931	WELL 8-6 6/19/85	CONC	<0.005	<0.005	0.039	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4.0	<0.005		3
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86932	WELL 7-7 6/19/85	CONC	<0.005	<0.005	0.39	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3.2	<0.005		4
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86933	WELL 3-PC 6/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		5
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86934	WELL MC-33 7/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2.6	<0.005		6
		ZREC	99.25	95.5	95	97.5	96.75	100.75	100	100	87.5	99.25			
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86935	WELL 4-PC 6/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		7
		ZREC													
		DID	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
C.I. 3 CHLOROFORM		12DCE	1,2-DICHLOROETHANE										1,1,1-TRICHLOROETHANE		
C.I. 4 CARBON TETRACHLORIDE		BRL 2M	BROMOCHLOROETHANE										DICLPR 1,2-DICHLOROPROPANE		
C.I. PRE TRANS-1,3-DICHLOROPROPENE		TCE	TRICHLOROETHANE										DBRCLM DIBROMOCHLOROETHANE		

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 5)

JOB DESCRIPTION: NIROP - OHAWA		NIROP0000000000		WATER		JOB FILE: 84929				
REPORT DATE: 05 AUG 85		RECEIPT DATE: 21 JUN 85		EST. COMP. DATE: 09 AUG 85						
COL. NO.	ANALYSIS	28	29	30	31	32	33	34	35	36
CONC	REC	28	29	30	31	32	33	34	35	36
UNIT	TYPE	112TCA	BENZEN	CLETRI	CHBR3	TOLETA	TOLETA 4	TOLUEN	CLBEN	NON
84927	WELL 1-PC 6/18/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC								
		DID	06935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84930	WELL 2-PC 6/18/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC								
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84931	WELL 8-S 6/19/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	0.045	<0.005	<0.005
		ZREC								
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84932	WELL 9-S 6/19/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	0.22	<0.005	<0.005
		ZREC								
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84933	WELL 3-PC 6/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0055	<0.005
		ZREC								
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84934	WELL MC-33 7/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	0.0053	<0.005	<0.005
		ZREC	100.321	100.5	85.75	94.5	82.	89.5	97.75	103.75
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
84935	WELL 4-PC 6/20/85	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005
		ZREC								
		DID	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M	08935176M
COL. NO.		112TCA		1,1,2-TRICHLOROETHANE		BENZEN		BENZENE		
CLETRI		CHBR3		BROMOFORM		TOLETA		1,1,2,2-TETRACHLOROETHANE		
TOLETA		TOLUEN		TOLUENE		CLBEN		CHLOROBENZENE		

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 5)

JOB DESCRIPTION: MINOR - OHAMA		NIRP0000000000		MATER		JOB FILE: 64929				
REPORT DATE: 05 AUG 85		RECEIPT DATE: 21 JUN 85		EST. COMP. DATE: 09 AUG 85						
COLUMN...	1	2	3	4	5	6	7	8	9	
ANALYSIS	9	15	23	33	54	55	54	57	50	
PCB016	PCB221	PCB242	PCB248	PCB254	RDM					
86929	WELL 1-PC 6/18/85	CONC 0.018	0.234	0.844	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC 96.7	101							1
		DUR 0.324	0.954							
		DIR 20555214	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86930	WELL 2-PC 6/18/85	CONC 0.039	0.143	0.439	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								2
		DUR								
		DIR 20555214	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86931	WELL 8-6 6/19/85	CONC 0.154	1.81	11.8	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								105
		DUR								3
		DIR 20555214	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86932	WELL 9-2 6/19/85	CONC 0.054	1.10	2.07	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								4
		DUR								
		DIR 20555214	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86933	WELL 3-PC 6/20/85	CONC 0.011	0.134	0.139	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								5
		DUR								
		DIR 20565182	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86934	WELL 7/HC-33 /20/85	CONC 0.010	0.730	0.840	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								6
		DUR								
		DIR 20565182	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
86935	WELL 4-PC 6/20/85	CONC 0.026	1.34	0.424	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
		XREC								7
		DUR								
		DIR 20565182	51205213	51205213	07975218	07975218	07975218	07975218	07975218	07975218
		NOA AUTH	NOA AUTH							
PCB016	PCB-1016	PCB221	PCB-1221	PCB232	PCB-1232					
PCB242	PCB-1242	PCB248	PCB-1248	PCB254	PCB-1254					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 2)

JOB DESCRIPTION: NITROP - OMAHA		NITRO0000000000 WATER										JOB FILE: 183229	
REPORT DATE: 05 AND 65		RECEIPT DATE: 21 JUN 65										EST. COMP. DATE: 09 AND 65	
		COLUMN... 10	11	12	13	14	15	16	17	18			
		ANALYSIS... 39	72	73	74	75	76	77	78	79			
B DENOTES PPB		PPH..... PCB260	CLME	BRME	VICL	CLET	MECL	DCLETE	LLDCE	+DICLE	ROM		
LAB ID	PROJECT ID	DDELETE											
86929	WELL 1-PC 6/10/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	0.16	<0.005	<0.005	<0.005	
		XREC										1	
		DUP											
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86930	WELL 2-PC 6/18/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2	
		XREC											
		DUP											
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86931	WELL 8-5 6/19/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.19		
		XREC									(0.04)	3	
		DUP									0.18		
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86932	WELL 9-2 6/19/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	0.0092	0.066	0.50		
		XREC									0.46	4	
		DUP											
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86933	WELL 3-PC 6/20/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5	
		XREC											
		DUP											
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86934	WELL MC-33 6/20/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	0.016	<0.005	0.0063	0.11		
		XREC		97.375		92.25	87.75	81	104.25	91.75	97.25	6	
		DUP									0.095		
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
86935	WELL 4-PC 6/20/85	CONC	<0.0002	<0.005	<0.005	<0.005	<0.005	0.019	<0.005	<0.005	<0.005	7	
		XREC											
		DUP											
		OID	07975218	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	08935176	
PCB260	PCB-1260	CLME	CHLOROMETHANE				BRME	BROMOMETHANE					
VICL	VINYL CHLORIDE	CLET	CHLOROMETHANE				MECL	METHYLENE CHLORIDE					
DCLETE	1,1-DICHLOROETHENE	LLDCE	1,1-DICHLOROETHANE				+DICLE	TRANS-1,2-DICHLOROETHENE					

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 7 OF 8)

JOB DESCRIPTION: CHAHIA DISTRICT
 REPORT DATE: 20 MAR 85

CONTAINER NO: 01
 RECEIPT DATE: 08 JAN 85

JOB FILE: 84503
 EST. COMP. DATE: 01 MAR 85

COLUMN: 28 29
 ANALYSIS: 99 100
 PPL: ACRO ACRY

NO. INVOICES PD

LAB ID PROJECT ID

ROW

84503 DISTILLED BLANK CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

1

84504 1-PC CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

2

84505 2-PC CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

3

84506 3-PC CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

4

84507 1-D CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

5

84508 2-D CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

6

84509 3-D CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

7

84510 4-D CONC <0.10 N <0.10 N
 XREC N N
 DUPL N N
 OLD 08955059N 08955059N

8

ACRO ACROLEIN

ACRY ACRYLONITRILE

JOB DESCRIPTION: ENHOP - CHINA DISTRICT
 REPORT DATE: 20 MAR 85

ONTR: 00154101
 RECEIPT DATE: 09 JAN 85

LAB FILE: 1645-03
 EST. COMP. DATE: 01 MAR 85

COLUMN: 28 29
 ANALYSIS: 92 100
 FPH: ACRO ACRY

B 1 DENNIS LTD
 LAB ID PROJECT ID

04511 1-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL M M
 QID 08955059M 08955059M

10M

9

04512 2-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL <0.10 M <0.10 M
 QID 08955059M 08955059M

10

04513 3-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL M M
 QID 08955059M 08955059M

11

04514 4-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL <0.10 M <0.10 M
 QID 08955059M 08955059M

12

04515 5-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL M M
 QID 08955059M 08955059M

13

04516 6-S CONC <0.10 M <0.10 M
 XREC M M
 DUPL M M
 QID 08955059M 08955059M

14

04517 FNC-33 CONC <0.10 M <0.10 M
 XREC M M
 DUPL M M
 QID 08955059M 08955059M

15

ACRO ACROLEIN

ACRY ACRYLONITRILE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 5 OF 8)

JOB DESCRIPTION: ENTOP - OMAHA DISTRICT
 REPORT DATE: 20 MAR 85

INSTRUMENT: 85601
 RECEIPT DATE: 09 JAN 85

JOB FILE: 84503
 EST. COMP. DATE: 01 MAR 85

		COL 19	20	21	22	23	24	25	26	27		
		ANALYSIS: 90	91	92	93	94	95	96	97	98		
		PPH: 1121CA		CIETRE	CIHRO	TCLETA			CIHRO			
B: 1000000000	PROJECT: 10		BENZEN			TCLETA	TOLUEN			BTBEN	FROM	
84503	DISTILLED-BLANK	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	1
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84504	1-PC	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	2
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84505	2-PC	CONC	<0.005	0.023	<0.005	<0.005	<0.005	<0.005	0.020	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	3
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84506	3-PC	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	0.014	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	4
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84507	1-D	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	0.0097	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	5
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84508	2-D	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	6
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84509	3-D	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	0.0072	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	7
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84510	4-D	CONC	<0.005	<0.005 ^A	<0.005	<0.005	<0.005	<0.005	0.0061	<0.005	<0.005	M
		XREC	M	M	M	M	M	M	M	M	M	8
		DUPL	M	M	M	M	M	M	M	M	M	M
		OTD	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059

1121CA 1 1 2-TRICHLOROETHANE
 CIHRO3 BROOK OF OMA

BENZEN BENZENE
 TCLETA 1 1 2 2-TETRACHLOROETHANE
 CIHRO4 CHLOROBENZENE

CIETRE 2-CHLOROETHYL VINYL ETHER
 TCLEIE TETRACHLOROETHENE
 BTBEN ETHYL BENZENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 6 OF 8)

JOB DESCRIPTION: ENTREP - CHAMIA DISTRICT
 REPORT DATE: 120 MAR 85

ONTRIPOLISEC01
 RECEIPT DATE: 109 JAN 85

JOB FILE: 84503
 EST. COMP. DATE: 101 MAR 85

		19		20		21		22		23		24		25		26		27	
		ANALYSIS... 90		91		92		93		94		95		96		97		98	
B: INVOICES 170		PPH..... 1121CA		BENZEN		CIETRE		CIHR3		CIETA		TCL8TB		TOLLEN		CIEN		ETBAN	
LAB ID		PROJECT ID																RCM	
84511	1-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC																	9
		DUPL																	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84512	2-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC	99.3		97		86		105.3		113		91.73		99.25		100.73		10
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84513	3-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC																	11
		DUPL																	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84514	4-S	CONC	<0.005	0.0061	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC																	12
		DUPL	<0.005	0.0062	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84515	5-S	CONC	<0.005	0.0059	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC	93			93		108.333		110.667		96		100.667		99.6667			13
		DUPL																	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84516	6-S	CONC	<0.005	0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC																	14
		DUPL																	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84517	FHC-33	CONC	<0.005	0.0069	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		XREC																	15
		DUPL																	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	

1121CA 1 1 2-TRICHLOROETHANE BENZEN BENZENE
 CIHR3 1 1 2 2-TETRACHLOROETHANE CIETA 1 1 2 2-TETRACHLOROETHANE
 TOLLEN TOLUENE CIEN CI-ORIOBENZENE ETBAN ETHYL BENZENE

* - below quantitation levels.

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 8)

JOB DESCRIPTION: NTROP - OHAWA DISTRICT
 REPORT DATE: 20 MAR 85

ONLINE RECEIVED
 RECEIPT DATE: 09 JUN 85

JOB FILE: 84503
 EST. COMP. DATE: 01 MAR 85

ANALYSIS... 81		11	12	13	14	15	16	17	18			
PPH.....12DCE			C CL 4	DICL 2N	DICL PR	CL FHE		DICL 1M	CL FHE			
LAB ID	PROJECT ID	MTHCA					TCE				ROW	
84500	DISTILLED-BANK	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84504	1-PC	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84505	2-PC	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	3
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84506	3-PC	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84507	1-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84508	2-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84509	3-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.017	<0.005	<0.005	7
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	
84510	4-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	8
		ZREC	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	
		QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	

12DCE 1 2-DICHLORODIFLUOROMETHANE

MTHCA 1 1 1-TRICHLOROETHANE
 DICLPR 1 2 DICHLORODIFLUOROMETHANE

C CL 4 CARBON TETRACHLORIDE
 CL FHE TRANS-1,3-DICHLOROPROPENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 6)

JOB DESCRIPTION: CHINA DISTRICT
 REPORT DATE: 20 MAR 85

OFFICE USE ONLY
 RECEIPT DATE: 08 JAN 85

JOB FILE: 84503
 EST. COMP. DATE: 01 MAR 85

LAB ID	PROJECT	COLUMN: ANALYSIS	CONCENTRATION										NUM		
			10 120CE	11 120CE	12 C CL 4	13 BRC12M	14 DICI FR	15 +CLPRE	16 TCE	17 BRC1M	18 CCLPRE				
84511	1-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	9
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84512	2-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.060	<0.005	<0.005	<0.005	10
		ZREC	98	110.23	92	96	97.5	99.0476	77.3	93.25	105.787	105.787	105.787	105.787	
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.056	<0.005	<0.005	<0.005	<0.005	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84513	3-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.63	<0.005	<0.005	<0.005	11
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84514	4-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	12
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84515	5-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	13
		ZREC	96.6667	104.333	94.6667	95.6667	94.6667	93.8095	96.6667	93.6667	97.4737	97.4737	97.4737	97.4737	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84516	6-S	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	14
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	
84517	THC-33	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2.1	<0.005	<0.005	<0.005	15
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	
		OTD	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	08955059M	

120CE 1,2-DICHLOROETHANE
 BRC12M BROMODICHLOROMETHANE
 TCE TRICHLOROETHENE

1111CA 1,1,1-TRICHLOROETHANE
 DICI FR 1,2-DICHLOROETHANE
 BRC1M 1,2-DIBROMODICHLOROETHANE

C CL 4 CARBON TETRACHLORIDE
 +CLPRE TRANS-1,3-DICHLOROCYCLOPENE
 CCLPRE CIS-1,3-DICHLOROCYCLOPENE

Present - below quantitation levels.

PK 01/1

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 8)

Freon 112 present in samples 84504, 84505, 84506, 84507, 84511 and 84517

JOB DESCRIPTION: NHP - ONTARIO DISTRICT
 ANALYST: J. J. ...
 RECEIPT DATE: 08 JAN 85
 EST. COMP. DATE: 01 MAR 85

LAB ID	PROJECT ID	CONTN. ANALYSIS PPM	1	2	3	4	5	6	7	8	9	10
		LINE	72	73	74	75	76	77	78	79	80	
		LINE	MECL	MECL	VIOL	CIET	MECL	CIET	CIET	CIET	CIET	CIET
84503	DISTILLED BLANK	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84504	1-FC	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84505	2-FC	CONC	<0.005	<0.005	<0.005	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84506	3-FC	CONC	<0.005	<0.005	<0.005	<0.005	0.0065	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84507	1-D	CONC	<0.005	<0.005	<0.005	<0.005	0.11	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84508	2-D	CONC	<0.005	<0.005	<0.005	<0.005	0.83	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84509	3-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059
84510	4-D	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	N	N	N	N	N	N	N	N	N	N
		DUP1	N	N	N	N	N	N	N	N	N	N
		Q10	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059

LINE CHLOROMETHANE
 MECL BROMOMETHANE
 VIOL VINYL CHLORIDE
 CIET 1,1-DICHLOROETHANE

JOB DESCRIPTION: HIRUP - OHAMA DISTRICT
 REPORT DATE: 20 MAR 85

ONLINE: 00154301
 RECEIPT DATE: 08 JAN 85

JOB FILE: 04503
 EST. CONF. DATE: 01 MAR 85

MINUTES TPB	LAB ID	PROJECT ID	COLUMN ANALYSIS PTN	1 72 C1ME	2 73 B1ME	3 74 V1CL	4 75 C1ET	5 76 NECL	6 77 D1ETE	7 11008	8 FOICL	9 60 C1M13	ROW
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04511	1-S		CONC	<0.005	M														
			ZREC																9
			DUPL																
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04512	2-S		CONC	<0.005	M														
			ZREC							100.75	97.25	98.25	100						10
			DUPL	<0.005	M														
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04513	3-S		CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.17	M	<0.005	M				
			ZREC																11
			DUPL																
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04514	4-S		CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.065	M	<0.005	M	<0.005	M		
			ZREC																12
			DUPL	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.050	M	<0.005	M	<0.005	M	<0.005	M
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04515	5-S		CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.011	M	<0.005	M	<0.005	M		
			ZREC											102.667	94.667	96	97.667		13
			DUPL																
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04516	6-S		CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.026	M	<0.005	M	<0.005	M		
			ZREC																14
			DUPL																
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059		

04517	ENC-33		CONC	<0.005	M	<0.005	M	<0.005	M	<0.005	M	0.039	M	<0.005	M	0.011	M	0.10	M	<0.005	M
			ZREC																		
			DUPL																		
			QID	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059	08955059

C1ME C1H CHLOROMETHANE B1ME BROMOMETHANE V1CL VINYL CHLORIDE
 C1ET C1H CHLOROETHANE NECL NETHYLENE CHLORIDE D1ETE 1,1-DICHLOROETHENE
 11008 1,1-DICHLOROMETHANE FOICL TRANS-1,2-DICHLOROETHENE C1M13 C1H CHLORIDE

Present - below quantitation levels.

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 4) *****

JOB DESCRIPTION: NIROP - OHAMA DISTRICT		COLUMN... 10 11		CONTR#000153501	JOB FILE: 84489
REPORT DATE: 08 MAR 85		ANALYSIS... 59 156		RECEIPT DATE: 08 JAN 85	EST. CONF. DATE: 01 MAR 85
B I DENOTES PPB	PROJECT ID	PCB#	ETHINPH		ROW
84489	WELL 1-PC	CONC	<0.0002 M 0.00007 M		
		ZREC	M M		1
		DUPL	M M		
		QID	07975044M 07975044M		
84490	2-PC	CONC	<0.0002 M <0.00001M		
		ZREC	M M		2
		DUPL	<0.0002 M <0.00001M		
		QID	07975044M 07975044M		
84491	3-PC	CONC	<0.0002 M <0.00001M		
		ZREC	M M		3
		DUPL	M M		
		QID	07975044M 07975044M		
84492	1-D	CONC	<0.0002 M <0.00001M		
		ZREC	M M		4
		DUPL	M M		
		QID	07975044M 07975044M		
84493	2-D	CONC	<0.0002 M <0.00001M		
		ZREC	M M		5
		DUPL	M M		
		QID	07975044M 07975044M		
84494	3-D	CONC	<0.0002 M <0.00001M		
		ZREC	M M		6
		DUPL	M M		
		QID	07975044M 07975044M		
84495	4-D	CONC	<0.0002 M <0.00001M		
		ZREC	M M		7
		DUPL	M M		
		QID	07975044M 07975044M		
84496	1-S	CONC	<0.0002 M <0.00001M		
		ZREC	M M		8
		DUPL	<0.0002 M <0.00001M		
		QID	07975044M 07975044M		

PCB280 PCB-1260
 ETHINPH BIS(2-ETHEN)PHTHALATE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 4)

JOB DESCRIPTION: NITRO - OHAMA DISTRICT
 REPORT DATE: 08 MAR 85

ONLINE#00015E1 01
 RECEIPT DATE: 08 JAN 85

JOB FILE#84489
 EST. COMP. DATE: 01 MAR 85

COLUIN... 10 11
 ANALYSIS.. 59 156
 ITH.....PCB260 ETHNPH

B I DUMMIS FPD
 LAB ID PROJECT ID

ROW

84497 2-S CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

9

84498 3-S CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

10

84499 4-S CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

11

84500 5-S CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

12

84501 6-S CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

13

84502 FHC-33 CONC <0.0002 M <0.00001M
 ZREC M M
 DUPL M M
 QID 07975044M 07975044M

14

PCB260 PCB-1260
 ETHNPH BIS(2-ETHEN)PHTHALATE

INMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 4)

JOB DESCRIPTION: NIROP - ONAWA DISTRICT RECEIPT DATE: 02 MAR 85		ONLINE 000124701 RECEIPT DATE: 03 JAN 85										JOB FILE: 04489 EST. CONF. DATE: 01 MAR 85	
COLUMN: 1		2	3	4	5	6	7	8	9	10	FROM		
ANALYSIS: 9		15	23	53	54	55	56	57	58				
P/B INDICES: P/B		ZN	HN	PCB016	PCB221	PCB232	PCB242	PCB248	PCB254				
LAB ID PROJECT ID													
04487	WELL 1-PC	CONC 0.058	M 1.02	M 0.705	M <0.0002	M 0.0003	M						
		ZREC	M 99.8	M 93.4	M	M	M	M	M	M	M	1	
		DUPL	M 1.02	M 0.688	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04490	2-PC	CONC 0.011	M 0.273	M 0.347	M <0.0002	M 0.0005	M						
		ZREC	M	M	M	M	M	M	M	M	M	2	
		DUPL	M	M	M <0.0002	M 0.0006	M						
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04491	3-PC	CONC 0.015	M 0.688	M 0.102	M <0.0002	M 0.0003	M						
		ZREC	M	M	M	M	M	M	M	M 110	M	3	
		DUPL	M	M	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04492	1-D	CONC 0.043	M 9.25	M 0.064	M <0.0002	M 0.0005	M						
		ZREC	M	M	M	M	M	M	M	M	M	4	
		DUPL	M	M	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04493	2-D	CONC 0.030	M 4.07	M 0.314	M <0.0002	M 0.0002	M						
		ZREC	M	M	M	M	M	M	M	M	M	5	
		DUPL	M	M	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04494	3-D	CONC 0.024	M 2.13	M 0.088	M <0.0002	M 0.0003	M						
		ZREC	M	M	M	M	M	M	M	M	M	6	
		DUPL	M	M	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04495	4-D	CONC 0.018	M 1.14	M 0.362	M <0.0002	M							
		ZREC	M	M	M	M	M	M	M	M	M	7	
		DUPL	M	M	M	M	M	M	M	M	M		
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									
04496	1-S	CONC 0.037	M 0.546	M 1.76	M <0.0002	M							
		ZREC	M	M	M	M	M	M	M	M	M	8	
		DUPL	M	M	M <0.0002	M 0.0004	M						
		QID	20565050M 51205059M	51205059M	07975044M								
			ISA_AU11	ISA_AU11									

PB LEAD ZN ZINC HN HANNAHESE
 PCB221 PCB-1232
 PCB232 PCB-1232
 PCB254 PCB-1254

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (BIRM) DATA REPORTING SHEET (SHEET 2 OF 4) *****

JOB DESCRIPTION: ENTROP - OHMA DISTRICT

OHIRM#000154E01

JOB FILE#84469

REPORT DATE: 06 MAR 85

RECEIPT DATE: 08 JAN 85

EST. CONF. DATE: 01 MAR 85

		COLUMN...	1	2	3	4	5	6	7	8	9	
		ANALYSIS...	9	15	29	53	54	55	56	57	58	
		PPH.....	PB	ZN	HN	PCB016	PCB221	PCB232	PCB242	PCB248	PCB254	
LAB. ID	PROJECT ID											BSM

84497	2-S	CONC	0.083	M 0.682	M 1.40	M <0.0002	M 0.0011				
		ZREC		M 23.6	M 104	M	M	M	M	M	M 80
		DUPL		M 0.690	M 1.42	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

84498	3-S	CONC	0.035	M 1.40	M 1.72	M <0.0002	M 0.0007				
		ZREC		M	M	M	M	M	M	M	M 10
		DUPL		M	M	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

84499	4-S	CONC	0.020	M 1.31	M 0.323	M <0.0002	M 0.0004				
		ZREC		M	M	M	M	M	M	M	M 11
		DUPL		M	M	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

84500	5-S	CONC	0.022	M 0.654	M 3.86	M <0.0002	M 0.0002	M <0.0002	M <0.0002	M <0.0002	M 0.0002
		ZREC		M	M	M	M	M	M	M	M 12
		DUPL		M	M	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

84501	6-S	CONC	0.023	M 2.07	M 1.46	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002
		ZREC		M	M	M	M	M	M	M	M 13
		DUPL		M	M	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

84502	FMC-33	CONC	0.021	M 0.919	M 0.539	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002
		ZREC		M	M	M	M	M	M	M	M 14
		DUPL		M	M	M	M	M	M	M	M
		OTD	20565050M	51205059M	51205059M	07975044M	07975044M	07975044M	07975044M	07975044M	07975044M
			IGA AUTH		IGA AUTH						

PB	LEAD	ZN	ZINC	HN	MANGANESE
PCB016	PCB-1016	PCB221	PCB-1221	PCB232	PCB-1232
PCB242	PCB-1242	PCB248	PCB-1248	PCB254	PCB-1254

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORDER DATA REPORTING SHEET (SHEET 7 OF 9) *****

UNIT DESCRIPTION: NITROFURAZANONE DISTRICT 441-NITROFURAZANONE TRIM FILE: 63377
 REPORT DATE: 23 OCT 84 RECEIPT DATE: 10 OCT 84 EST. COMP. DATE: 16 NOV 84

COLUMN... 20 29 30
 ANALYSIS... 99 100 154

DENNOIS PTD LAB ID PROJECT ID TYP.....ACRO ACRY CDICYL ROW

83377 FHC-33 CONC <0.1 M <0.1 M 0.23 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

83380 WELL #1-S CONC <0.10 M <0.1 M <0.010 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

83381 WELL #2-S CONC <0.1 M <0.1 M <0.010 M
 ZREC M M M M
 DNF1 <0.1 M <0.1 M <0.010 M
 OIID 00934286M 00934286M 00934286M

83382 WELL #3-S CONC <0.1 M <0.1 M 0.084 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

83383 WELL #4-S CONC <0.1 M <0.1 M <0.010 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

83384 WELL #5-S CONC <0.1 M <0.1 M <0.010 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

83385 WELL #6-S CONC <0.1 M <0.1 M 0.17 M
 ZREC M M M M
 DNF1 <0.1 M <0.1 M 0.16 M
 OIID 00934286M 00934286M 00934286M

83386 WELL #1-PC CONC <0.1 M <0.1 M <0.010 M
 ZREC M M M M
 DNF1 M M M M
 OIID 00934286M 00934286M 00934286M

ACRO ACROLEIN ACRY ACRYLONITRILE
 CDICYL CIS-12-DICHLOROETHYLENE

IMAC

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY REPORT DATA IDENTIFYING SHEET (CONT. 2 OF 8) *****

LAB DESCRIPTION: NITROPHENIA-DISTRICT 441-NINO: 154-01 JOB FILE: 83379
 REPORT DATE: 29 OCT 84 RECEIPT DATE: 10 OCT 84 EST. COMP. DATE: 16 NOV 84

COLUMN... 28 29 30
 ANALYSIS... 79 100 156
 B I DENOTES TPB ACHRO ACRY CDICYL
 LAB ID PROJECT ID

ROW

83307	WELL #2-PC	CONC	<0.1	M	<0.1	M	0.024	M		9
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83308	WELL #3-PC	CONC	<0.1	M	<0.1	M	<0.010	M		10
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83309	WELL #1-D	CONC	<0.1	M	<0.1	M	<0.010	M		11
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83390	WELL #2-D	CONC	<0.1	M	<0.1	M	<0.010	M		12
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83391	WELL #3-D	CONC	<0.1	M	<0.1	M	<0.010	M		13
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83392	WELL #4-D	CONC	<0.1	M	<0.1	M	<0.010	M		14
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		
83393	DISTILLED WATER BLANK NITRO	CONC	<0.1	M	<0.1	M	<0.010	M		15
		ZREC		M		M		M		
		INFL		M		M		M		
		UID	08934286	M	08934286	M	08934286	M		

ACHRO ACHRO-EIN ACRY ACRYLONITRILE
 CDICYL C13-12-DICHLORETHYLENE

* - PRESENT

Analysis 79 and 156 are a total as the peaks co-elute.

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 3) *****

LABORATORY INFORMATION: ANALYST: ZAHARA-BIGGINS 441-NINO 156101 JOB FILE: 89979
 REPORT DATE: 23 OCT 84 RECEIPT DATE: 10 OCT 84 EST. COMP. DATE: 16 NOV 84

COLUMN... 10 11 12 13 14 15 16 17 18
 ANALYST: 01 02 03 04 05 06 07 08 09
 ITH..... 1:20CE 1:11CA C Cl 4 1:04:2H 0:04:1C 1:11:1B 1:01 0:04:1H 0:04:1H

LAB ID PROJECT ID
 83379 FHC-33 CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 1.6 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83380 WELL #1-S CONC <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83381 WELL #2-S CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 0.061 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M M
 DUPL <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 0.067 M <0.010 M <0.010 M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83382 WELL #3-S CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 1.3 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83383 WELL #4-S CONC <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83384 WELL #5-S CONC <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83385 WELL #6-S CONC <0.010 M 0.069 M <0.010 M <0.010 M <0.010 M <0.010 M 0.83 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M M
 DUPL <0.010 M 0.049 M <0.010 M <0.010 M <0.010 M <0.010 M 0.01 M <0.010 M <0.010 M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83386 WELL #1-PC CONC <0.010 M
 ZREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 UID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

1:20CE 1-2-DICHLOROMETHANE 1:11CA 1-1-1-TRICHLOROETHANE C Cl 4 CARBON TETRACHLORIDE
 0:04:2H 1-2-DICHLORODIFLUOROMETHANE 0:04:1C 1-2-DICHLORODIFLUOROMETHANE 0:04:1H TRANS-1,3-DICHLOROPROPENE
 1:01 1:11:1B 1:01-DICHLOROBENZENE 1:01:1B TRANS-1,3-DICHLOROPROPENE

INMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 8)

JOB DESCRIPTION: NIROP/UMMA DISTRICT
 REPORT DATE: 23 OCT 84

441-NIROP-DEED-01
 RECEIPT DATE: 10 OCT 84

JOB FILE: 189979
 EST. COMP. DATE: 16 NOV 84

COLLN...	10	11	12	13	14	15	16	17	18	
ANALYSIS...	81	82	83	84	85	86	87	88	89	
WELL	14	14	14	14	14	14	14	14	14	
LAB ID	PROJECT ID									
83387	WELL #2-PC	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	0.024	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83388	WELL #3-PC	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83389	WELL #1-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83390	WELL #2-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83391	WELL #3-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83392	WELL #4-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
83393	DISTILLED WATER BLANK NIROP	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	M	M	M	M	M	M	M	M
		IMP	M	M	M	M	M	M	M	M
		STD	08934286	08934286	08934286	08934286	08934286	08934286	08934286	08934286
12001	1,2-DICHLOROBENZENE	1111A	1-1,1-DICHLOROBENZENE	6-CL-4	6-CL-4	6-CL-4	6-CL-4	6-CL-4	6-CL-4	6-CL-4
12002	1,2-DICHLOROBENZENE	1111B	1,2-DICHLOROBENZENE	4-CL-1	4-CL-1	4-CL-1	4-CL-1	4-CL-1	4-CL-1	4-CL-1
12003	1,2-DICHLOROBENZENE	1111C	1,2-DICHLOROBENZENE	4-CL-2	4-CL-2	4-CL-2	4-CL-2	4-CL-2	4-CL-2	4-CL-2

PRESENT

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORGAN DATA REPORTING SHEET (SHEET 1 OF 8) XXXXXXXXXX

WELL DESCRIPTION: W11C-33 DISTRICT: 441-NIND-154-001 ANALYST: B93379
 REPORT DATE: 23 OCT 84 RECEIPT DATE: 10 OCT 84 EST. COMP. DATE: 16 NOV 84

COLUMN: 1 2 3 4 5 6 7 8 9
 ANALYSIS: 72 73 74 75 76 77 78 79 80

PPH: CLME INPH VOL CLF INCL INLEIE IIDE HDICE CINC3 RCM
 LAB ID PROJECT ID

83379	W11C-33	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.12	M	<0.010	M	<0.010	M	0.23	M	<0.010	M
		ZREC																		
		DWFL																		
		QID	08934286	M																

83380	WELL #1-S	CONC	<0.010	M																
		ZREC																		
		DWFL																		
		QID	08934286	M																

83381	WELL #2-S	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.029	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC																		
		DWFL	<0.010	M																
		QID	08934286	M																

83382	WELL #3-S	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.13	M	<0.010	M	<0.010	M	0.084	M	<0.010	M
		ZREC																		
		DWFL																		
		QID	08934286	M																

83383	WELL #4-S	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.014	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC																		
		DWFL																		
		QID	08934286	M																

83384	WELL #5-S	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.029	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC																		
		DWFL																		
		QID	08934286	M																

83385	WELL #6-S	CONC	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.070	M	<0.010	M	<0.010	M	0.17	M	<0.010	M
		ZREC																		
		DWFL	<0.010	M	<0.010	M	<0.010	M	<0.010	M	0.054	M	<0.010	M	<0.010	M	0.16	M	<0.010	M
		QID	08934286	M																

83386	WELL #1-PC	CONC	<0.010	M																
		ZREC																		
		DWFL																		
		QID	08934286	M																

CLF1: CHLOROFORMANE INPH: DIISOBUTANE INCL: VINYL CHLORIDE
 CLF2: CHLOROLIFANE HDICE: METHYLENE CHLORIDE DCLF1E: 1,1-DICHLOROETHANE
 IIDE: 1,1-DICHLOROETHANE IIDE: TRANS-1,2-DICHLOROETHANE CINC3: CHLOROFORM

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 8) *****

JOB DESCRIPTION: NITROGEN/AMIA-DISTRICT 441-NH0-158601 JOB # 112183379
 REPORT DATE: 23 OCT 84 RECEIPT DATE: 10 OCT 84 EST. CONF. DATE: 16 NOV 84

ANALYSTS: 72 73 74 75 76 77 78 79 80
 METHOD: CHL CHL VCL CLET NECL DCLETE THCE HDCE CHCL3 RW4

83387 WELL #2-PC CONC <0.010 M <0.010 M <0.010 M <0.010 M 0.20 M <0.010 M <0.010 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83388 WELL #3-PC CONC <0.010 M <0.010 M <0.010 M <0.010 M 0.012 M <0.010 M <0.010 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83389 WELL #1-D CONC <0.010 M <0.010 M <0.010 M <0.010 M 0.062 M <0.010 M <0.010 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83390 WELL #2-D CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83391 WELL #3-D CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83392 WELL #4-D CONC <0.010 M <0.010 M <0.010 M <0.010 M 0.44 M <0.010 M <0.010 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

83393 DISTILLED WATER CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 DID 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M 08934286M

CHL CHLOROMETHANE DCHL DICHLOROMETHANE VCL VINYL CHLORIDE
 CLET CHLOROMETHANE NECL METHYLENE CHLORIDE DCLETE 1,1-DICHLOROETHYLENE
 THCE 1,1-DICHLOROETHANE HDCE TRANS-1,2-DICHLOROETHYLENE CHCL3 CHLOROFORM

● - PRESENT

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 3 OF 4)

JOB DESCRIPTION: ENTRON/OMAHA DISTRICT
 REPORT DATE: 06 DEC 84
 441-NHRO. 158601
 RECEIPT DATE: 10 OCT 84
 JOB FILE: 83365
 EST. COMP. DATE: 16 NOV 84

ANALYSIS: 59
 PTH: PCB260 ETRF41

B DENOTES FTB
 LAB ID PROJECT ID

83365	INC-93	CONC	<0.0002	M	0.013	M	
		XREC		M		M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83366	WELL #1-S	CONC	<0.0002	M	0.002	M	
		XREC		M		M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83367	WELL #2-S	CONC	<0.0002	M	<0.002	M	
		XREC		M		M	
		DUP	<0.0002	M	<0.002	M	
		OTD	07974312M		07974312M		

83368	WELL #3-S	CONC	<0.0002	M	0.008	M	
		XREC		M	77	M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83369	WELL #4-S	CONC	<0.0002	M	0.003	M	
		XREC		M		M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83370	WELL #5-S	CONC	<0.0002	M	0.011	M	
		XREC		M		M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83371	WELL #6-S	CONC	<0.0002	M	0.005	M	
		XREC		M		M	
		DUP		M		M	
		OTD	07974312M		07974312M		

83372	WELL #1-PC	CONC	<0.0002	M	0.012	M	
		XREC		M		M	
		DUP	<0.0002	M	0.016	M	
		OTD	07974312M		07974312M		

PCB260 PCB-1260 ETRF41 B16(2-ETRYLXYL)INITIALATE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 4 OF 4)

JOB DESCRIPTION: NIROP/CHANA DISTRICT
 REPORT DATE: 06 DEC 84

441-NIRO.15EE01
 RECEIPT DATE: 10 OCT 84

JOB FILE: 83365
 EST. COMP. DATE: 16 NOV 84

COLUMN... 10 11
 ANALYSIS... 59 137
 PPM.....PCB260 ETHENI

B DENOTES PPM
 LAB-ID PROJECT-ID

ICM

83373 WELL #2-PC CONC <0.0002 M 0.003 M
 XREC M 110 M
 DWL M M
 QID 07974312M 07974312M

83374 WELL #3-PC CONC <0.0002 M 0.008 M
 XREC M M
 DWL M M
 QID 07974312M 07974312M

83375 WELL #1-D CONC <0.0002 M 0.002 M
 XREC M M
 DWL M M
 QID 07974312M 07974312M

83376 WELL #2-D CONC <0.0002 M 0.003 M
 XREC M M
 DWL M M
 QID 07974312M 07974312M

83377 WELL #3-D CONC <0.0002 M 0.004 M
 XREC M M
 DWL M M
 QID 07974312M 07974312M

83378 WELL #4-D CONC 0.0011 M 0.004 M
 XREC M M
 DWL M M
 QID 07974312M 07974312M

PCB260 PCB-1260

ETHENI B18(2-ETHYL)HEXYL FUMATE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 4)

JOB DESCRIPTION: NIROF/CHAMA DISTRICT
 REPORT DATE: 06 DEC 84

441-NIRO.156801
 RECEIPT DATE: 10 OCT 84

JOB FILE: 183365
 EST. COMP. DATE: 16 NOV 84

ANALYSIS		1	2	3	4	5	6	7	8	9
CONC.		9	15	23	53	54	55	56	57	58
PPM.....		FB	ZN	MN	PCB016	PCB221	PCB232	PCB242	PCB248	PCB254
B I DENOTES FB	PROJECT ID									
LAD-ID										
83365	FMC-33	CONC	0.030	M 1.56	M 0.414	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002
		XREC	M 99.9	M 104	M	M	M	M	M	M
		DUPL	M 1.50	M 0.423	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83366	WELL #1-S	CONC	0.091	M 1.59	M 3.58	M <0.0002	M <0.0002	M <0.0002	M 0.0005	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83367	WELL #2-B	CONC	0.149	M 3.14	M 1.89	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83368	WELL #3-S	CONC	0.053	M 3.39	M 2.12	M <0.0002	M <0.0002	M <0.0002	M <0.0002	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83369	WELL #4-B	CONC	0.050	M 6.20	M 0.430	M <0.0002	M <0.0002	M <0.0002	M 0.0002	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83370	WELL #5-S	CONC	0.017	M 0.781	M 2.31	M <0.0002	M <0.0002	M <0.0002	M 0.0004	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83371	WELL #6-S	CONC	0.221	M 26.6	M 2.37	M <0.0002	M <0.0002	M <0.0002	M 0.0002	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
83372	WELL #1-PC	CONC	0.090	M 1.31	M 0.775	M <0.0002	M <0.0002	M <0.0002	M 0.0003	M <0.0002
		XREC	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M
		OID	20554300M	51204289M	51204285M	07974312M	07974312M	07974312M	07974312M	07974312M
		HGA-AUTH								
PB	LEAD	ZN	ZINC	MN	MANGANESE					
PCB016	PCB-1016	PCB221	PCB-1221	PCB232	PCB-1232					
PCB248	PCB-1248	PCB248	PCB-1248	PCB254	PCB-1254					

INMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 2 OF 4)

JOB DESCRIPTION: ENTHROP/OMIA DISTRICT
 REPORT DATE: 06 DEC 84
 441-NIRO. RECEI
 RECEIPT DATE: 10 OCT 84
 JOB FILE: 83365
 EST. COMP. DATE: 14 NOV 84

ANALYSIS... 9
 PPN.....PB
 ZN
 MN
 PCB016
 PCB221
 PCB232
 PCB242
 PCB248
 PCB254

LAB-ID PROJECT-ID
 B3373 WELL #2-PC
 CONC 0.029 M 0.743 M 0.283 M <0.0002 M <0.0002 M <0.0002 M 0.0005 M <0.0002 M <0.0002 M
 XREC M 98.8 M 165 M M M M M M M M M
 DUPL M 0.737 M 0.284 M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 B3374 WELL #3-PC
 CONC 0.035 M 0.425 M 0.107 M <0.0002 M <0.0002 M <0.0002 M 0.0003 M <0.0002 M <0.0002 M
 XREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 B3375 WELL #1-D
 CONC 0.013 M 1.75 M 0.095 M <0.0002 M <0.0002 M <0.0002 M 0.0002 M <0.0002 M <0.0002 M
 XREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 B3376 WELL #2-D
 CONC 0.011 M 0.469 M 0.338 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M
 XREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 B3377 WELL #3-D
 CONC 0.018 M 0.939 M 0.100 M <0.0002 M <0.0002 M <0.0002 M 0.0002 M <0.0002 M <0.0002 M
 XREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 B3378 WELL #4-D
 CONC 0.032 M 0.995 M 0.231 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M <0.0002 M
 XREC M M M M M M M M M M M
 DUPL M M M M M M M M M M M
 QID 20554300M 51204289M 51204285M 07974312M 07974312M 07974312M 07974312M 07974312M 07974312M

WGA-AUTH
 PB LEAD ZN IINC
 PCB016 PCB-1016 PCB221 PCB-1221
 PCB242 PCB-1242 PCB248 PCB-1248
 MN MANGANESE
 PCB232 PCB-1232
 PCB254 PCB-1254

JOB DESCRIPTION: OHIOVA DISTRICT - HIRUP 11
 REPORT DATE: 23 MAY 84

441 HIRUP 14 E01
 RECEIPT DATE: 13 APR 84

JOB FILE: 81267
 EST. COMM. DATE: 18 MAY 84

CONC.	110	112	120	121	122	123	124	125	126	
ANALYSIS	141	142	143	144	145	146	150	156	157	
DEPT.	DEFLU	DEFLU	DEZPYR	INDPYR	DEAANT	DEFLRY	TIC	TCETA	DEETA	
LAB ID	PROJECT ID									ROW

81267	HIRUP 1-D	CONC	<0.010	M	<0.010	M	<0.010	M	<0.025	M	<0.025	M	<0.025	M	2.7	M	<0.010	M	<0.010	M
		ZINC													100					1
		DEFL													1.0					
		QID	00254116	00254116	00254116	00254116	00254116	00254116	00254116	00254116	01034132	00254116	00254116	00254116						

81268	HELL 1-5	CONC	<0.010	M	<0.010	M	<0.010	M	<0.025	M	<0.025	M	<0.025	M	2.7	M	<0.010	M	<0.010	M
		ZINC																		2
		DEFL																		
		QID	00254116	00254116	00254116	00254116	00254116	00254116	00254116	00254116	01034132	00254116	00254116	00254116						

81282	HELL PC-3	CONC	<0.010	M	<0.010	M	<0.010	M	<0.025	M	<0.025	M	<0.025	M	3.2	M	<0.010	M	<0.010	M
		ZINC															100		101.282	3
		DEFL															<0.010		<0.010	
		QID	00254116	00254116	00254116	00254116	00254116	00254116	00254116	00254116	01034132	00254116	00254116	00254116						

DEFLU	BENZO(B)FLUORANTHENE	DEFLU	BENZO(K)FLUORANTHENE	DEZPYR	BENZO(A)PYRENE
INDPYR	INDENO(1,2,3-C)DIPYRENE	DEAANT	DIBENZO(A,H)ANTHRACENE	DEFLRY	BENZO(D)FLUORANTHENE
TIC	TOTAL ORGANIC CARBON				
TCETA	1,1,1,2-TETRACHLOROETHANE	DEETA	CIS 1,2-DICHLOROETHANE		

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY DATA REPORTING SHEET (SEE) 12 OF 14

NO. DESCRIPTION: WMA DISTRICT - NTRP II 441 NTRP 14-E01 NO. FILE: 81267
 RECEIPT DATE: 23 MAY 84 RECEIPT DATE: 13 MAY 84 EST. CONC. DATE: 18 MAY 84

COLUMN... 100 101 102 103 104 105 106 107 108
 ANALYSIS... 129 124 125 126 127 128 129 130 131

BUNDLES IN PROJECT ID
 LAR ID PROJECT ID

81267 NTRP 1-D CONC <0.010 M
 ZINC N N N N N N N N N
 DRL N N N N N N N N N
 GID 08934109K 08934109K 08934109K 08934109K 08934109K 08934109K 08934109K 08934109K 08934109K

81268 WELL 1-5 CONC <0.010 M
 ZINC N N N N N N N N N
 DRL N N N N N N N N N
 GID 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K

81269 WELL PC-3 CONC <0.010 M
 ZINC N N N N N N N N N
 DRL N N N N N N N N N
 GID 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K 08934116K

DETHL DIBENYL PHOSPHATE ACENAP ACENAPHTHENE FLUORE FLUORENE
 DETPH DIETHYL PHOSPHATE CIPETH 4-CYCLOHEXYL PHENYL ETHER NDIFAM N-NITROSODIPHENYL AMINE
 DRPHE 4-BROMOPHENYL ETHER IKLDEN HEXACHLOROCYCLOHEPTADIENE PIENAN PIERANTHRENE

X

JOB DESCRIPTION: PORTLAND DISTRICT - NINCP II		441-NINCP-141101		JOB FILE: 81267					
RECEIPT DATE: 23 MAY 84		RECEIPT DATE: 13 APR 84		EST. COMP. DATE: 19 MAY 84					
CONTAM. ...	73	74	75	76	77	78	79	80	81
ANALYSIS ...	94	95	96	97	98	101	102	103	104
CL. ...	CL. ...	CL. ...	CL. ...	CL. ...	CL. ...	CL. ...	CL. ...	CL. ...	CL. ...
LAB ID	PROJECT ID	CONC	UNIT	CONC	UNIT	CONC	UNIT	CONC	UNIT
81267	NINCP 1-D	50.010	M	50.010	M	50.010	M	50.010	M
		ZINC							
		104		104		104		104	
		09234102		09234102		09234102		09234102	
81269	WELL 1-B	50.010	M	50.010	M	50.010	M	50.010	M
		ZINC							
		105		100		99.5		100	
		09234102		09234102		09234102		09234102	
81268	WELL PC-2	50.010	M	50.010	M	50.010	M	50.010	M
		ZINC							
		105		100		99.5		100	
		09234102		09234102		09234102		09234102	

10101 1,1,2,2-TETRACHLOROETHANE 10102 TETRACHLOROETHENE 10103 TOLUEN TOLUENE
 10104 CHLOROBENZENE 10105 ETHYLBENZENE 10106 NITROAN N-NITROSDIETHYLAMINE
 10107 BIS(2-CHLOROETHOXY)PROPYLENE 10108 NITROAN N-NITROSO-DI-N-PROPYLAMINE 10109 NITROAN NITROBENZENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (EAL) DATA REPORTING SHEET (SHEET 7 OF 14)

JOB DESCRIPTION: KENNA DISTRICT - NIRC# 11
 441 NIRC, 140101
 JOB FILE: 01267
 EST. COMP. DATE: 10 MAY 04

ANALYSIS: 74
 56 57 58 59 60 61 62 63 64
 ANALYST: MCL MCL MCL MCL MCL MCL MCL MCL MCL

LAB ID	PROJECT ID	CONC	55	56	57	58	59	60	61	62	63	64
01267	NIRC# 1-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZINC										
		MFL										
		QID	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102
01268	WELL 1-5	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZINC										
		MFL										
		QID	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102
01262	WELL FC-2	CONC	0.11	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZINC		101.5	65	101.262	100	102.5	99.75	98.75	101.25	3
		MFL		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		QID	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102	08234102

MCL METHYLENE CHLORIDE
 DCL1E 1,1-DICHLOROETHANE
 DCL2E 1,2-DICHLOROETHANE
 DCL2H 1,1,1-TRICHLOROETHANE
 DCL1E 1,1-DICHLOROETHANE
 DCL2E 1,2-DICHLOROETHANE
 DCL2H 1,1,1-TRICHLOROETHANE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 6 OF 14)

JOB DESCRIPTION: MOHAWA DISTRICT - NINOP 11		441 NINO. 14P501					JOB FILE: 01267															
MPLD DATE: 23 MAY 84		RECEIPT DATE: 19 MAY 84					EST. COMM. DATE: 19 MAY 84															
CONTR. NO.	ANALYSIS NO.	46	47	48	49	50	51	52	53	54												
CONTR. NO.	ANALYSIS NO.	67	68	69	70	71	72	73	74	75												
CONTR. NO.	ANALYSIS NO.	ICLPIE	INIPHE	4NIPHE	UN4NPE	PCLPIE	CLNE	LNNE	VICL	CIET												
LAB ID	PROJECT ID	RCM																				
01267	NINOP 1-D	CONC	<0.025	M	<0.25	M	<0.025	M	<0.25	M	<0.025	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		OID	08954116M	08954116M	08954116M	08954116M	08954116M	08954116M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M
01269	WELL 1-5	CONC	<0.025	M	<0.25	M	<0.025	M	<0.25	M	<0.025	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		OID	08954116M	08954116M	08954116M	08954116M	08954116M	08954116M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M
01269	WELL PC-9	CONC	<0.025	M	<0.25	M	<0.025	M	<0.25	M	<0.025	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		ZREC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M	<0.010	M
		OID	08954116M	08954116M	08954116M	08954116M	08954116M	08954116M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M	08934109M
ICLPIE	2,4,6-TRICHLOROETHYLENE	INIPHE	2,4-DINITROETHYLENE	4NIPHE	4-NITROETHYLENE	PCLPIE	PENTACHLOROPHENOL	CLNE	CHLOROBENZENE	VICL	VINYL CHLORIDE	LNNE	1,1-DICHLOROETHANE	CIET	1,1-DICHLOROETHANE							

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (GROUP DATA REPORTING) SHEET (SHEET 3 OF 14) *****

JOB DESCRIPTION: ROMA DISTRICT - NINE 11		441-NINE 11E111								JOB FILE: 01267	
START DATE: 23 MAY 81		RECEIPT DATE: 19 MAY 81								EST. COMP. DATE: 19 MAY 81	
D. ANALYSIS P/N		19	20	21	22	23	24	25	26	27	
LAB ID		PROJECT ID	CLONE	END01	END02	END03	END04	END05	END06	END07	
01267	NINE 1-11	CONC	50.00001M	50.0002 M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	
		ZREC	N	N	N	N	N	N	N	N	
		DWFL	N	N	N	N	N	N	N	N	
		DID	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	
01269	HELL 1-5	CONC	50.00001M	50.0002 M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	
		ZREC	N	N	N	N	N	N	N	N	
		DWFL	N	N	N	N	N	N	N	N	
		DID	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	
01269	HELL PC-3	CONC	50.00001M	50.0002 M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	50.00001M	
		ZREC	N	N	N	N	N	N	N	N	
		DWFL	N	N	N	N	N	N	N	N	
		DID	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	07244110M	
D-DIC	D-DIC	CLONE	END01	END02	END03	END04	END05	END06	END07	END08	
PC-DIC	PC-DIC	END01	END02	END03	END04	END05	END06	END07	END08	END09	
END01	A ENDOSULFAN	END01	B ENDOSULFAN	END02	B ENDOSULFAN	END03	B ENDOSULFAN	END04	B ENDOSULFAN	END05	

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORGAN DATA REPORTING SHEET (SERIES 4 OF 14) *****

JOB DESCRIPTION: OHAMA DISTRICT - NIROP 11
 RECEIPT DATE: 23 MAY 84
 441 NIROP 11:601
 RECEIPT DATE: 13 APR 84
 JOB FILE: 61267
 EST. COMP. DATE: 18 MAY 84

COLLECT... 28 29 30 31 32 33 34 35 36
 ANALYSIS... 49 50 51 52 53 54 55 56 57

B: INTRINSIC ID PROJECT ID
 LAB ID PROJECT ID

LAB ID	PROJECT ID	CONC	PCB016	PCB221	PCB232	PCB242	PCB248	ROW
61267	NIROP 1-D	<0.00001M	<0.00001M	<0.00001M	<0.00001M	<0.0002 M	<0.0002 M	1
		ZNFC	M	M	M	M	M	
		DNFL	M	M	M	M	M	
		QID	07944110K	07944110K	07944110K	07944110K	07944110K	

61268	WELL 1-5	<0.00001M	<0.00001M	<0.00001M	<0.00001M	<0.0002 M	<0.0002 M	2
		ZNFC	M	M	M	M	M	
		DNFL	M	M	M	M	M	
		QID	07944110K	07944110K	07944110K	07944110K	07944110K	

61269	WELL PC-3	<0.00001M	<0.00001M	<0.00001M	<0.00001M	<0.0002 M	<0.0002 M	3
		ZNFC	M	M	M	M	M	
		DNFL	M	M	M	M	M	
		QID	07944110K	07944110K	07944110K	07944110K	07944110K	

LN:IN	LN:IN	ENDALD	ENDIN ALKYLIDE	IN:YCL	IN:YACIN OR
IN:YCL	IN:YACIN OR EPOXIDE	PCB016	PCB-1916	PCB221	PCB-1221
PCB032	PCB-1232	PCB242	PCB-1242	PCB248	PCB-1248

012

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 14) *****

JOB DESCRIPTION: OHIO DISTRICT - NTRP 11 441-NTRP-14101 JOB FILE: 01267
 REPORT DATE: 29 MAY 94 RECEIPT DATE: 13 APR 94 EST. COMP. DATE: 19 MAY 94

COLTN.... 1	2	3	4	5	6	7	8	9	10
ANALYSIS.. 1	2	4	5	6	7	8	9	10	
LAB ID	PROJECT ID	SP	AS	BE	CU	LN	ML	NO	ROM

01267	NTRP 1-U	CONC	<0.010	N	<0.005	N	<0.005	N	0.0033	N	0.004	N	0.0056	N	<0.010	N	0.012	N	<0.0004	N
		ZINC	110	N	105	N	96	N		N	98	N	85	N	106	N	106	N	106	N
		ML	<0.010	N	<0.005	N	<0.005	N	0.003	N	0.004	N	<0.010	N	<0.0008	N				
		ML	013241318	013241258	012041198	205441168	205241228	205241228	013041178	013041258	205441168	026541008								

01268	WELL 1-S	CONC	<0.010	N	0.008	N	<0.005	N	0.0016	N	0.011	N	0.012	N	<0.010	N	0.014	N	<0.0004	N
		ZINC		N		N		N		N		N		N		N		N		2
		ML		N		N		N		N		N		N		N		N		
		ML	013241318	013241258	012041198	205441168	205241228	205241228	013041178	013041258	205441168	026541008								

01269	WELL PC-3	CONC	<0.010	N	<0.005	N	<0.005	N	0.0072	N	0.012	N	0.031	N	<0.010	N	0.016	N	<0.0004	N
		ZINC		N		N		N		N		N		N		N		N		3
		ML		N		N		N		N		N		N		N		N		
		ML	013241318	013241258	012041198	205441168	205241228	205241228	013041178	013041258	205441168	026541008								

SP	ANTHRONY	AS	ARSENIC	BE	BERYLLIUM
CU	CADMIUM	CH	CHROMIUM	CU	LEAD
LN	CYANIDE	PD	LEAD	NO	MERCURY

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (4000) DATA REPORTING SHEET (SHEET 2 OF 14) *****

JOB DESCRIPTION: NOMA DISTRICT - NIDOP II 441 NIDOP 14 E01 JOB FILE: 01267
 REPORT DATE: 23 MAY 84 RECEIPT DATE: 13 APR 84 EST. CONF. DATE: 18 MAY 84

CONTAIN. TO 11 12 13 14 15 16 17 18
 ANALYSIS. 11 12 13 14 15 36 37 38 39
 PPH.....NI SE AG II ZN ALDRIN A-DIC B-DIC C-DIC
 LAB ID PROJECT ID ROW

CONC.	0.030	<0.005	<0.001	<0.030	2.45	<0.00001	<0.00001	<0.00001	<0.00001
81267 NIDOP 1-D	0.030	<0.005	<0.001	<0.030	2.45	<0.00001	<0.00001	<0.00001	<0.00001
ZINC	100			90	100				
DUP.	0.027	<0.005		<0.030	2.46				
OLD	20554129	01594131	20554125	51204116	51204108	07944110	07944110	07944110	07944110
	IGA AUTH		IGA AUTH	IGA AUTH					
81268 WELL 1-5	0.024	<0.005	<0.001	<0.030	0.911	<0.00001	<0.00001	<0.00001	<0.00001
ZINC									
DUP.									
OLD	20554129	01594131	20554125	51204116	51204108	07944110	07944110	07944110	07944110
	IGA AUTH		IGA AUTH	IGA AUTH					
81262 WELL PC-3	0.019	<0.005	<0.001	<0.030	1.43	<0.00001	<0.00001	<0.00001	<0.00001
ZINC									
DUP.									
OLD	20554129	01594131	20554125	51204116	51204108	07944110	07944110	07944110	07944110
	IGA AUTH		IGA AUTH	IGA AUTH					

NI NICKEL SE SELENIUM AG SILVER
 II THALLIUM ZN ZINC ALDRIN ALDRIN
 A-DIC A-DIC B-DIC B-DIC C-DIC C-DIC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORGAN DATA REPORTING SHEET (SHEET 12 OF 14)

NO DESCRIPTION - TAMIA DISTRICT - HIRAP 441 0100 10 001 AND FILE: 01421
 REPORT DATE: 25 MAY 84 RECEIPT DATE: 16 APR 84 EST. CONC. DATE: 25 MAY 84

ANALYSIS	100	101	102	103	104	105	106	107	108	
CONC.	123	124	125	126	127	128	129	130	131	
PPH	PERMETH	ACEPHAP	FLUORE	DELTHA	OPPE III	DDT/PAR	DDT/PE	DDT/DEB	PHENAN	PCB
81421 2-B	CONC <0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	ZINC									1
	ANAL									
	UID	00954124	00954124	00954124	00954124	00954124	00954124	00954124	00954124	00954124
81422 2-B	CONC <0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
	ZINC									2
	ANAL									
	UID	00954124	00954124	00954124	00954124	00954124	00954124	00954124	00954124	00954124

149.110 DIBENZO-PHENATE
 149.111 DIBENZO-PHENATE
 149.112 4-BROMODIBENZO ETHER

ACEPHAP ACETAMINOPHENE
 CHLOR 4-CHLORODIBENZO ETHER
 DDT/DEB DDT/DEB/DIBENZO

FLUORE FLUORENE
 NIT/PAH N-NITROSO-DIBENZO ETHER
 PHENAN PHENANTHRENE

DESCRIPTION: OHIO DISTRICT - NIDDP		441 HHS, 191101		LAB FILE: 01421										
RECEIVED DATE: 25 MAY 84		RECEIVED DATE: 10 APR 84		EST. CONC. DATE: 25 MAY 84										
COL. NO.	73	74	75	76	77	78	79	80	81					
ANALYSIS	74	75	76	77	78	79	80	81	82					
CONC.	101	102	103	104	105	106	107	108	109					
LAB ID	PROJECT ID	TOLETA	CLIBEN	CLISOE	NIDPAM	NIDPEN	NIDPRO	NIDROB	CON					
01421	2-D	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	"	"	"	"	"	"	"	"	"	"	"	"
		DWFL	"	"	"	"	"	"	"	"	"	"	"	"
		QID	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*
01422	2-S	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		ZREC	"	"	"	"	"	"	"	"	"	"	"	"
		DWFL	"	"	"	"	"	"	"	"	"	"	"	"
		QID	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*	08934115*
TOLETA		1	1	2	2	HEPTACHLOROCYCLOHEPTANE	CLIBEN	HEPTACHLOROCYCLOHEPTANE	CLISOE	HEPTACHLOROCYCLOHEPTANE	NIDPAM	HEPTACHLOROCYCLOHEPTANE	NIDPEN	HEPTACHLOROCYCLOHEPTANE
CLIBEN		CIN CHLORINENE		ETPEN		ETHYL DENTEN	NIDPAM		N NITROSO-DI-N PROPYLAMINE		NIDROB		NITROBENZENE	
CLISOE		DIB(2) CHLORODISOPROPYLETHYER		NIDPAM		N NITROSO-DI-N PROPYLAMINE		NIDROB		NITROBENZENE				

JOB DESCRIPTION: MINNAPOLIS DISTRICT - HIRSH
 441 HIRSH, 140 EOL
 REPORT DATE: 25 MAY 64
 EST. CONC. DATE: 25 MAY 64
 JOB FILE: 81421

ANALYSIS: 105 106 107 108 109 110 111 112 113
 COLUMNS: 02 03 04 05 06 07 08 09 10

LAB ID	PROJECT ID	CONC	ZINC	PH	02	03	04	05	06	07	08	09	10	11	12	13	RCM
81421	2-B	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	1

81422	2-S	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	2
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ISX110 ISX110XENE
 02110 2 4-DICHLOROBENZENE
 03102 3 3-DICHLOROBENZENE
 04102 2 5-DICHLOROBENZENE
 05102 1 2-DICHLOROBENZENE
 06102 2 6-DICHLOROBENZENE
 07102 2 6-DICHLOROBENZENE
 08102 2 6-DICHLOROBENZENE
 09102 2 6-DICHLOROBENZENE
 10102 2 6-DICHLOROBENZENE
 11102 2 6-DICHLOROBENZENE
 12102 2 6-DICHLOROBENZENE
 13102 2 6-DICHLOROBENZENE

JOB DESCRIPTION: OHAMA DISTRICT - BRPP		441 BRPP, 12101		JOB FILE: 01421							
START DATE: 125 MAY 84		RECEIPT DATE: 10 APR 84		EST. COMP. DATE: 125 MAY 84							
CONTR.	ANALYSIS	37	38	39	40	41	42	43	44	45	
LAB ID	PROJECT ID	111	112	10K01	11104	CLFEN	DNIPM	DNIPM	DNIPM	CLPPI	
01421	2-D	CLFEN	<0.0002	<0.0002	<0.0002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZINC	"	"	"	"	"	"	"	"	"
		DNIPM	"	"	"	"	"	"	"	"	"
		CLPPI	07944117*	07944117*	07944117*	08954124*	08954124*	08954124*	08954124*	08954124*	08954124*
01422	2-S	CLFEN	<0.0002	<0.0002	<0.0002	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
		ZINC	"	"	"	"	"	"	"	"	"
		DNIPM	"	"	"	"	"	"	"	"	"
		CLPPI	07944117*	07944117*	07944117*	08954124*	08954124*	08954124*	08954124*	08954124*	08954124*
PUB 24, PUB 1224		PUB 29, PUB 1220		JUR 01, JUR 01		JUR 01, JUR 01		JUR 01, JUR 01		JUR 01, JUR 01	
DNIPM 2 4-DICHLOROPHENOL		CLFEN 2-CIR ORFENICOL		DNIPM 2 4-DICHLOROPHENOL		DNIPM 2-NITROCLOROPHENOL		DNIPM 4-CIR ORO-3-METHYLPHENOL		DNIPM 4-CIR ORO-3-METHYLPHENOL	

NO. DESCRIPTION QUANTITY DISTRICT - NIDOC 441 NIDOC 19100 AND FILE#01401
 REFERENCE DATE: 25 MAY 84 RECEIVED DATE: 10 APR 84 EST. COMP. DATE: 25 MAY 84

ANALYSIS		10	11	12	13	14	15	16	17	18
CONC.		NI	SE	AG	LI	ZN	ALDRIN	A DIC	D DIC	O DIC
LAB ID	PROJECT ID	CONC.	SE	AG	LI	ZN	ALDRIN	A DIC	D DIC	O DIC
61421	2-D	CONC 6.053	<0.005	<0.001	<0.050	0.972	<0.00001	<0.00001	<0.00001	<0.00001
		ZREC 102	112.5			97.9				
		DUP1 0.037	<0.005			0.981				
		QID 51204115	01394131	20354125	51204114	51204114	07944117	07944117	07944117	07944117
		IGA A000	IGA A000	IGA A000	IGA A000					
61422	2-S	CONC 6.167	<0.005	<0.001	<0.050	0.755	<0.00001	<0.00001	<0.00001	<0.00001
		ZREC								
		DUP1								
		QID 51204115	01394131	20354125	51204114	51204114	07944117	07944117	07944117	07944117
		IGA A000	IGA A000	IGA A000	IGA A000					
NI	NICKEL	SE	SELENIUM	AG	SILVER					
LI	LITHIUM	ZN	ZINC	ALDRIN	ALDRIN					
A-DIC	A-DIC	D-DIC	D-DIC	O-DIC	O-DIC					

LABORATORY DESCRIPTION: NITROF
 REPORT DATE: 29 MAY 84
 441 000 14001
 EST. CODE: 01412
 DATE: 29 MAY 84

CONC. ANALYSIS	109	110	111	112	113	114	115	116	117	
PPH. ANALYSIS	132	133	134	135	136	137	138	139	140	
ANALYSIS	ANTRAC	ORPHTH	FAHNE	PIRONE	ORPHTH	CHRYSE	BAKTHI	FLUPL	DICHTH	CONC
81412 NITROF WELL 4-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	ZREC									1
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81413 NITROF WELL 5-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	ZREC									2
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81414 NITROF WELL 6-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.02	<0.010
	ZREC									87
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81415 NITROF WELL 3-D 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00	<0.010
	ZREC									4
	IAFL	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00	<0.010
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81416 NITROF WELL 4-D 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.07	<0.010
	ZREC									5
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81417 NITROF 1-FC 4/16/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	ZREC									6
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81418 NITROF WELL FIC-33 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.07	<0.010
	ZREC									7
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*
81419 NITROF WELL 2-FC 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00	<0.010
	ZREC	90	95	95	95	115	125	125		130
	IAFL									
	OID	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*	00954116*

ANTRAC ANTHRAcene
 ORPHTH ORPHTHENE
 FAHNE FLUORANTHENE
 PIRONE PIRONE
 CHRYSE CHRYSENE
 BAKTHI BENZANTHRAcene
 FLUPL FLUORANTHENE
 DICHTH DIACETYLFURFURANE

441 143011000 (CIVIL DISTRICT - NIRM)		441 0084 141101										441 0084 141101												
REPORT DATE: 12/25/84		RECEIPT DATE: 11/27/84										EST. CHRG. DATE: 12/25/84												
W. TRIP NO.	PROJECT NO.	CONC.	100	101	102	103	104	105	106	107	108	CONC.	109	110	111	112	113	114	115	116	117	118	119	120
LAB ID	PROJECT ID	ANALYSIS	123	124	125	126	127	128	129	130	131	ANALYSIS	132	133	134	135	136	137	138	139	140	141	142	143
81412	NIRCP WELL 4-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81413	NIRCP WELL 5-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81414	NIRCP WELL 2-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81415	NIRCP WELL 3-B 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81416	NIRCP WELL 4-B 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81417	NIRCP 1 PC 4/16/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81418	NIRCP WELL FHC-33 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116
81419	NIRCP WELL 2-PC 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116

100111 NIRM DIV. PHOSPHATE
 100112 NIRM DIV. PHOSPHATE
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 100198 NIRM DIV. PHOSPHATE
 100199 NIRM DIV. PHOSPHATE
 100200 NIRM DIV. PHOSPHATE

NO. 13 RICHMOND COUNTY DISTRICT - NHRP 441 HHS, FALLON 400 FLE 81412

REPORT DATE: 22 MAY 84 ANALYST: 62 03 04 05 06 07 08 09 EST. CONC. DATE: 23 MAY 84

PROJECT ID: 150610 150611 150612 150613 150614 150615 150616 150617 150618 150619 150620

LAB ID	PROJECT ID	CONC	150610	150611	150612	150613	150614	150615	150616	150617	150618	150619	150620
01420	NHRP WTL 3-8 4/13/84	ZREC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		0101	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		0102	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

ISOMER: ISOPHORENE
 0101 2,4-DINITROFLUORENE
 0102 3,3-DICHLOROBENZIDINE
 0103 2,6-DINITROFLUORENE
 0104 1,2-DINITROBENZAZINE
 0105 1,3-DICHLOROBENZENE

NO. 18 SUBURBAN DISTRICT - NHRP

401 NHRP, ILL. 01

NO. E.H. 01412

REPORT DATE: 25 MAY 84

RECEIVE DATE: 17 APR 84

EST. CORR. DATE: 25 MAY 84

CONC.	91	92	93	94	95	96	97	98	99
ANALYSIS ..	114	115	116	117	118	119	120	121	122
D. I. UNITS PPB	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
LAB ID	FRAC. ID								
01420	NHRP HILL 3-S	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	4/13/84	20.C							
		INPL	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
		OID	08954116	08954116	08954116	08954116	08954116	08954116	08954116

FRAC. 1 4: DICHOROBENZENE CONC. 1 2: DICHOROBENZENE ILL. 1A: DEKALIN DEKALIN
 ILL. 1 2 4: TRICHLOROBENZENE ILL. 1B: TRICHLOROBENZENE ILL. 1B: TRICHLOROBENZENE
 ILL. 1D: DEKALIN ILL. 2: DICHOROBENZENE ILL. 1A: DEKALIN ILL. 1A: DEKALIN

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY (EAL) DATA REPORT SHEET (SHEET 21 OF 28)

SITE INFORMATION		ANALYSIS INFORMATION										EST. DATE		
NIRDF DISTRICT - NIRDF		441 NIRDF 14101										EST. DATE: 25 MAY 84		
START DATE: 29 MAY 84		CONC...	91	92	93	94	95	96	97	98	99	100	101	102
LAB ID		ANALYSIS...	114	115	116	117	118	119	120	121	122			
WELL ID	TRUCK ID	CONC	ZINC	DETA	DETA	DETA	DETA	DETA	DETA	DETA	DETA	DETA	DETA	DETA
81412	NIRDF WELL 4-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	1
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81413	NIRDF WELL 5-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	2
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81414	NIRDF WELL 2-S 4/12/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	3
		ZINC	100	108.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	80.5	
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81415	NIRDF WELL 3-D 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	4
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81416	NIRDF WELL 4-D 4/14/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	5
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81417	NIRDF 1-PC 4/16/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	6
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81418	NIRDF WELL PNC-33 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	7
		ZINC												
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
81419	NIRDF WELL 2-PC 4/13/84	CONC	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	8
		ZINC	55	34.5	75	75	70	60	60	75				
		DETA												
		STD	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	
PNC-33 1-4 DETERMINATION		PNC-33 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION				
DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION				
DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION		DETA 1-4 DETERMINATION		DETA 1-2 DETERMINATION				

NO. 10'S DISTRICT - NHRP

441 1000 14101

NO. 10'S DISTRICT

REPORT DATE: 29 MAY 84

REPORT DATE: 27 APR 84

EST. NO. DATE: 81 MAY 84

ANALYSIS:	73	74	75	76	77	78	79	80	81											
CONC.	94	95	96	97	98	99	100	101	102											
UNIT:	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L											
PROJECT ID	73	74	75	76	77	78	79	80	81											
61412 NHRP WELL 4-S 4/12/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108
61413 NHRP WELL 5-S 4/12/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61414 NHRP WELL 6-S 4/12/84	CONC <0.010	ZINC 0.042	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61415 NHRP WELL 5-B 4/14/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61416 NHRP WELL 4-D 4/14/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61417 NHRP 1-FC 4/16/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61418 NHRP WELL FHC-93 4/13/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	
61419 NHRP WELL 2-FC 4/13/84	CONC <0.010	ZINC <0.010	NIPL <0.010	010 009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	009341108	

1111A 1 1 2 2 ULTRACLEAN WASTE 1111B 1111C 1111D 1111E 1111F 1111G 1111H 1111I 1111J 1111K 1111L 1111M 1111N 1111O 1111P 1111Q 1111R 1111S 1111T 1111U 1111V 1111W 1111X 1111Y 1111Z

PROJECT: NITROP
 DATE: 125 MAY 64
 EST. NO. 71
 DATE: 72

ANALYSIS: 64 65 66 67 68 69 70 71 72
 DATE: 03 06 07 08 09 20 21 22
 PROJECT ID: 002341108 002341108 002341108 002341108 002341108 002341108 002341108 002341108 002341108

WELL ID	PROJECT ID	CONC	ZINC	DATE	CONC	ZINC	DATE	CONC	ZINC	DATE	CONC	ZINC	DATE	CONC	ZINC	DATE	CONC	ZINC	DATE
81412	NITROP WELL 4-S 4/12/64	<0.010	<0.010	0.94	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81413	NITROP WELL 3-S 4/12/64	<0.010	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81414	NITROP WELL 3-S 4/12/64	<0.010	<0.010	0.94	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81415	NITROP WELL 3-D 4/14/64	<0.010	<0.010	0.023	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81416	NITROP WELL 4-D 4/14/64	<0.010	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81417	NITROP 1-PC 4/16/64	<0.010	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81418	NITROP WELL FNC-33 4/13/64	<0.010	<0.010	2.9	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
81419	NITROP WELL 2-PC 4/13/64	<0.010	<0.010	0.014	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010

FIELD NO. 1 2 DATE 04/12/64
 PROJECT NITROP
 ANALYST: [blank]

PROJECT DESCRIPTION: GORMA DISTRICT - NDRM

441 NDRM 141101

LAB FILE 101410

REPORT DATE: 25 MAY 84

RECEIPT DATE: 17 APR 84

EST. COMP. DATE: 25 MAY 84

COLUMN...	46	47	48	49	50	51	52	53	54											
ANALYSIS...	67	69	69	70	71	72	73	74	75											
UNIT.....	ICLIR	INIRK	ANIRK	HRIRK	ICLIR	CLRE	DRNE	VICL	CLRT											
LAB ID	PROJECT ID								RCM											
GLASS	NDRM WTL 3 B	CLRE	<0.025	N	<0.25	N	<0.025	N	<0.25	N	<0.025	N	<0.010	N	<0.010	N	<0.010	N	<0.010	N
	4/13/84	ZDEC		N		N		N		N		N		N		N		N		N
		ICLIR	<0.025	N	<0.25	N	<0.025	N	<0.25	N	<0.025	N								
		DRNE	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116	00954116

CLRE 2.4 6-DICHLORODIBENZO
 INIRK 2.4 6-DICHLORODIBENZO
 ANIRK 2.4 6-DICHLORODIBENZO
 HRIRK 2.4 6-DICHLORODIBENZO
 CLRE 2.4 6-DICHLORODIBENZO
 DRNE 2.4 6-DICHLORODIBENZO
 VICL 2.4 6-DICHLORODIBENZO
 CLRT 2.4 6-DICHLORODIBENZO

JOB DESCRIPTION: GRANDA DISTRICT - NIHC		441 HHD, 141101									
EST. DATE: 125 MAY 84		EST. DATE: 125 MAY 84									
COLLN...	37	38	39	40	41	42	43	44	45		
ANALYSIS...	58	59	60	61	62	63	64	65	66		
CONC.	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
LAB ID	FRACID	TOXAL1	TOXAL2	TOXAL3	TOXAL4	TOXAL5	TOXAL6	TOXAL7	TOXAL8	TOXAL9	TOXAL10
01420	NIHC# 141101 3-S	CCMC	0.0002	0.0002	0.0002	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
	4/13/84	NIHC									9
		NIHC			0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	4
		QID	07941108	07941108	07941108	00924124	00924124	00924124	00924124	00924124	00924116
TOXAL1	TOXAL2	TOXAL3	TOXAL4	TOXAL5	TOXAL6	TOXAL7	TOXAL8	TOXAL9	TOXAL10		
TOXAL1	TOXAL2	TOXAL3	TOXAL4	TOXAL5	TOXAL6	TOXAL7	TOXAL8	TOXAL9	TOXAL10		
TOXAL1	TOXAL2	TOXAL3	TOXAL4	TOXAL5	TOXAL6	TOXAL7	TOXAL8	TOXAL9	TOXAL10		

NO. DESCRIPTION - ORWA DISTRICT - NIRC

441 NIRC 141101

NO. DATE 01412

REPORT DATE 22 MAY 84

RECEIPT DATE 17 MAY 84

EST. DATE 25 MAY 84

NO.	DESCRIPTION	CONC.	46	47	48	49	50	51	52	53	54
LAB ID	PROJECT ID	CONC.	46	47	48	49	50	51	52	53	54
LAB ID	PROJECT ID	CONC.	46	47	48	49	50	51	52	53	54
61412	NIRCP WELL 4-B 4/12/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61413	NIRCP WELL 5-B 4/12/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61414	NIRCP WELL 6-B 4/12/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61415	NIRCP WELL 3-B 4/14/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61416	NIRCP WELL 4-B 4/14/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61417	NIRCP 1 PC 4/16/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61418	NIRCP WELL FRC-33 4/19/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116
61419	NIRCP WELL 2 PC 4/19/84	CONC ZINC	<0.025	<0.25	<0.025	<0.25	<0.025	<0.010	<0.010	<0.010	<0.010
		DATE									
		DIR	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116	08954116

NO. 2 A & B - HIRSHBERG
DATE 2 HIRSHBERG
DIR HIRSHBERG

NO. 2 A HIRSHBERG
DATE HIRSHBERG
DIR HIRSHBERG

NO. 4 HIRSHBERG
DATE HIRSHBERG
DIR HIRSHBERG

LABORATORY: ENVIRONMENTAL CHEMISTRY DISTRICT - NHRP 451 HHR, 191-01 (SCLD) DATE: 04 EST. DATE: 04/22/84

PROJECT: NHRP WELLS 29 MAY 84 ANALYSIS: 19 20 21 22 23 24 25 26 27
 DATE: 4/12/84 4/11 4/2 4/3 4/4 4/5 4/6 4/7 4/8

LAB ID	PROJECT ID	DATE	TIME	19	20	21	22	23	24	25	26	27
01412	NHRP WELL 4-S	4/12/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01413	NHRP WELL 5-E	4/12/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01414	NHRP WELL 6-S	4/12/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01415	NHRP WELL 3-D	4/14/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01416	NHRP WELL 4-D	4/14/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01417	NHRP 1-TC	4/16/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01418	NHRP WELL FHC-33	4/13/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
01419	NHRP WELL 2-TC	4/13/84	11:00	<0.00001	<0.0002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

19: CHLORIDE
 20: CHLORIDE
 21: CHLORIDE
 22: CHLORIDE
 23: CHLORIDE
 24: CHLORIDE
 25: CHLORIDE
 26: CHLORIDE
 27: CHLORIDE

PROJECT: NIPPO DISTRICT - NIPPO 441-NIPPO-141101 REPORT: 01412

DATE: 12 MAY 84 RECEIVED DATE: APR 84 EST. DATE: 12 MAY 84

CONTR. NO. 10 ANALYSIS NO. 11 P.H. NO. NI 11 12 13 14 15 16 17 18
 LAB ID PROJECT ID SE AG TI (11) A IBC A IBC B IBC C IBC 104

STATION	WELL	DATE	CONC.	ZINC	IRON	CHL	CHL	CHL	CHL	CHL	CHL	CHL	CHL
01412	NIPPO WELL 4-S	4/12/84	0.017	0.005	0.001	0.030	1.14	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01413	NIPPO WELL 3-S	4/12/84	0.018	0.005	0.001	0.030	1.157	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01414	NIPPO WELL 2-S	4/12/84	0.049	0.005	0.001	0.030	1.33	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01415	NIPPO WELL 3-D	4/12/84	0.010	0.005	0.001	0.030	7.60	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01416	NIPPO WELL 4-D	4/12/84	0.006	0.005	0.001	0.030	3.13	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01417	NIPPO 1 FC	4/16/84	0.009	0.005	0.001	0.030	0.504	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01418	NIPPO WELL FNC-33	4/13/84	0.009	0.005	0.001	0.030	2.95	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001
01419	NIPPO WELL 2 FC	4/13/84	0.005	0.005	0.001	0.030	1.41	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001

NI NIPPO 441-NIPPO-141101 A IBC A IBC B IBC C IBC

JOB DESCRIPTION: MOHAWK (FRIDLEY MINN)

000-0000,000000

LAB FILE: 79299

REPORT DATE: 14 NOV 83

RECEIPT DATE: 19 OCT 83

EST. COMP. DATE: 04 NOV 83

COLUMN...	19	20	21	22	23	24	25	26	27
ANALYSIS...	70	71	72	73	74	75	76	77	78
PPH.....	TCLETA	BENZEN	CLEIRE	CHBR3	TCLETA	TCLETA	TCLETA	CLDEN	ETBEN

B: DENOTES PPB
LAB ID PROJECT ID

ROW

79299	FHC-#33	CONC	<0.010	M	0.010	M	<0.010	M	<0.010	M	<0.010	M	0.024	M	<0.010	M	<0.010	M	0.21	M
	NIROP SITE	ZREC	92.5	M	92.5	M	92.5	M	95	M	105	M	102.5	M	1	M				
		DUPL	<0.010	M	0.015	M	<0.010	M	<0.010	M	<0.010	M	0.027	M	<0.010	M	<0.010	M	0.21	M
		010	08933304	M	08933333	M														

TCLETA	1,1,2-TRICHLOROETHANE	BENZEN	BENZENE	CLEIRE	2-CHLOROCYCLOHEXENE
CHBR3	BROMOFORM	TCLETA	1,1,2-TRICHLOROETHANE	TCLETA	TETRACHLOROETHENE
TCLETA	1,1,2-TRICHLOROETHANE	CLDEN	CHLOROBENZENE	ETBEN	ETHYLBENZENE

PROJECT: BUREAU OF REVENUE (CITY OF NEW YORK)
 REPORT DATE: 14 NOV 83

000 0000,00000
 RUN DATE: 17 OCT 83

JOB FILE: 78209
 EST. COMP. DATE: 04 NOV 83

COLUMN...	1	2	3	4	5	6	7	8	9
ANALYSIS...	50	51	54	55	56	57	58	59	60
REP.....	CONE	HEX	VOCL	CEC	DECL	MOEHE	DEETA	DECE	CEC13
B 1 MEMBERS PER	LAB ID	PROJECT ID							ROM

78299	178-033							0.027	0.12		
	NIRO SITE										
		CONC	<0.010	* <0.010	* <0.010	* <0.010	* <0.010	* <0.010	* <0.010	* <0.010	* 105
		ZINC									
		DUPL	<0.010	* <0.010	* <0.010	* <0.010	* <0.010	* <0.010	* 0.025	* 0.12	* <0.010
		OTH	08933304*	08933304*	08933304*	08933304*	08933304*	08933304*	08933304*	08933304*	08933304*

CEC	CHLOROCYANE	HEX	HEXACHLOROCYANE	VOCL	VINYL CHLORIDE
CEC1	CHLOROCYANE	DECL	HEXACHLOROCYANE	DEETE	1,1-DICHLOROETHENE
DEETA	1,1-DICHLOROETHANE	DECE	TRANS 1,2-DICHLOROETHENE	CEC13	CHLOROBENZ

JOB DESCRIPTION: ROMANA (BRIDLEY MINN)
 REPORT DATE: 14 NOV 83
 COLUMN... 10 11 12 13 14 15 16 17 18
 ANALYSIS... 61 62 63 64 65 66 67 68 69
 B: DENOTES FPD
 LAB ID PROJECT ID
 FPH.....DCLETA TCLETA C CL 4 BRCL2M DICLPR *CLPRE TCLETE 3 DRCLN CCLPRE RCM

79299 FHC-W33 CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 37 M <0.010 M <0.010 M
 NIROP SITE ZREC 105 M 102.5 M 102.5 M 105 M 100 M 97.5 M 100 M 1
 DUPL: <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 32 M <0.010 M <0.010 M
 OID 08933304M 08933304M 08933304M 08933304M 08933304M 08933304M 08933304M 08933304M 08933304M

DCLETA 1,2-DICHLOROETHANE TCLETA 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 DRCL2M BROMODICHLOROETHANE DICLPR 1,2-DICHLOROPROPANE *CLPRE TRANS-1,3-DICHLOROPROPENE
 TCLETE TRICHLOROETHENE DRCLN DIBROCHLOROETHANE CCLPRE CIS-1,3-DICHLOROPROPENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY OF

DATA REPORTING SHEET (SHEET 6 OF 6) *****

JOB DESCRIPTION: KONIAHA (FRITILEY MINN)

000-0000-000000

LAB FILE: 179135

REPORT DATE: 15 NOV 83

RECEIPT DATE: 13 OCT 83

EST. COMP. DATE: 04 NOV 83

COLUMN...	19	20	21	22	23	24	25	26	27
ANALYSIS...	70	71	72	73	74	75	76	77	79
PPM.....	TCLETA	BENZFN	CLETHE	CHHR3	TCLETA	TCLETA	TCLETA	CLBEN	ETBEN

B : DENOTES FPB PROJECT ID
 LAB ID PROJECT ID

79143	WELL #3-D NIROP SITE	CONC	<0.010	M	9														
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

79144	WELL #2-D NIROP SITE	CONC	<0.010	M	10														
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

79145	WELL #4-S NIROP SITE	CONC	<0.010	M	11														
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

79146	WELL PC-4 NIROP SITE	CONC	<0.010	M	12														
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

79147	WELL PC-2 NIROP SITE	CONC	<0.010	M	13														
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

79148	WELL PC-3 NIROP SITE	CONC	<0.010	M	0.014	M	<0.010	M	14										
		%REC	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
		OID	08933291	M	08933291														

TCLETA	1,1,2-TETRACHLOROETHANE	BENZFN	BENZENE	CLETHE	2-CHLOROMETHYL VINYL ETHER
CHHR3	BROMOFORM	TCLETA	1,1,2,2-TETRACHLOROETHANE	TCLETA	TETRACHLOROETHENE
TCLETA	TOLUENE	CLBEN	CALCIBENZENE	ETBEN	ETHYLBENZENE

* PRESENT

JOB DESCRIPTION: DONALD (ERTLEY MINN)

000-0000-000000

JOB FILE: 79135

REPORT DATE: 16 NOV 83

RECEIPT DATE: 13 OCT 83

EST. COMP. DATE: 04 NOV 83

COLUMN... 10 11 12 13 14 15 16 17 18
 ANALYSIS... 61 62 63 64 65 66 67 68 69

B : DENOTES FTD PROJECT ID FPH..... DCL E1A TLE E1A C CL 4 DRCL 2H DCL FPC CL FPE TLE E1 3 DRCL H CL FPE ROW

79135 WELL #1-S
 NIROP SITE
 CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79136 WELL #1-D
 NIROP SITE
 CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79137 WELL #2-S
 NIROP SITE
 CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.13 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79138 WELL #3-S
 NIROP SITE
 CONC <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M <0.28 M <0.010 M <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79139 WELL #5-S
 NIROP SITE
 CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79140 WELL #6-S
 NIROP SITE
 CONC <0.010 M 0.02 M <0.010 M <0.010 M <0.010 M <0.010 M <0.010 M 1.8 M <0.010 M <0.010 M
 ZREC 100 M 82.5 M 92.5 M 105 M 83.3333 M 77.5 M M M M
 DUPL <0.010 M 0.019 M <0.010 M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79141 WELL #C-1
 NIROP SITE
 CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

79142 WELL #4-D
 NIROP SITE
 CONC <0.010 M
 ZREC M M M M M M M M M M
 DUPL M M M M M M M M M M
 O1D 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M 08933291M

DCL E1A 1,2-DICHLOROBETHANE TLE E1A 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 DRCL 2H BROMODICHLOROMETHANE DCL FPC 1,2-DICHLOROPROPANE CL FPE TRANS-1,3-DICHLOROPROPENE
 TLE E TETRACHLOROBETHANE DRCL H DIBROMODICHLOROMETHANE CL FPE CIS-1,3-DICHLOROPROPENE

WELL DESCRIPTION: KONAIA (FRITILEY NINN)

000-0000,000000

WELL FILE: 72135

REPORT DATE: 15 NOV 83

RECEIPT DATE: 13 OCT 83

EST. COMP. DATE: 04 NOV 83

COLUMN... 10 11 12 13 14 15 16 17 18
ANALYSIS... 61 62 63 64 65 66 67 68 69

B I DENOTES FPB PROJECT ID FPH.....DCLETA TCLETA C CL 4 DDCLETA DDCLEPR *CLPRE TLEIE 3 DDCLEH CCLPRE ROW

WELL ID	WELL DESCRIPTION	CONC	<0.010	M																		
79143	WELL #3-D NIROP SITE	ZREC																			9	
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	
79144	WELL #2-D NIROP SITE	ZREC																				10
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	
79145	WELL #4-S NIROP SITE	ZREC																				11
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	
79146	WELL PC-4 NIROP SITE	ZREC																				12
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	
79147	WELL PC-2 NIROP SITE	ZREC											0.062									13
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	
79149	WELL PC-3 NIROP SITE	ZREC											0.081									14
		DUPL																				
		OTD	08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291		08933291	

DCLETA 1,2-DICHLOROBENZENE TCLETA 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 DDCLEH 1,2-DICHLOROBENZENE DDCLEPR 1,2-DICHLOROBENZENE *CLPRE TRANS-1,3-DICHLOROBENZENE
 TLEIE 1,1,1-TRICHLOROETHANE DDCLEH 1,1,1-TRICHLOROETHANE CCLPRE CIS-1,3-DICHLOROBENZENE

* PRESENT

JOB DESCRIPTION: ROMMA (FRIDLEY MINN)		000 0000 000000										LAB FILE: 72135
REPORT DATE: 15 NOV 83		RECEIPT DATE: 13 OCT 83										EST. COMP. DATE: 04 NOV 83
B : DENOTES PPD		COLUMN... 1	2	3	4	5	6	7	8	9	60	ROW
LAB ID	PROJECT ID	ANALYSIS... 52	53	54	55	56	57	59	59	60		
		PTH.....CLME	BRME	VICL	CLET	DCLL	DCLTE	DCLTA	DICLE	CLCL3		
79143	WELL #3-D NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	0.030	<0.010	<0.010	<0.010	<0.010		9
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291
79144	WELL #2-D NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010		10
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291
79145	WELL #4-S NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	0.080	<0.010	<0.010	<0.010	<0.010		11
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291
79146	WELL PC-4 NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	0.010	<0.010	<0.010	<0.010	<0.010		12
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291
79147	WELL PC-2 NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	6.0	<0.010	<0.010	<0.010	<0.010		13
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291
79148	WELL PC-3 NIROP SITE	CONC <0.010	<0.010	<0.010	<0.010	0.011	<0.010	<0.010	<0.010	<0.010		14
		ZREC										
		DUPL										
		OTD	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291	08933291

CLME CHLOROETHANE
 CLET CHLOROETHANE
 DCLTA 1,1-DICHLOROETHANE
 BRME METHYLENE CHLORIDE
 VICL VINYL CHLORIDE
 DCLTE 1,1-DICHLOROETHENE
 CLCL3 CHLOROFORM

* PRESENT

NO. DESCRIPTION/DATA (BRIDLEY HINN)

000.0000.000000

NO. FILE: 72142

REPORT DATE: 16 NOV 83

RECEIPT DATE: 13 OCT 83

EST. COMP. DATE: 14 NOV 83

COLUMN...		1	2	3	4	5	6		
ANALYSIS...		30	33	48	49	50	51		
B	NOTES	PPB	TOC	CN	PCB252	PCB253	PCB254	PCB260	
LAB ID	PROJECT ID							ROW	
79157	WELL PC-1 NITROP SITE	CONC 51.8	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	9
		ZREC 97.5	M 98	M	M	M	M	M	
		DUPL 43.2	M <0.010	M	M	M	M	M	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		
79158	WELL #2-D NITROP SITE	CONC 4.8	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	10
		ZREC	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		
79159	WELL #4-S NITROP SITE	CONC 10.1	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	11
		ZREC	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		
79160	WELL PC-4 NITROP SITE	CONC 2.3	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	12
		ZREC	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		
79161	WELL PC-2 NITROP SITE	CONC 15.9	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	13
		ZREC	M	M	M 70	M	M	M	
		DUPL	M	M	M <0.0001	M <0.0001	M <0.0001	M <0.0001	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		
79162	WELL PC-3 NITROP SITE	CONC 6.6	M <0.010	M <0.0001	M <0.0001	M <0.0001	M <0.0001	M <0.0001	14
		ZREC	M	M	M	M	M	M	
		DUPL	M	M	M	M	M	M	
		OID 01033318	01403305	20943292	20943292	20943292	20943292		

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP REPORTING SHEET (SHEET 1 OF 1) *****

LAB DESCRIPTION: MANA (ERTILEY MINN)

000 0000 000000

LAB FILE: 79300

REPORT DATE: 18 NOV 83

RECEIPT DATE: 19 OCT 83

EST. COMP. DATE: 14 NOV 83

COLUMN...	1	2	3	4	5	6
ANALYSIS...	30	33	42	47	50	51
PFM.....	TOC	CN	PCB242	PCB243	PCB254	PCB260

B : DENOTES PPR

LAB ID PROJECT ID

ROW

79300	FMC-W33	CONC	3.6	M	<0.010	M	<0.0001	M	<0.0001	M	<0.0001	M	<0.0001	M
	NINOP SITE	ZREC	109.5	M	112.5	M		M		M		M		M
		DUP	3.6	M	<0.010	M		M		M		M		M
		OID	0103303	M	01403305	M	20943292	M	20943292	M	20943292	M	20943292	M



JOB DESCRIPTION: (MIA - RIBBLEY BURN)		441 E444, 141101								JOB FILE: 79163	
REPORT DATE: 09 DEC 83		RECEIPT DATE: 13 OCT 83								EST. COMP. DATE: 21 NOV 83	
B I IDENTIES PPD		COLUMN...	1	2	3	4	5	6	7	8	
LAB ID PROJECT ID		ANALYSIS...	7	9	10	12	14	20	52	53	
		FORM.....	CD	CR	CU	FD	HL	IN	AG	SN	
											ROW
79163	WELL #1-S NIROP SITE	CONC	0.0085	* 0.037	* 0.054	* 0.035	* 1.92	* 1.12	* <0.001	* <0.050	1
		ZREC		* 99		* 101	* 96		* 99		
		DUPL		* 0.052		* 1.96	* 1.02		* <0.050		
		OTD	20563327*	20553339*	51203318*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79164	WELL #2-S NIROP SITE	CONC	0.0013	* 0.057	* 0.214	* 0.334	* 6.58	* 3.98	* <0.001	* <0.050	2
		ZREC									
		DUPL									
		OTD	20563327*	20553339*	51203318*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79165	WELL #1-D NIROP SITE	CONC	0.0061	* 0.003	* 0.010	* 0.035	* 0.152	* 7.03	* <0.001	* <0.050	3
		ZREC									
		DUPL									
		OTD	20563327*	20553339*	20553339*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79166	WELL #3-S NIROP SITE	CONC	0.0076	* 0.020	* 0.064	* 0.083	* 1.78	* 3.64	* <0.001	* <0.050	4
		ZREC									
		DUPL									
		OTD	20563327*	20553339*	20553339*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79167	WELL #5-S NIROP SITE	CONC	0.0068	* 0.013	* 0.040	* 0.018	* 2.74	* 0.406	* <0.001	* <0.050	5
		ZREC									
		DUPL									
		OTD	20563327*	20553339*	20553339*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79168	WELL #6-S NIROP SITE	CONC	0.0062	* 0.040	* 0.082	* 0.142	* 6.54	* 7.37	* <0.001	* <0.050	6
		ZREC									
		DUPL									
		OTD	20563327*	20553339*	51203318*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								
79169	WELL #3-D NIROP SITE	CONC	0.0033	* 0.008	* 0.017	* 0.023	* 0.075	* 3.26	* <0.001	* <0.050	7
		ZREC									
		DUPL									
		OTD	20553336*	20553339*	20553339*	20563339*	20563341*	51203318*	20563340*	51203322*	
			HGA AUTH								
79170	WELL #4-D NIROP SITE	CONC	0.0029	* 0.005	* 0.012	* 0.013	* 0.093	* 2.07	* <0.001	* <0.050	8
		ZREC									
		DUPL									
		OTD	20553336*	20553339*	20553339*	20563339*	51203318*	51203318*	20563340*	51203322*	
			HGA AUTH								

AO SILVER SN TIN

JOB DESCRIPTION: OHIOHMA (RIMLEY HIND)		441 E444, 19601		JOB FILE: 79163							
RETURN DATE: 09 DEC 83		RECEIPT DATE: 13 OCT 83		EST. COM. DATE: 21 NOV 83							
COL. NO.	ANALYSIS	1	2	3	4	5	6	7	8		
B	PPH	CD	CR	CU	PB	DD	ZN	AG	SN		
LAB ID	PROJECT ID										
79171	WELL PC-1 NIROP SITE	CONC	0.0024	0.011	0.004	<0.001	0.001	<0.050	<0.001	<0.050	9
		ZREC						99		96	
		DUPL						<0.050		<0.050	
		QID	20553336	20553339	20553339	20563339	20553341	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
79172	WELL W2-D NIROP SITE	CONC	0.0031	0.004	0.021	0.025	0.094	2.91	<0.001	<0.050	10
		ZREC									
		DUPL									
		QID	20553336	20553339	20553339	20563339	51203318	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
79173	WELL W4-S NIROP SITE	CONC	0.0019	0.013	0.027	0.021	0.416	1.69	<0.001	<0.050	11
		ZREC									
		DUPL									
		QID	20553336	20553339	20553339	20563339	51203318	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
79174	WELL PC-4 NIROP SITE	CONC	0.0014	0.003	<0.001	0.002	0.385	<0.050	<0.001	<0.050	12
		ZREC									
		DUPL									
		QID	20553336	20553339	20553339	20563339	51203318	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
79175	WELL PC-2 NIROP SITE	CONC	0.0014	0.007	0.012	0.003	0.027	<0.050	<0.001	<0.050	13
		ZREC									
		DUPL									
		QID	20553336	20553339	20553339	20563339	20553341	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
79176	WELL PC-3 NIROP SITE	CONC	0.0013	0.003	0.011	0.001	0.076	<0.050	<0.001	<0.050	14
		ZREC									
		DUPL									
		QID	20553336	20553339	20553339	20563339	51203318	51203318	20563340	51203322	
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH	
AG	SILVER		SN	TIN							

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JOB DESCRIPTION: CHANIA (BRIDLEY HIND)		441_L311_14EE01								JOB FILE: 72201	
REPORT DATE: 09 DEC 83		RECEIPT DATE: 19 OCT 83								EST. COMP. DATE: 21 NOV 83	
COLUMN... 1		2	3	4	5	6	7	8			
ANALYSIS... 7		9	10	11	12	13	14	15			
PPH.....CD		CR	CU	EL	ML	ZN	AG	SN			
LAB ID	PROJECT ID										ROW
72201	FMC-N33 NIROP SITE	CONC	0.0013	* 0.003	* 0.008	* 0.014	* 0.957	* 4.09	* <0.050	* <0.050	1
		ZREC									
		DUPL									
		OTID	20553336*	20553339*	20553342*	20563341*	51203318*	51203318*	51203320*	51203320*	
			IGA AUTH	IGA AUTH	IGA AUTH	IGA AUTH	IGA AUTH	IGA AUTH			
AG	SILVER		SN	TIN							

JOB DESCRIPTION: ONAHA (CHURLEY MINN)
 REPORT DATE: 16 NOV 83

000.0000.000000
 RECEIPT DATE: 13 OCT 83

LAB FILE: 72142
 EST. COMP. DATE: 14 NOV 83

COLUMN... 1 2 3 4 5 6
 ANALYSIS... 30 33 48 49 50 51
 PPM..... TOC CN PCB242 PCB249 PCB254 PCB260

B I TENNESSEE PFB LAB ID PROJECT ID ROW

79149 ✓ WELL #1-S
 NIROP SITE
 CONC 22.8 M <0.010 M <0.0001 M <0.0001 M 0.0015 M <0.0001 M
 ZREC 102.5 M 82 M M M M M M
 DUPL 22.3 M <0.010 M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

1

79150 ✓ WELL #2-S
 NIROP SITE
 CONC 57.0 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033307M 01403305M 20943292M 20943292M 20943292M 20943292M

2

79151 ✓ WELL #1-D
 NIROP SITE
 CONC 642 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

3

79152 ✓ WELL #3-S
 NIROP SITE
 CONC 16.1 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

4

79153 WELL #5-S
 NIROP SITE
 CONC 649 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

5

79154 WELL #6-S
 NIROP SITE
 CONC 27.6 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

6

79155 WELL #3-D
 NIROP SITE
 CONC 3.5 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

7

79156 WELL #4-D
 NIROP SITE
 CONC 30.7 M <0.010 M <0.0001 M <0.0001 M <0.0001 M <0.0001 M
 ZREC M M M M M M M M
 DUPL M M M M M M M M
 STD 01033318M 01403305M 20943292M 20943292M 20943292M 20943292M

8

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: HTR0P (CHAIN-OF-CUSTODY) RDGE444E1100000 IN03 JOB FILE: 95117
 REPORT DATE: 16 JAN 87 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 10 JAN 87

COLUMN... 10 11 12 13 14 15 16
 ANALYSIS.. 15 17 19 22 23 25 26
 PPH.....ZN BA CA HG NH K NA

0 - DENOTES PPB PROJECT ID ROM

95133 2-0-11-10-86-645P CONG 1.07 * 0.061 * 122 * 49.2 * 0.142 * 3.52 * 19.5 *
 XREC 99.5 * 92 * 112 * 97.2 * 98.6 * 102.8 * 102 *
 DUPL 1.07 * 0.060 * 120 * 49.3 * 0.138 * 3.53 * 20.0 *
 STD 51206357* 51207006* 51006352* 51006350* 51206346* 51206357* 51006350*
 HGA AUTH

95134 2-PC-11-19-86-885A CONG 10.030 * 0.051 * 21.1 * 10.7 * 0.002 * 36.0 * 34.0 *
 XREC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 20557000* 51206357* 51006350*
 HGA AUTH

95135 3-PC-11-19-86-1010A CONG 0.357 * 0.094 * 110 * 54.9 * 0.052 * 2.62 * 5.60 *
 XREC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 51206346* 51206357* 51006350*
 HGA AUTH

95136 4-0-11-19-86-1022A CONG 0.694 * 0.050 * 64.9 * 21.5 * 0.005 * 2.79 * 11.5 *
 XREC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 20557000* 51206357* 51006350*
 HGA AUTH

95137 4-PC-11-19-86-1200P CONG 0.086 * 0.093 * 20.4 * 45.9 * 0.210 * 3.52 * 18.2 *
 ZINC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 51206346* 51206357* 51006350*
 HGA AUTH

95138 5-6-11-19-86-1280P CONG 0.601 * 0.061 * 106 * 48.5 * 0.593 * 4.67 * 18.0 *
 XREC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 51206346* 51206357* 51006350*
 HGA AUTH

95139 16-9-11-19-86-315P CONG 2.07 * 0.068 * 100 * 29.0 * 1.04 * 3.28 * 4.14 *
 XREC * * * * *
 DUPL * * * * *
 STD 51206357* 51207006* 51006352* 51006350* 51206346* 51206357* 51006350*
 HGA AUTH

ZN ZINC BA BARIUM CA CALCIUM
 NH MAGNESIUM NH MANGANESE K POTASSIUM
 NA SODIUM

EXTERNAL QA SAMPLE XREC 89% 97% 90% 101% 94% 88% 98%

MMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (REV. 1-87)

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)

ROGEE444E1100000 INNOV

JOB FILE: 95185

REPORT DATE: 13 JAN 87

RECEIPT DATE: 21 NOV 86

EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	ANALYSIS												
			1	2	3	4	5	6	7	8	9	10	11	12	13
AS	ARSENIC	CD	CADMIUM	CU	COPPER	FB	LEAD	NI	NICKEL	HG	MERCURY	AO	SILVER		
95185	10-S 11-19-86 440P	<0.005	0.0006	0.003	0.005	0.005	<0.0004	0.032	<0.005	<0.001					
		104					99		86						
		DUPL					<0.0008		<0.005						
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95186	13-S 11-19-86 629P	<0.005	0.0011	<0.001	0.006	0.005	<0.0004	0.013	<0.005	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95187	14-S 11-19-86 659P	<0.005	0.0021	<0.001	0.002	0.004	<0.0004	0.037	0.008	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95188	12-S 11-19-86 750P	<0.005	0.0010	<0.001	0.002	0.001	<0.0004	0.006	<0.005	0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95189	20-S 11-20-86 814A	<0.005	0.0009	0.001	0.004	0.004	<0.0004	0.004	<0.005	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95190	11-S 11-20-86 937A	<0.005	<0.0001	0.001	0.002	0.001	<0.0004	0.004	<0.005	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95191	6-D 11-20-86 1045A	<0.005	<0.0001	<0.001	0.009	0.003	<0.0004	0.043	<0.005	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
95192	7-S 11-20-86 1129A	<0.005	0.0008	0.002	0.003	0.002	<0.0004	0.072	<0.005	<0.001					
		DUPL													
		OID	01307007	20556364	20557007	20557007	20556364	09656329	20557007	0130779		20567007			
			HGA AUTH	HGA AUTH	HGA AUTH	HGA AUTH			HGA AUTH			HGA AUTH			
AS	ARSENIC	CD	CADMIUM	CU	COPPER	FB	LEAD	NI	NICKEL	HG	MERCURY	AO	SILVER		
EXTERNAL QA SAMPLE	IREC	102X	94X	99X	88X	100X	101X	100X	102X	99X					

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY) HD6E444E1100000 I1N03 JOB FILE: 95105
 REPORT DATE: 13 JAN 87 RECEIPT DATE: 21 NOV 86 EST. COMP. DATE: 07 JAN 87

COLUMN... 1 2 3 4 5 6 7 8 9
 ANALYSIS... 2 5 6 7 9 10 11 12 13
 B 1 DENOTES PPB PPH.....AS CD CR CU PB HG NI SE AG R01
 LAB ID PROJECT ID

95193 0-S 11-20-86 202P CONC <0.005 * 0.0009 * 0.002 * 0.003 * <0.001 * <0.0004 * 0.054 * <0.005 * 0.002 *
 ZREC 104 * * * * * * 96 * 102 * 90 * * *
 DUPL <0.005 * * * * * * <0.0000 * 0.050 * <0.005 * * *
 QID 01307007* 20557005* 20557007* 20557007* 20556364* 09656329* 51206357* 01307009* 20567007*

AS ARSENIC CD CADMIUM CH CHROMIUM
 CU COPPER PB LEAD HG MERCURY
 NI NICKEL SE SELENIUM AG SILVER

MMAC

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 1 OF 1) *****

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: N/A (CHAIN OF CUSTODY) SINGE 443E1100000 HNO3 JOB FILE: 25195
 REPORT DATE: 13 JAN 87 RECEIPT DATE: 21 NOV 86 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	COLUMN ANALYSIS	CONCENTRATIONS										ROW
			10	11	12	13	14	15	16	17	18	19	
		PPH	BA	CA	HG	MM	K	NA					
95185	10-S 11-19-86 440P	CONC	0.738	0.079	143	50.8	1.56	3.67	16.5				
		ZREC	24.9	107	96.2	92	101	94.2	110				1
		DUPL	0.742	0.080	146	52.9	1.60	3.69	17.1				
		OID	51206357	51207007	51206352	51280635	51206357	51806357	51806350	HGA AUTH			
95186	13-S 11-19-86 629P	CONC	3.03	0.093	154	36.9	1.50	3.06	6.50				
		ZREC											2
		DUPL											
		OID	51206357	51207007	51206352	51280635	51206357	51806357	51806350	HGA AUTH			
95187	14-S 11-19-86 659P	CONC	3.25	0.093	190	33.8	0.876	1.92	5.77				
		ZREC											3
		DUPL											
		OID	51206357	51207007	51206352	51280635	51206357	51806357	51806350	HGA AUTH			
95188	12-S 11-19-86 750P	CONC	3.81	0.064	126	33.8	1.20	3.67	17.1				
		ZREC											4
		DUPL											
		OID	51206357	51207007	51206352	51280635	51206357	51806357	51806350	HGA AUTH			
95189	20-S 11-20-86 814A	CONC	3.10	0.055	66.0	17.2	0.688	2.22	9.45				
		ZREC											5
		DUPL											
		OID	51206357	51207007	51206352	51280635	51206357	51806357	51806350	HGA AUTH			
95190	11-S 11-20-83 937A	CONC	0.246	0.106	150	58.1	0.003	3.97	7.44				
		ZREC											6
		DUPL											
		OID	51206357	51207007	51206352	51280635	20557008	51806357	51806350	HGA AUTH			
95191	6-D 11-20-86 1045A	CONC	0.823	0.092	102	47.6	0.330	2.34	15.0				
		ZREC											7
		DUPL											
		OID	51206357	51207007	51206352	51280635	20557008	51806357	51806350	HGA AUTH			
95192	7-S 11-20-86 1129A	CONC	1.05	0.040	216	27.3	1.01	2.83	6.77				
		ZREC											8
		DUPL											
		OID	51206357	51207007	51206352	51280635	20557008	51806357	51806350	HGA AUTH			
ZN	ZINC		BA	BARIUM		CA	CALCIUM						
MO	MAGNESIUM		PPH	MANGANESE		K	POTASSIUM						
NA	SODIUM												
EXTERNAL QA SAMPLE			ZREC	97%	94%	90%	101%	99%	88%	100%			

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: NINOQ (CHAIN-OF-CUSTODY)

RDG#4446.1100000 IN03

JOB FILE: 95105

REPORT DATE: 13 JAN 87

RECEIPT DATE: 21 NOV 86

EST. COMP. DATE: 07 JAN 87

COLUMN... 10 11 12 13 14 15 16
 ANALYSIS... 15 17 19 22 23 25 26

B DENOTES P/B LAB ID PROJECT ID FPH.....7N BA CA HG HN K NA ROM

95193	8-S 11-20-86 202P	CONC	4.42	M 0.072	M 134	M 33.0	M 1.94	M 3.74	M 6.89	M	
		XREC	100	M 93	M 101	M	M 103	M 95	M	M	9
		DUP1	4.42	M 0.071	M 139	M	M 1.95	M 3.84	M	M	
		DID	51206357M	51207007M	51207005M	51006350M	51206357M	51006357M	51006350M		

ZH ZINC BA BARIUM IGA AU111
 HG MAGNESIUM IN MANGANESE CA CALCIUM
 NA SODIUM K POTASSIUM

MMAC

FILTERED SAMPLES-DISSOLVED METALS

JOB DESCRIPTION: NITRO (CHAIN-OF-CUSTODY)
 REPORT DATE: 13 JAN 87

RD6E444E1100000 N
 RECEIPT DATE: 24 NOV 86

JOB FILE: 95218
 EST. CONC. DATE: 06 JAN 87

LAB ID	PROJECT ID	COLUMNS ANALYSIS... PPH.....	CONCENTRATIONS (PPH)											
			1	2	3	4	5	6	7	8	9	10	11	12	13
			AS	CD	CR	CU	PB	HG	NI	SE	AG	TGA		
95218	1-S 11-20-86 505P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	<0.0001 110 20557005* HGA AUTH	0.005 90 20557006* HGA AUTH	0.004 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.009 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	0.005 95 20567008* HGA AUTH			
95219	1-D 11-20-86 647P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	<0.0004 110 20557005* HGA AUTH	0.002 90 20557006* HGA AUTH	0.001 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.003 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	0.003 95 20567008* HGA AUTH			
95220	5-D 11-20-86 745P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	<0.0001 110 20557005* HGA AUTH	0.002 90 20557006* HGA AUTH	0.001 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.001 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	0.003 95 20567008* HGA AUTH			
95221	2-D 11-20-86 839P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	<0.0001 110 20557005* HGA AUTH	0.001 90 20557006* HGA AUTH	0.001 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.002 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	<0.001 95 20567008* HGA AUTH			
95222	4-D 11-20-86 1030P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	0.0002 110 20557005* HGA AUTH	0.001 90 20557006* HGA AUTH	0.001 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	<0.001 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	<0.001 95 20567008* HGA AUTH			
95223	3-D 11-20-86 1127P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	0.0004 110 20557005* HGA AUTH	0.001 90 20557006* HGA AUTH	0.006 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.004 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	<0.001 95 20567008* HGA AUTH			
95224	6-S 11-20-86 1150P	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	0.0004 110 20557005* HGA AUTH	<0.001 90 20557006* HGA AUTH	0.002 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.025 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	<0.001 95 20567008* HGA AUTH			
95225	RINGSIDE BLK 11-20-86 1159	CONC ZREC DUPL OTD	<0.005 102 <0.005 01307007*	<0.0001 110 20557005* HGA AUTH	0.002 90 20557006* HGA AUTH	0.009 90 20557006* HGA AUTH	<0.001 90 20556364* HGA AUTH	<0.0004 105 09656342* HGA AUTH	0.001 95 20557006* HGA AUTH	<0.005 94 01307009* HGA AUTH	0.001 95 20567008* HGA AUTH			
AS	ARSENIC			CD	CADMIUM			CR	CHROMIUM					
CU	COPPER			PB	LEAD			HG	MERCURY					
NI	NICKEL			SE	SELENIUM			AG	SILVER					
	EXTERNAL QA SAMPLE	I REC	102X	104X	94X	96X	102X	97X	99X	102X	98X			

FILTERED SAMPLES-D (SOLUBLE METALS)

JOB DESCRIPTION: HIROP (CHAIN OF CUSTODY)		RDG6444E1100000 N										JOB FILE: 95210	
REPORT DATE: 13 JAN 87		RECEIPT DATE: 24 NOV 86										EST. COMP. DATE: 06 JAN 87	
COLUMN... 10		11	12	13	14	15	16						
ANALYSIS... 15		17	19	22	23	25	26						
PPH.....ZN		BA	CA	MO	NN	K	NA						
LAB ID	PROJECT ID											ROW	
95218	1-S 11-20-86 503P	CONC	0.133	0.080	101	20.2	1.07	3.92	14.3			1	
		ZREC	99.9	101	96.3	110	98.7	100	103				
		DUPL	0.138	0.086	110	20.0	1.08	3.93	15.0				
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95219	1-D 11-20-86 647P	CONC	1.25	0.040	86.0	38.8	0.090	2.20	5.05			2	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95220	5-D 11-20-86 745P	CONC	0.687	0.080	117	61.4	0.100	2.74	3.57			3	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95221	2-D 11-20-86 839P	CONC	0.660	0.075	110	51.6	0.392	2.67	6.06			4	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95222	4-D 11-20-86 1030P	CONC	0.492	0.099	99.3	48.4	0.362	2.43	13.5			5	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95223	3-D 11-20-86 1127P	CONC	0.842	0.074	115	45.5	0.076	2.20	4.81			6	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95224	6-S 11-20-86 1150P	CONC	0.909	0.077	145	39.4	0.564	4.00	26.0			7	
		ZREC											
		DUPL											
		OID	51206357	51207007	51206352	51806350	51206357	51806357	51806350	HGA AUTH			
95225	RINGATE BLK 11-20-86 1159	CONC	<0.030	<0.010	<0.100	<0.100	<0.030	<0.100	<0.100			8	
		ZREC											
		DUPL											
		OID	51206357	51207007	51207005	51207005	51206357	51207005	51207005	HGA AUTH			
ZN	ZINC	BA	BARIUM		CA	CALCIUM							
HG	MAGNESIUM	NN	MANGANESE		K	POTASSIUM							
NA	SODIUM												
EXTERNAL QA SAMPLE	ZREC	102X	92X	90X	101X	99X	88X	98X					

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY) RD6E444E1100000 JOB FILE: 95048
 REPORT DATE: 04 DEC 86 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 07 JAN 87

COLUMNS		1	2	3	
ANALYSIS		148	149	156	
B	PPH	SO-4	CL	ALK	
LAB ID	PROJECT ID				ROW
95056	TRIP BLK 11-17-86	CONC <10.0	CL <1.0	ALK <5.0	
		XREC 100.6	XREC 98.5	XREC 94.7	9
		DUPL <10.0	DUPL <1.0	DUPL <5.0	
		OID 01406324	OID 01406337	OID 01406330	
95057	8-D 11-18-86 1640	CONC 272	CL 47.7	ALK 267	
		XREC	XREC	XREC	10
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95058	2-S 11-18-86 1030	CONC 56.3	CL 4.5	ALK 569	
		XREC	XREC	XREC	11
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95059	17-S 11-18-86 1344	CONC 333	CL 28.6	ALK 458	
		XREC	XREC	XREC	12
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95060	7-D 11-18-86 1415	CONC 251	CL 36.0	ALK 303	
		XREC	XREC	XREC	13
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95061	1-FC 11-18-86 1111	CONC 96.0	CL 58.4	ALK 234	
		XREC	XREC	XREC	14
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95062	18-S 11-18-86 405P	CONC 422	CL 26.6	ALK 302	
		XREC	XREC	XREC	15
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
95063	19-S 11-18-86 635P	CONC 26.8	CL 54.6	ALK 264	
		XREC	XREC	XREC	16
		DUPL	DUPL	DUPL	
		OID 01406324	OID 01406337	OID 01406330	
SO-4	SULFATE		CL	CHLORIDES	
ALK	ALKALINITY				

INMAC

JOB DESCRIPTION: HIROP--(CHAIN-OF-CUSTODY)
 REPORT DATE: 04 DEC 86

RD6E444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95048
 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	189	42.9	362	ROW
95064	9-D 11-18-86 645P	XREC	104	102.2	92.3333	17
		DUPL	189	43.6	960	
		OID	01406324	01406337	01406330	
95065	2-PC 11-19-86 835A	CONC	130	59.7	8.5	18
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	
95066	3-PC 11-19-86 1010A	CONC	304	31.7	239	19
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	
95067	4-B 11-19-86 1022A	CONC	45.2	4.2	242	20
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	
95068	4-PC 11-19-86 1208P	CONC	65.9	75.6	239	21
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	
95069	5-3 11-19-86 1230P	CONC	192	50.0	497	22
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	
95070	16-S 11-19-86 315P	CONC	59.5	4.6	395	23
		XREC				
		DUPL				
		OID	01406324	01406337	01406330	

60-4 SULFATE CL CHLORIDES
 ALK ALKALINITY

LAB IN SUBSCRIPTION (NAME OF CUSTOMER)
 REPORT DATE: 03 DEC 86

1066449E1100000
 REPORT DATE: 21 NOV 86

JOB FILE: 25150
 EST. COMP. DATE: 1986 JAN 87

		COLUMN...	1	2	3		
		ANALYSIS...	140	149	156		
B 1 DENOTES PPB		PPH.....	SO-4	CL	ALK		
LAB ID	PROJECT ID						ROW
25151	10-S 11-19-86 430P	COND	224	* 36.6	* 493		
		ZINC	101.4	* 103.2	* 93.3333		1
		DUPL	211	* 36.7	* 490		
		OID	01406325*	01406337*	01406330*		
25152	13-S 11-19-86 620P	COND	249	* 19.7	* 374		
		ZINC		*	*		2
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25160	14-S 11-19-86 659P	COND	164	* 50.0	* 503		
		ZINC		*	*		3
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25161	12-S 11-19-86 730P	COND	36.4	* 45.7	* 417		
		ZINC		*	*		4
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25162	9-S 11-20-86 014A	COND	72.4	* 15.3	* 190		
		ZINC		*	*		5
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25163	11-S 11-20-86 937A	COND	363	* 23.2	* 426		
		ZINC		*	*		6
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25164	6-D 11-20-86 1045A	COND	176	* 72.5	* 260		
		ZINC		*	*		7
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
25165	7-S 11-20-86 1129A	COND	140	* 18.7	* 533		
		ZINC		*	*		8
		DUPL		*	*		
		OID	01406325*	01406337*	01406330*		
504	SULFATE		CL		CHROMIDES		
604	ALUMINUM						

INMAC

JOB DESCRIPTION: HIRDP (CHAIN-OF-CUSTODY)
REPORT DATE: 03 DEC 85

REF: 444110000
RECEIPT DATE: 21 NOV 86

JOB: 11195150
EST. COMP. DATE: 06 JAN 87

COLUMN... 1 2 3
ANALYSIS... 148 149 156
PPH..... SO: 4 CL ALK

0 DENOTES PPH
LAB ID PROJECT ID

100

95166	B S 11-20-86 2027	CONC	183	* 5.9	* 469	*
		ZINC	101.4	* 100.5	* 80	*
		DRY	170	* 5.0	* 460	*
		OTD	01406325*	01406337*	01406330*	

SO: 4 SULFATE
ALK ALKALINITY
CL CHLORIDES

INMAC

JOB DESCRIPTION: NITRO (CHAIN-OF-CUSTODY) RD6E444E1100000 JOB FILE: 95202
 REPORT DATE: 08 DEC 86 RECEIPT DATE: 24 NOV 86 EST. COMP. DATE: 06 JAN 87

B : DENOTES PPD		COLUMN...	1	2	3	
LAB ID	PROJECT ID	ANALYSIS:	148	149	156	
		PPM.....	SO-4	CL	ALK	
95202	1-B 11-20-86 505P	CONC	77.5	19.5	333	1
		XREC	93.4	99.5	93.3399	
		DUPL	78.4	19.6	331	
		OTD	01406330	01406337	01406330	
95203	1-D 11-20-86 647P	CONC	129	30.9	231	2
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95204	5-D 11-20-86 745P	CONC	184	3.2	383	3
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95205	2-D 11-20-86 839P	CONC	184	41.7	268	4
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95206	4-D 11-20-86 1030P	CONC	148	72.6	258	5
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95207	3-D 11-20-86 1127P	CONC	203	22.6	302	6
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95208	6-S 11-20-86 1150P	CONC	172	32.7	456	7
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	
95209	RINSATE BLK 11-20-86 1159	CONC	<0.0	<1.0	<5.0	8
		XREC				
		DUPL				
		OTD	01406338	01406337	01406330	

60-4 - SULFATE CL - CHLORIDES
 ALK - ALKALINITY

INMAC

JOB DESCRIPTION/HIEROP (CHAIN-OF-CUSTODY)		RD6E444E110000 NACH		JOB FILE: 95071	
REPORT DATE: 02 DEC 06		RECEIPT DATE: 19 NOV 06		EST. COMP. DATE: 07 JAN 07	
D. J. DRPHUS PWB		COLUMN: 1	ANALYSIS: 0		
LAB ID PROJECT ID		PZN: *****CH			
95071	DUPL 1 11-17-06	CONC	<0.010	*	1
		ZREC	101.5	*	
		DUPL	<0.010	*	
		QTD	49406320*		
95072	DUPL 2 11-17-06	CONC	<0.010	*	2
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95073	DUPL 3 11-17-06	CONC	<0.010	*	3
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95074	3-S 11-17-06 1050	CONC	<0.010	*	4
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95075	9-S 11-17-06 1649	CONC	<0.010	*	5
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95076	15-S 11-17-06 1537	CONC	<0.010	*	6
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95077	FHC-33 11-17-06 1240	CONC	<0.010	*	7
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
95078	RINSATE BLK 11-17-06 1821	CONC	<0.010	*	8
		ZREC		*	
		DUPL		*	
		QTD	49406320*		
CH	CYANIDE				

INMAC

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 02 DEC 86

HDGE: 444E1100000 NADH
 RECEIPT DATE: 19 NOV 86

JOB FILE: 19S071
 EST. COMP. DATE: 07 JAN 87

COLUMN: 1
 ANALYSIS: B
 PPT: CH

LAB ID	PROJECT ID					
95079	TRIP BLK 11-17-86	CONC	<0.010	M		100
		ZREC		M		9
		DUPL		M		
		OTD	494063208			
95080	8-D 11-18-86 1640	CONC	<0.010	M		10
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95081	2-S 11-18-86 1030	CONC	<0.010	M		11
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95082	17-S 11-18-86 1344	CONC	<0.010	M		12
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95083	7-D 11-18-86 1415	CONC	<0.010	M		13
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95084	1-PC 11-18-86 1111	CONC	<0.010	M		14
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95085	10-S 11-18-86 405P	CONC	<0.010	M		15
		ZREC		M		
		DUPL		M		
		OTD	494063208			
95086	19-S 11-18-86 635P	CONC	<0.010	M		16
		ZREC		M		
		DUPL		M		
		OTD	494063208			
CH	CYANIDE					

HMAC

JOB DESCRIPTION/INSTR (CHAIN-OF-CUSTODY)		RIDGE 444E1100000 NACH		JOB FILE 195071	
REPORT DATE 102 DEC 86		RECEIPT DATE 19 NOV 86		EST. CONF. DATE 07 JAN 87	
LAB ID	PROJECT ID	CONC.	ANALYSIS	UNIT	
95087	9-D 11-18-86 645P	CONC	<0.010	M	16
		ZINC	100	X	17
		DUPL	<0.010	X	
		OTD	494063208		
95088	2-PC 11-19-86 835A	CONC	<0.010	M	18
		ZINC		X	
		DUPL		X	
		OTD	494063208		
95089	3-PC 11-19-86 1010A	CONC	<0.010	M	19
		ZINC		X	
		DUPL		X	
		OTD	494063208		
95090	4-S 11-19-86 1022A	CONC	<0.010	M	20
		ZINC		X	
		DUPL		X	
		OTD	494063208		
95091	4-PC 11-19-86 1200P	CONC	<0.010	M	21
		ZINC		X	
		DUPL		X	
		OTD	494063208		
95092	5-S 11-19-86 1230P	CONC	<0.010	M	22
		ZINC		X	
		DUPL		X	
		OTD	494063208		
95093	16-S 11-19-86 315P	CONC	<0.010	M	23
		ZINC		X	
		DUPL		X	
		OTD	494063208		

CN CYANIDE

INMAC

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)		RIDGE 444E1100000		NADH		JOB FILE: 95167	
REPORT DATE: 02 DEC 06		RECEIPT DATE: 21 NOV 06		EST. COMP. DATE: 06 JAN 07			
COLUMN: 1		ANALYSIS: 153		PW: *****CN			
U I	HERMES IFR	LAB ID	PROJECT ID	CONC	UNIT	STATUS	LN
95167	10-S 11-19-06	4409		CONC	<0.010	N	1
				ZINC	105	N	
				UNIT	<0.010	N	
				UID	014063358		
95168	13-S 11-19-06	6299		CONC	<0.010	N	2
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95169	14-S 11-19-06	6599		CONC	<0.010	N	3
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95170	12-S 11-19-06	7509		CONC	<0.010	N	4
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95171	20-S 11-20-06	8146		CONC	<0.010	N	5
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95172	11-S 11-20-06	937A		CONC	<0.010	N	6
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95173	6-U 11-20-06	1045A		CONC	<0.010	N	7
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
95174	7-S 11-20-06	1129A		CONC	<0.010	N	8
				ZINC		N	
				UNIT	<0.010	N	
				UID	014063358		
CN	CYANITE						

IMPAC

JOB DESCRIPTION: HIRUP (CHAIN-OF-CUSTODY)
REPORT DATE: 02 DEC 86

WQGE 44AE1100000 NASH
RECEIPT DATE: 21 NOV 86

JOB FILE: 95167
EST. COMP. DATE: 06 JAN 87

COURN... 1
ANALYSTS: 133
PPH.....CN

B 1 DENOTES PPH
LAB ID PROJECT ID

95175 0-5 11-20-86 202P CONC <0.010 *
ZREC 193 *
DUP1 <0.010 *
010 014063358

CN CYANIDE

INMAC

JOB DESCRIPTION: NINOP (GWIN-OF-CUSTODY)
 REPORT DATE: 02 DEC 86

RI8E440E1100000 R/M/1
 RECEIPT DATE: 24 NOV 86

JOB FILE: 95210
 EST. COMP. DATE: 06 JAN 87

COUNT: 1
 ANALYSIS: 0
 PFB: CN

R T D BONES PFB
 LAB ID PROJECT ID

LAB ID	PROJECT ID	CONC	<0.010	*	
95210	1 S 11-20-86 505P	CONC	<0.010	*	1
		ZINC	100	*	
		DELT	<0.010	*	
		OID	01406335*		
95211	1 D 11-20-86 647P	CONC	<0.010	*	2
		ZINC		*	
		DELT		*	
		OID	01406335*		
95212	5 D 11-20-86 745P	CONC	<0.010	*	3
		ZINC		*	
		DELT		*	
		OID	01406335*		
95213	2 D 11-20-86 839P	CONC	<0.010	*	4
		ZINC		*	
		DELT		*	
		OID	01406335*		
95214	4 D 11-20-86 1030P	CONC	<0.010	*	5
		ZINC		*	
		DELT		*	
		OID	01406335*		
95215	3 D 11-20-86 1127P	CONC	<0.010	*	6
		ZINC		*	
		DELT		*	
		OID	01406335*		
95216	6 S 11-20-86 1150P	CONC	<0.010	*	7
		ZINC		*	
		DELT		*	
		OID	01406335*		
95217	RESIDUE BLK 11-20-86 1159	CONC	<0.010	*	8
		ZINC		*	
		DELT		*	
		OID	01406335*		

CN CYANIDE

JOB DESCRIPTION: NITRO* (CHAIN-OF-CUSTODY)
 REPORT DATE: 15 DEC 86

RD6E444E1100000 H280A
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95094
 EST. COMP. DATE: 07 JAN 87

COLUMN... 1
 ANALYSIS... 31
 PTH..... NO3-N

B DENOTES PFD
 LAB ID PROJECT ID

LAB ID	PROJECT ID	CONC	ZREC	DUPL	OID	IRN
95094	DUPL 1 11-17-86	1.16	101	1.13	01406346*	1
95095	DUPL 2 11-17-86	3.93			01406346*	2
95096	DUPL 3 11-17-86	0.028			01406346*	3
95097	3-S 11-17-86 1058	1.17			01406346*	4
95098	9-S 11-17-86 1649	3.92			01406346*	5
95099	15-S 11-17-86 1537	0.028			01406346*	6
95100	FHC-33 11-17-86 1240	0.020	1		01406346*	7
95101	RINSE BK 11-17-86 1821	0.021			01406346*	8

NO3-N NITRATE NITROGEN

INMAC

JOB DESCRIPTION: NITROGEN (CHAIN-OF-CUSTODY) RMAE444E1100000 H2904 JOB FILE: 95094
 REPORT DATE: 15 DEC 86 ANALYSIS: 31 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	ZREC	DUPL	OID	ROW
95102	TRIP BLK 11-17-86	0.023	100	0.019	01406346*	9
95103	8-D 11-18-86 1640	0.022			01406346*	10
95104	2-S 11-18-86 1030	1.37			01406346*	11
95105	17-S 11-18-86 1344	2.02			01406346*	12
95106	7-D 11-18-86 1415	0.031			01406346*	13
95107	1-PC 11-18-86 1111	0.209			01406346*	14
95108	18-S 11-18-86 405P	0.016			01406346*	15
95109	19-S 11-18-86 635P	2.74			01406346*	16
NOS-N NITRATE-NITROGEN						

HMAC

JOB DESCRIPTION: NITRO-P (CHAIN-OF-CUSTODY) RD6E444E1100000 - H2604 JOB FILE: 96094
 REPORT DATE: 15 DEC 86 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 07 JAN 87

COLUMN... 1		ANALYSIS... 31		PFM.....NO3-N		ROW
LAB ID	PROJECT ID	CONC	ZREC	DUPL	OID	
95110	9-D 11-18-86 645F	0.221	99.75	0.220	01406346	17
95111	2-PC 11-19-86 835A	0.150			01406346	18
95112	3-FC 11-19-86 1010A	0.060			01406346	19
95113	4-S 11-19-86 1022A	6.56			01406346	20
95114	4-PC 11-19-86 1028P	0.106			01406346	21
95115	5-S 11-19-86 1230P	2.65			01406346	22
95116	16-S 11-19-86 315P	0.110			01406346	23

NO3-N - NITRATE NITROGEN

MMAC

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY) RDGE144E1100000...142504 JOB FILE: 95176
 REPORT DATE: 22 DEC 86 RECEIPT DATE: 21 NOV 86 EST. COMP. DATE: 06 JAN 87

COLUMN... 1
 ANALYSIS... 31
 PPH.....NO3-N

B	LAB ID	PROJECT ID	CONC	%REC	DUPL	OID	ROW
	95176	10-S 11-19-86 410P	0.205	101	0.204	01406345	1
	95177	13-S 11-19-86 629P	2.09			01406346	2
	95178	14-S 11-19-86 659P	17.0			01406346	3
	95179	12-S 11-19-86 750P	6.05			01406346	4
	95190	20-S 11-20-86 814A	0.434			01406346	5
	95181	11-S 11-20-86 937A	0.803			01406346	6
	95182	6-D 11-20-86 1045A	0.036			01406346	7
	95189	7-S 11-20-86 1129A	3.29			01406346	8

NO3-N NITRATE_NITROGEN

INMAC

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)
REPORT DATE: 22 DEC 86

RD# 444E1100000 H2504
RECEIPT DATE: 21 NOV 86

JOB FILE: 195176
EST. COMP. DATE: 06 JAN 87

COLUMN... 1
ANALYSIS... 31
B I DENOTES PPB PPH..... NO3-N
LAB ID PROJECT ID

ROW

95184	8-S 11-20-86 202P	CONC	1.69	M
		XREC	99.5	M
		DUPL	1.64	M
		OID	01406346	M

9

NO3-N NITRATE NITROGEN

HWAC

***** ENVIRONMENTAL LABORATORY ANALYTICAL INFORMATION *****

JOB DESCRIPTION: NTROP (CHAIN OF CUSTODY)		RDGE444E110000											
REPORT DATE: 07 JAN 87		RECEIPT DATE: 19 NOV 86											
		JOB FILE: 95023											
		EST. COM. DATE: 07 JAN 87											
		COLUMN...	1	2	3	4	5	6	7	8	9		
		ANALYSIS...	72	73	74	75	76	77	78	79	80		
B : DENOTES PP8		PPH.....	CLHE	BRHE	VICL	CLET	MECL	DCLETE	JIDCE	+DICLE	CIVL3		
LAB ID	PROJECT ID										TRM		
95023	DUPL 1 11-17-86	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.19	<0.005	1	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	"	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95024	DUPL 2 11-17-86	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	0.025	0.34	<0.005	2	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	0.32	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95025	DUPL 3 11-17-86	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	3	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	"	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95026	9-9 11-17-86 1058	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.29	<0.005	4	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	"	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95027	9-9 11-17-86 1649	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	0.035	0.34	<0.005	5	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	0.32	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95028	15-9 11-17-86 1537	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	6	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	"	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95029	FHE-33 11-17-86 1240	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	0.0073	0.11	<0.005	7	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	0.12	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95030	RINSATE BK 11-18-86 1821	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	8	
		ZREC	"	"	"	"	"	"	"	"	"		
		DUPL	"	"	"	"	"	"	"	"	"		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
CLHE	CHLORoETHANE	BRHE	BROMoETHANE	VICL	VINYL CHLORIDE	CLET	1,1-DICHLOROETHANE	JIDCE	1,1-DICHLOROETHANE	+DICLE	1,2-DICHLOROETHANE	CIVL3	CHLOROFORM

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 07 JAN 87

RD6444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95023
 EST. CONF. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	72	73	74	75	76	77	78	79	80	ROW
PPH	CLNE	BRNE	VICL	CLET	HECL	DCLETE	11DCE	11DCE	11DCE	11DCE	11DCE	
95031	TRIP BLK 11-17-86	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	9
	ZREC											
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95032	8-D 11-18-86-1640	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.048	<0.005	<0.005	10
	ZREC							(0.048)				
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95033	2-S 11-18-86-1690	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	11
	ZREC								(0.005)			
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95034	17-2 11-18-86-1844	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.027	<0.005	<0.005	12
	ZREC											
	DUPL									0.027		
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95035	7-D 11-18-86-1415	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	13
	ZREC	102.5	99.9	104.375	105.125	97.8	101.6	94.5	100.65	102.9		
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95036	1-PE 11-18-86-1111	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	14
	ZREC											
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95037	TRIP-BLANK 11-18-86	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	15
	ZREC											
	DUPL											
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95038	18-S 11-18-86-405F	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.33	<0.005	<0.005	16
	ZREC											
	DUPL								0.34			
	OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	

CLNE CHLOROPETHANE BRNE BROMOPETHANE VICL VINYL CHLORIDE
 CLET CHLOROETHANE HECL METHYLENE CHLORIDE DCLETE 1,1-DICHLOROETHENE
 11DCE 1,1-DICHLOROETHANE +DICLE TRANS-1,2-DICHLOROETHENE CHCL3 CHLOROFORM

JOB DESCRIPTION: HIRTOP (CHAIN OF CUSTODY)
 REPORT DATE: 07 JAN 87

RDGE444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95023
 EST. COMP. DATE: 10 JAN 87

B	LAB ID	PROJECT ID	ANALYSIS	1	2	3	4	5	6	7	8	9	ROW
			PPN	CLNE	ORNE	VICL	CLFT	MECL	DELETE	11DCE	+D1CLE	CH L3	
95039	19-S-11-18-86-695P		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	17
			ZREC										17
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95040	9-D-11-18-86-645P		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	0.028	<0.005	18
			ZREC										18
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95041	2-PC-11-19-86-835		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	19
			ZREC										19
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95042	3-PC-11-19-86-1010		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	20
			ZREC										20
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95043	4-9-11-19-86-1022		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	21
			ZREC										21
			DUPL	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95044	4-PC-11-19-86-1208P		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	22
			ZREC										22
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95045	5-9-11-19-86-1230P		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	23
			ZREC										23
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95046	16-9-11-19-86-315P		CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	24
			ZREC		88.5	93	91	102.5	95	96	98.5	95.5	24
			DUPL										
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	

CLNE CHLOROMETHANE BRNE BROMOMETHANE VICL VINYL CHLORIDE
 CLFT CHLOROETHANE MECL METHYLENE CHLORIDE DELETE 1-1-DICHLOROETHENE
 11DCE 1,1-DICHLOROETHANE +D1CLE TRANS-1,2-DICHLOROETHENE CHCL3 CHLOROFORM

JOB DESCRIPTION: NITROF (CHAIN OF CUSTODY)

RD6E444E1100000

JOB FILE: 95023

REPORT DATE: 07 JAN 87

RECEIPT DATE: 19 NOV 86

EST. COMP. DATE: 107 JAN 87

LAB ID	PROJECT ID	ANALYSIS	10	11	12	13	14	15	16	17	18	ROW
		PPM	12DCE	111TCA	C CL 4	BROCL2H	DICLPR	+CLFRE	TCE	DBROCLH	CCLFRE	
95023	DUPL 1	11-17-86	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95024	DUPL 2	11-17-86	CONC	<0.005	0.099	<0.005	<0.005	<0.005	<0.005	1.5	<0.005	2
			ZREC									
			DUPL		0.081					1.4		
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95025	DUPL 3	11-17-86	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.009	<0.005	3
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95026	9-9	11-17-86 1058	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.08	<0.005	4
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95027	9-5	11-17-86 1649	CONC	<0.005	0.12	<0.005	<0.005	<0.005	<0.005	1.8	<0.005	5
			ZREC									
			DUPL		0.14					1.7		
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95029	15-6	11-17-86 1537	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0071	<0.005	6
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95029	FHE-93	11-17-86 1240	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.3	<0.005	7
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95690	RHSATE BLK	11-18-86 1821	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	(0.012)	<0.005	8
			ZREC									
			DUPL									
			OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
12DCE	1 2-DICHLOROETHANE		111TCA	1 1-TRICHLOROETHANE		C CL 4	CARBON TETRACHLORIDE					
BROCL2H	BROMODICHLOROPHANE		DICLPR	1 2-DICHLOROPROPANE		+CLFRE	TRANS-1 3-DICHLOROPROPENE					
TCE	TRICHLOROETHENE		DBROCLH	DIDROCHLOROPHANE		CCLFRE	CIS-1 3-DICHLOROPROPENE					

JOB DESCRIPTION: MNRCP (CHAIN-OF-CUSTODY)

RD6E44AE1100000

JOB FILE: 95023

REPORT DATE: 07 JAN 87

RECEIPT DATE: 19 NOV 86

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ANALYSIS..	81	82	83	84	85	86	87	88	89
COLUMN...	10	11	12	13	14	15	16	17	18
PPH.....	12DCE	111TCA	C CL 4	BRCL2M	DICLPR	CLFPE	TCE	DRCLM	COLFTE

LAB ID	PROJECT ID	CONC	10	11	12	13	14	15	16	17	18	19
95091	TRIP BLK 11-17-86	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95032	0-D 11-18-86 1640	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	10.7	<0.005	<0.005	<0.005
		ZREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95039	2-S 11-18-86 1030	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.065	<0.005	<0.005	<0.005
		ZREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95034	17-2 11-18-86 1944	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.097	<0.005	<0.005	<0.005
		ZREC										
		DUPL							0.12			
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95095	7-D 11-18-86 1415	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC	104.6	74.1	71.3	71.8	97.7	95.65	106.9	101.3	102.818	13
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95056	1-PC 11-18-86 1111	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95097	TRIP BLANK 11-18-86	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
		ZREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95038	10-9 11-18-86 40SP	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.53	<0.005	<0.005	<0.005
		ZREC										
		DUPL							1.45			
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325

12DCE	1,2-DICHLOROFETHANE	111TCA	1,1,1-TRICHLOROETHANE	C CL 4	CARBON TETRACHLORIDE
BRCL2M	BROMODICHLOROMETHANE	DICLPR	1,2-DICHLOROPROPANE	CLFPE	TRANS-1,2-DICHLOROPROPENE
TCE	TRICHLOROETHENE	DRCLH	DIBROMODICHLOROMETHANE	COLFTE	CIS-1,3-DICHLOROPROPENE

INMAC

***** LABORATORY REPORT *****
 JOB DESCRIPTION: MINOR (CHAIN OF CUSTODY) RDE 444E110000 JOB FILE: 95023
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 07 JAN 87

LAB ID PROJECT ID COLUMN... 10 11 12 13 14 15 16 17 18
 ANALYSIS.. 81 82 83 84 85 86 87 88 89
 PPH..... 12DCE 111TCA C CL 4 BRCL2H DICLPR CLFNE TCE DBRCLM CCLFNE RCM

LAB ID	PROJECT ID	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	
95039	19-S 11-18-86 695P	ZREC										17
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95040	9-D 11-18-86 645P	ZREC							0.65	<0.005	<0.005	10
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95041	2-PC 11-19-86 835	ZREC							0.0053	<0.005	<0.005	19
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95042	3-PC 11-19-86 1010	ZREC							(0.005)	<0.005	<0.005	20
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95043	4-S 11-19-86 1022	ZREC							0.017	<0.005	<0.005	21
		DUPL							0.011	<0.005	<0.005	
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95044	4-PC 11-19-86 1208P	ZREC							(0.001)	<0.005	<0.005	22
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95045	5-S 11-19-86 1290P	ZREC								<0.005	<0.005	23
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325
95046	16-S 11-19-86 315P	ZREC	90	88.5	90	91	113.5	123.889	120	132.5	127.727	24
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325

12DCE 1,2-DICHLOROEthane 111TCA 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 BRCL2H BROMODICHLOROMETHANE DICLPR 1,2-DICHLOROPROPANE CLFNE TRANS-1,3-DICHLOROPROPENE
 TCE TRICHLOROETHENE DBRCLM DIDIBROMOCHLOROMETHANE CCLFNE CIS-1,3-DICHLOROPROPENE

DMAC

JOB DESCRIPTION: MHIROP (CHAIN-OF-CUSTODY)			RDGE444E110000										JOB FILE: 95023	
REPORT DATE: 07 JAN 87			RECEIPT DATE: 19 NOV 86										EST. COMP. DATE: 07 JAN 87	
ANALYSIS: 19			20	21	22	23	24	25	26	27	28			
ANALYSIS: 90			91	92	93	94	95	96	97	98				
PPH: 112TCA			BENZEN	CLEIRE	CHDR3	TCLETA	TCLETE	TOLUEN	CLDEN	ETBEN	ROW			
LAB ID	PROJECT ID													
95023	DUPL 1 11-17-86	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										1		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95024	DUPL 2 11-17-86	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	0.14	<0.005	<0.005	<0.005	<0.005		
		XREC										2		
		DUPL						0.13						
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95025	DUPL 3 11-17-86	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										3		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95026	3-5 11-17-86-1058	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										4		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95027	9-5 11-17-86 1649	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	0.12	<0.005	<0.005	<0.005	<0.005		
		XREC										5		
		DUPL						0.10						
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95028	15-6 11-17-86-1597	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										6		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95029	FNE-39 11-17-86 1240	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC						(0.001)				(1.002)		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		
95030	RHSATE IN K 11-18-86 1821	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
		XREC										8		
		DUPL												
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325		

INMAC

112TCA 1 1 2-TRICHLOROETHANE BENZEN BENZENE CLEIRE 2 CHLORODIETHYLENE
 CHDR3 BROMOFORM TCLETA 1 1 2 2-TETRACHLOROETHANE TCLETE TETRACHLOROETHANE
 TOLUEN TOLUENE CLDEN CHLORODENZENE ETBEN ETHYLDENZENE

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 07 JAN 87

RD6E444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 195023
 EST. CONF. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	19	20	21	22	23	24	25	26	27	ROW
		ANALYSIS	112TCA	BENZEN	C1ETRE	CHBR3	TCLETA	TCLETE	TOLUEN	CLBEN	ETBEN	
95031	TRIP BLK-11-17-86	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	9
		ZREC	"	"	"	"	"	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95032	0-D-11-10-86-1640	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	10
		ZREC	"	"	"	"	0.0024	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95033	2-B-11-10-86-1090	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	11
		ZREC	"	"	"	"	"	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95034	17-2-11-10-86-1244	CONC	<0.005	0.0045	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	12
		ZREC	"	"	"	"	"	0.015	"	"	"	
		DUPL	"	0.0084	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95035	7-D-11-10-86-1415	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	13
		ZREC	100.05	100	109.95	94.35	101.6	103.9	103.4	99.25	100.2	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95036	1-FC-11-10-86-1114	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	14
		ZREC	"	"	"	"	"	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95037	TRIP-BLANK 11-10-86	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	15
		ZREC	"	"	"	"	"	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95038	10-B-11-10-86-405F	CONC	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	16
		ZREC	"	"	"	"	"	"	"	"	"	
		DUPL	"	"	"	"	"	"	"	"	"	
		OID	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	

112TCA 1,1,2-TRICHLOROETHANE BENZEN BENZENE C1ETRE 2-CHLOROETHYL VINYLETER
 CHBR3 DICHLOROETHANE TCLETA 1,1,2,2-TETRACHLOROETHANE TCLETE TETRACHLOROETHENE
 TOLUEN TOLUENE CLBEN CHLOROBENZENE ETBEN ETHYLBENZENE

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 07 JAN 87

RDGE444E110000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 93023
 EST. COMP. DATE: 07 JAN 87

ANALYSIS: 19 20 21 22 23 24 25 26 27
 PPH: 112TCA BENZEN CLETRE CHBR3 TOLETA TOLUEN CLDBEN ETBEN RON

LAB ID	PROJECT ID	CONC	XREC	DUPL	OTD	112TCA	BENZEN	CLETRE	CHBR3	TOLETA	TOLUEN	CLDBEN	ETBEN	RON
95039	19-9 11-18-86-635P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17
95040	9-D 11-18-86-645P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	(0.002)	<0.005	<0.005	<0.005	18
95041	2-PC 11-19-86-835	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	19
95042	3-FC 11-19-86-1010	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	20
95043	4-3 11-19-86-1022	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	21
95044	4-PC 11-19-86-1208P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	22
95045	5-3 11-19-86-1230P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	23
95046	14-8 11-19-86-915P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	24

112TCA 1,1,2-TRICHLOROETHANE
 CHBR3 BROMOFORM
 TOLUEN TOLUENE
 BENZEN BENZENE
 TOLETA 1,1,2-TETRACHLOROETHANE
 CLDBEN CHLOROBENZENE
 CLETRE 2-CHLOROETHYL VINYL ETHER
 TOLUEN TETRACHLOROETHANE
 ETBEN ETHYLBENZENE

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY) RDGE444E1100000 JGR FILE: 95023
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 17 NOV 86 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	28	29	30	31	32	33	34	35	36	ROW
ANALYSIS		ACRO	ACRY	TCLFLM	SDCLBZ	2DCLBZ	4DCLBZ	2-BUTA	CISDIC	T-XYLE		
95023	DUPL 1 11-17-86	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.19	<0.005	1
		XREC										
		DUPL								0.19		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95024	DUPL 2 11-17-86	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.34	<0.005	2
		XREC										
		DUPL								0.32		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95025	DUPL 3 11-17-86	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	3
		XREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95026	9-3 11-17-86-1050	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.29	<0.005	4
		XREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95027	9-5 11-17-86-1649	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.34	<0.005	5
		XREC										
		DUPL								0.32		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95028	15-3 11-17-86-1997	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	6
		XREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95029	FME-89 11-17-86 1240	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.11	<0.005	7
		XREC										
		DUPL								0.12		
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	
95030	RINGSIDE BLK 11-18-86 1621	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	8
		XREC										
		DUPL										
		OTD	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	08956325	

ACRO ACROLEIN ACRY ACRYLONITRILE
 TCLFLM TRICHLOROFLUOROMETHANE SDCLBZ 1,3-DICHLOROBENZENE 2DCLBZ 1,2-DICHLOROBENZENE
 4DCLBZ 1,4-DICHLOROBENZENE 2-BUTA 2-BUTANONE CISDIC CIS-1,2-DICHLORODIETHYLENE
 T-XYLE TOTAL XYLENE

* - Cis & trans-1,2-dichloroethene are co-eluting isomers. Concentrations are totals based on the trans isomer.

JOB DESCRIPTION: WHIRP (CHAIN-OF-CUSTODY)

RD6E444E1100000

JOB FILE: 95023

REPORT DATE: 07 JAN 87

RECEIPT DATE: 19 NOV 86

EST. COMP. DATE: 07 JAN 87

COL. 11H1... 28	29	30	31	32	33	34	35	36
ANALYSIS... 99	100	156	157	158	159	160	161	162
B : DENOTES PPS	PPH.....ACRO	ACRY	1,2-DICHLOROBENZENE	1,4-DICHLOROBENZENE	2-BUTANONE	CIS-12-DICHLORODIBENZENE	T-XYLENE	ROW
LAB ID	PROJECT ID							

LAB ID	PROJECT ID	CONC	1,2-DICHLOROBENZENE	1,4-DICHLOROBENZENE	2-BUTANONE	CIS-12-DICHLORODIBENZENE	T-XYLENE	ROW
95031	TRIP BLK-11-17-86	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	9
		ZREC						
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95032	0-D-11-18-86-1640	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	10
		ZREC						
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95033	2-9-11-18-86-1030	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	11
		ZREC						
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95034	17-2-11-18-86-1844	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	12
		ZREC						
		DUPL					0.027	
		OID	08956325	08956325	08956325	08956325	08956325	
95035	7-D-11-18-86-1415	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	13
		ZREC	134.05	111.05	98.85			
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95036	1-PC-11-18-86-1111	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	14
		ZREC						
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95037	TRIP BLANK 11-18-86	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	15
		ZREC						
		DUPL						
		OID	08956325	08956325	08956325	08956325	08956325	
95038	18-9-11-18-86-4054	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	16
		ZREC						
		DUPL					0.34	
		OID	08956325	08956325	08956325	08956325	08956325	

ACRO	ACROLEIN	ACRY	ACRYLONITRILE
1,2-DICHLOROBENZENE	TRICHLOROFLUOROMETHANE	1,4-DICHLOROBENZENE	19-DICHLORODIBENZENE
2-BUTANONE	TOTAL XYLENE	2-BUTANONE	12-DICHLORODIBENZENE
			CIS-12-DICHLORODIBENZENE

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 17 OF 20) *****

JOB DESCRIPTION: WHTROP (CHAIN-OF-CUSTODY) RD6E444E1100000 JOB FILE: 95023
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 19 NOV 86 EST. COMP. DATE: 07 JAN 87

LAB ID	PROJECT ID	PPH	TOLUEN	2DICHL	BROFL	UNKNOWN	RON
95023	DUPL-1-11-17-86	CONC	95	83	90.9	None	1
		ZREC	95	83	90.9		
		<i>7.0</i> DUPL	98.1	73.2	100.0		
		OID	08956325	08956325	08956325		
95024	DUPL-2-11-17-86	CONC	89.5	80.4	110	None	2
		ZREC	91.7	80.4	110		
		<i>7.0</i> DUPL	99.6	92.0	98.7		
		OID	08956325	08956325	08956325		
95025	DUPL-3-11-17-86	CONC	99.6	101	94.7	None	3
		ZREC	99.6	101	94.7		
		DUPL					
		OID	08956325	08956325	08956325		
95026	3-8-11-17-86-1056	CONC	75.8	99.6	74	Acetone	4
		ZREC	75.8	99.6	74	46 ppb	
		<i>7.0</i> DUPL	90.4	96.4	92.0		
		OID	08956325	08956325	08956325		
95027	9-8-11-17-86-1649	CONC	93.5	95.4	102	Acetone	5
		ZREC	97.5	101	93.1	120 ppb	
		<i>7.0</i> DUPL	98.6	95.1	83.3		
		OID	08956325	08956325	08956325		
95028	15-6-11-17-86-1837	CONC	98.2	78	99.7	None	6
		ZREC	98.2	78	99.7		
		DUPL					
		OID	08956325	08956325	08956325		
95029	FHE-33-11-17-86-1240	CONC	97.4	93.2	104	None	7
		ZREC	97.4	93.2	104		
		<i>7.0</i> DUPL	98.7	102	98.0		
		OID	08956325	08956325	08956325		
95080	RINSATE-DLK 11-18-86-1821	CONC	99.1	105	99.1	Hexane 17 ppb Acetone 590 ppb Bromochlorodifluoromethane 69 ppb	8
		ZREC	99.1	105	99.1		
		DUPL					
		OID	08956325	08956325	08956325		

TOLUEN TOLUENE-D8 SURR 2DICHL 12-DICHLOROETHANE-D4 SURR BROFL 4-BROMOFLUOROBENZENE

* = Surrogate values which are reported in percent recovery.

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)
 REPORT DATE: 07 JAN 87

RD6E444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95023
 EST. COMP. DATE: 07 JAN 87

COLUMN... 37 38 39
 ANALYSIS... 163 164 165
 PPH..... * TOLUEN * 2DICHL * BROFL * * UNKNOWN

LAD ID	PROJECT ID	CONC	ZREC	DUPL	OID	Acetone	Freon 113	ROI
95031	TRIP BLK-11-17-86	97.4	98.3	99.7	08956325*	51 ppb		9
95032	0-D-11-18-86-1640	101	95.7	95.9	08956325*	130 ppb	31 ppb	10
96033	2-S-11-18-86-1030	100	92.1	101	08956325*	None		11
95034	17-2-11-18-86-1944	97.5	90.6	98.3	08956325*	80 ppb	40 ppb	12
95035	7-D-11-18-86-1415	103	95.7	96.3	08956325*	None		13
95036	1-FC-11-18-86-1111	101	96.1	98.4	08956325*	None		14
95037	TRIP-BLANK 11-18-86	101	94.4	90.1	08956325*	None		15
95038	18-9-11-18-86-405F	75.3	92	88.7	08956325*	None		16

TOLUEN TOLUENE-D8 SURR 2DICHL 12-DICHLOROETHANE-D4 SURR BROFL 4-BROMOFLUOROBENZENE

* = Surrogate values which are reported in percent recovery.

JOB DESCRIPTION: HIROP (CHAIN OF CUSTODY) RM6E444E110000 JOB FILE: 95023
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 19 NOV 86 EST. CONF. DATE: 07 JAN 87

LAB ID	PROJECT ID	CONC	XREC	DUPL	O1D	None	RON
95039	19-9 11-18-86-695P	CONC: " " " " "	XREC: 103 " 99.1 " 89.3 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	17
95040	9-D 11-18-86-648P	CONC: " " " " "	XREC: 103 " 78.6 " 110 " "	DUPL: 103 " 99.5 " 88.5 " "	O1D: 06956325* 06956325* 06956325*	None	18
95041	2-PG 11-19-86-835	CONC: " " " " "	XREC: 102 " 96.9 " 92.6 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	19
95042	9-PG 11-19-86-1010	CONC: " " " " "	XREC: 96.7 " 93.7 " 108 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	20
95043	4-9 11-19-86-1022	CONC: " " " " "	XREC: 99.6 " 93.7 " 95.2 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	21
95044	4-PG 11-19-86-1208P	CONC: " " " " "	XREC: 96 " 93.6 " 91.3 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	22
95045	5-9 11-19-86-1290P	CONC: " " " " "	XREC: 95.4 " 91 " 99.4 " "	DUPL: " " " " "	O1D: 06956325* 06956325* 06956325*	None	23
95046	16-B 11-19-86-915P	CONC: " " " " "	XREC: 94.6 " 93 " 92.9 " "	DUPL: 100 " 89.9 " 97.0 " "	O1D: 06956325* 06956325* 06956325*	None	24

TOLUEN TOLUENE-D8 SURR 2DICHL 12-DICHLOROETHANE-D4 SUR BROFL 4-BROMOFLUORODENZENE
 * = Surrogate values which are reported in parentheses.

JOB DESCRIPTION: *HIROP (CHAIN OF CUSTODY)
 REPORT DATE: 07 JAN 87

RD6E444E1100000
 RECEIPT DATE: 19 NOV 86

JOB FILE: 95023
 EST. COMP. DATE: 07 JAN 87

COLUMN... 37 38 39
 ANALYSIS.. 163 164 165
 PPH..... TOLUEN * 2DICHL * DRNFL *

B : DENOTES PPS
 LAB ID PROJECT ID
 R04

95047 TRIP BLANK COND * * *
 11-19-86 ZREC 98.3 * 93.5 * 96.3 * 25
 DUPL * * * *
 QID 06956925* 06956925* 06956925*

TOLUEN TOLUENE-D8 SURR 2DICHL 12-DICHLORoETHANE-D4 SUR BROFL 4-BROMOFLUOROBENZENE

* - Surrogate values which are reported in percent recovery.

INMAC

JOB DESCRIPTION: NIROP (CHAIN OF CUSTODY)		RDGE444E1100000										JOB FILE: 95140	
REPORT DATE: 06 JAN 87		RECEIPT DATE: 21 NOV 86										EST. COMP. DATE: 06 JAN 87	
LAB ID	PROJECT ID	COLUMN ANALYSIS	10	11	12	13	14	15	16	17	18	19	20
		PPH	12DCE	111TCA	C CL 4	DBCL2H	DICLPR	+CLPRE	TCE	DBRCLH	CLPRE		
95140	10-S 11-19-86-440P	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.21	<0.005	<0.005	1
		ZREC											
		DUPL								0.20			
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95149	13-S 11-19-86-629P	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2
		ZREC											
		DUPL											
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95150	14-S 11-19-86-639P	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	3
		ZREC											
		DUPL											
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95151	12-S 11-19-86-750P	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	4
		ZREC											
		DUPL											
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95152	20-S 11-20-86-814A	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5
		ZREC											
		DUPL											
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95183	11-S 11-20-86-937A	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.032	<0.005	<0.005	6
		ZREC											
		DUPL	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.039	<0.005	<0.005	
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95154	6-S 11-20-86-1045A	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	7
		ZREC											
		DUPL											
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350
95155	7-S 11-20-86-1127A	CONC	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.13	<0.005	<0.005	8
		ZREC											
		DUPL								0.13			
		OTD	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350

12DCE 1,2-DICHLOROETHANE 111TCA 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 DBCL2H DIBROMODICHLOROETHANE DICLPR 1,2-DICHLOROPROPANE +CLPRE TRANS-1,2-DICHLOROPROPENE
 TCE TRICHLOROETHENE DBRCLH DIBROMOCHLOROETHANE CLPRE CIS-1,2-DICHLOROPROPENE

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 06 JAN 87

RDGE444E1100000
 RECEIPT DATE: 21 NOV 86

JOB FILE: 95140
 EST. COMP. DATE: 06 JAN 87

COLUMN... 10 11 12 13 14 15 16 17 18
 ANALYSIS.. 01 02 03 04 05 06 07 08 09
 PPN..... 12DCE 111TCA C CL 4 DBRCLM DICLPR +CLPRE TCE DBRCLM CCLPRE RCU

0 DENOTES PPB
 LAB ID PROJECT ID

95156 0-S-11-20-86-202P CONC <0.005 M 0.010 M <0.005 M
 ZREC M M M M M M M M M M M M
 DUPL M M M M M M M M M M M M
 QID 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M

95157 TRIP BLANK CONC <0.005 M
 ZREC M M M M M M M M M M M M
 DUPL M M M M M M M M M M M M
 QID 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M 08936350M

12DCE 1,2-DICHLOROETHANE 111TCA 1,1,1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 DBRCLM 1,1-DIBROMO-2,2-DICHLOROETHANE DICLPR 1,2-DICHLOROPROPANE +CLPRE TRANS-1,2-DICHLOROPROPENE
 TCE TRICHLOROETHENE DBRCLN 1,1-DIBROMO-1,1-DICHLOROETHANE CCLPRE CIS-1,2-DICHLOROPROPENE

INMAC

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 7 OF 10)

JOB DESCRIPTION: HIROP (CHAIN OF CUSTODY) RD6E444E110000 JOB FILE: 195140
 REPORT DATE: 06 JAN 87 RECEIPT DATE: 21 NOV 86 EST. CONF. DATE: 06 JAN 87

ANALYSIS: 28 27 30 31 32 33 34 35 36
 PPH: ACRO ACRY TOLFLM DCLBZ DCLBZ DCLBZ BUTANO CISDIC TXYLE

LAB ID	PROJECT ID	CONC	REC	DUPL	OID	ACRO	ACRY	TOLFLM	DCLBZ	DCLBZ	DCLBZ	BUTANO	CISDIC	TXYLE	ROW
95148	10-9-11-19-86-140P	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	0.036	<0.005	1
		XREC											0.038		
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95149	13-8-11-19-86-629P	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	2
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95150	14-8-11-19-86-659P	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	3
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95151	12-9-11-19-86-750P	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	4
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95152	20-8-11-20-86-814A	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	5
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95153	11-8-11-20-86-937A	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	0.022	<0.005	6
		XREC											0.021	<0.005	
		DUPL	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010			
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95154	6-8-11-20-86-1045A	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	7
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	
95155	7-9-11-20-86-1129A	<0.10				<0.10		<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	8
		XREC													
		DUPL													
		OID	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	08936350	

ACRO ACROLEIN ACRY ACRYLONITRILE
 TOLFLM TRICHLOROFLUOROMETHANE DCLBZ 1,3-DICHLOROBENZENE DCLBZ 1,2-DICHLOROBENZENE
 DCLBZ 1,4-DICHLOROBENZENE BUTANO 2-BUTANONE CISDIC CIS 1,2-DICHLOROBENZENE
 TXYLE TOTAL XYLENE

JOB DESCRIPTION: NITROP (CHAIN-OF-CUSTODY)

RD6E444E1100000

JOB FILE: 95148

REPORT DATE: 106 JAN 87

RECEIPT DATE: 21 NOV 86

EST. COMP. DATE: 106 JAN 87

ANALYSIS..	28	29	30	31	32	33	34	35	36
PPM.....	ACRO	ACRY	TCLFLM	3DCLBZ	2DCLBZ	4DCLBZ	BUTANO	CISD1C	T-XYLE

95156	6-8-11-20-86-202P	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	0.24	<0.005
		ZREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	0.24	M
		QID	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*

95157	TRIP BLANK	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005
		ZREC	M	M	M	M	M	M	M	M	M
		DUPL	M	M	M	M	M	M	M	M	M
		QID	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*	08936350*

ACRO	ACROLEIN	ACRY	ACRYLONITRILE
TCLFLM	TRICHLOROFLUOROMETHANE	3DCLBZ	1,3-DICHLOROBENZENE
4DCLBZ	1,4-DICHLOROBENZENE	BUTANO	2-BUTANONE
T-XYLE	TOTAL XYLENE	2DCLBZ	1,2-DICHLOROBENZENE
		CISD1C	CIS 1,2-DICHLOROETHYLENE

INMAC

JOB DESCRIPTION: HIROP (CHAIN-OF-CUSTODY)
 REPORT DATE: 06 JAN 87

RDGE444E1100000
 RECEIPT DATE: 21 NOV 86

JOB FILE: 195140
 EST. CONF. DATE: 06 JAN 87

COLUMN... 37 38 39
 ANALYSIS... 163 164 165
 B : DENOTES PPB PPH..... TOLUEN * DICLET * BRFLBZ * UNKNOWN

LAB ID	PROJECT ID	CONC	ZREC	DUPL	OID	None	ROW
95156	8-9-11-20-86-202P	102	98	100	08936350*	None	9
		101	99.4	101	08936350*	None	10

TOLUEN TOLUENE-D8 (SURR) DICLET 12 DICHLORoETHANE-D4 (SU) BRFLBZ 4 BROMOFLUORIDE/LINE (SUR)

* = Surrogate values which are reported in percent recovery.

INMAC

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORGAN DATA REPORTING SHEET (SHEET 1 OF 5) *****

ANAL. DESCRIPTION: (CHAIN OF CUSTODY) RUCZ444E1106000 JOB FILE: 95194
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 124 NOV 86 EST. COMP. DATE: 06 JAN 87
 D I DEFICITS PER ANALYSIS: 72 73 74 75 76 77 78 79 80
 LAB ID PROJECT ID PPH..... CLME BRME..... VICE CLET NECL DELETE 11DGE 10DLE CICLE CICLE3 1004

LAB ID	PROJECT ID	CONC	CLME	BRME	VICE	CLET	NECL	DELETE	11DGE	10DLE	CICLE	CICLE3	1004
95194	1-S 11-20-86 505P	CONC	<0.010	<0.010	<0.010	<0.010	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	1
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95195	1-D 11-20-86 647P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	2
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95196	5-D 11-20-86 745P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	3
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95197	2-D 11-20-86 839P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	4
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95198	4-D 11-20-86 1030P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	5
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95199	3-D 11-20-86 1127P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	90	89.5	90.25	94	*	96	90.5	94.5	95.5	96	6
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95200	6-S 11-20-86 1150P	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	0.019	0.50	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	7
		DUPL	*	*	*	*	*	*	*	0.60	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95201	RHSBATE-BLK 11-20-86 1139	CONC	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	*
		ZREC	*	*	*	*	*	*	*	*	*	*	8
		DUPL	*	*	*	*	*	*	*	*	*	*	
		QID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	

CLME CHLOROMETHANE BRME BROMOMETHANE VICE VINYL CHLORIDE
 CLET CHLOROETHANE NECL NETHYLENE CHLORIDE DELETE 1-1-DICHLOROETHANE
 CICLE 1,1-DICHLOROETHANE CICLE3 TRANS-1,2-DICHLOROETHENE CICLE3 CHLOROFORN

JOB DESCRIPTION: NITROF (CHAIN-OF-CUSTODY)

RIDGE 444E 1100000

JOB FILE: 95194

REPORT DATE: 07 JAN 87

RECEIPT DATE: 24 NOV 86

EST. COMP. DATE: 106 JAN 87

ANALYSIS: 01 10 11 12 13 14 15 16 17 18
 01 02 03 04 05 06 07 08 09

B I DENOTES PPD PPH..... 12DCE 111TCA C CL 4 BRCL2H DICLPR +CLPRE TCE DBRCLM CCLPRE

LAB ID PROJECT ID

95194 1-6 11-20-86 808P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95195 1-D 11-20-86 647P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95196 5-D 11-20-86 745P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95197 2-D 11-20-86 899P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95198 4-D 11-20-86 1090P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95199 3-D 11-20-86 1127P CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC 97 91 94 93.5 96 81.6667 55 97 100.696
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95200 6-B 11-20-86 1150P CONC <0.005 <0.15 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

95201 RINSAFE BLK 11-20-86 1159 CONC <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005 <0.005
 ZREC N N N N N N N N N N
 DUPL N N N N N N N N N N
 O1D 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356 08936356

12DCE 1 2-DICHLOROETHANE 111TCA 1 1 1-TRICHLOROETHANE C CL 4 CARBON TETRACHLORIDE
 BRCL2H BROMODICHLOROMETHANE DICLPR 1 2-DICHLOROPROPANE +CLPRE TRANS-1 3-DICHLOROPROPENE
 TCE TRICHLOROETHENE DBRCLM DIBROMOCHLOROMETHANE CCLPRE CIS-1 3-DICHLOROPROPENE

INMAC

***** ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY ORDER DATA REPORTING SHEET (SHEET 3 OF 5) *****

JOB DESCRIPTION: NIROP (CHAIN-OF-CUSTODY) RDCE444E1100000 JOB FILE: 95194
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 24 NOV 86 EST. COMP. DATE: 06 JAN 87

ANALYSIS: 19 20 21 22 23 24 25 26 27
 PFM: 112TCA DENZEN CLETRE CHBR3 TOLPYA TOLETE TOLUEN CLBEN ETBEN

LAB ID	PROJECT ID	CONC	XREC	DUPL	OTD	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356
95194	1-6 11-20-86 505P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95195	1-D 11-20-86 617P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95196	5-D 11-20-86 745P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95197	2-D 11-20-86 839P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95198	4-D 11-20-86 1030P	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95199	3-D 11-20-86 1127P	CONC	107.5	96.5	120	102	93	83.5	86.5	102.5	100.5				
95200	6-S 11-20-86 1150P	<0.005	<0.005	<0.010	<0.005	<0.005	0.20	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95201	RINGSIDE-BLK 11-20-86 1159	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

112TCA 1,1,2-TRICHLOROETHANE DENZEN BENZENE CLETRE 2-CHLOROETHYL VINYL ETHER
 CHBR3 BROMOFORM TOLPYA 1,1,2,2-TETRACHLOROETHANE TOLETE 1,1,2,2-TETRACHLOROETHANE
 TOLUEN TOLUENE CLBEN CHLOROBENZENE ETBEN ETHYLBENZENE

JOB DESCRIPTION: NITROF (CHAIN OF CUSTODY)

RD6E444E.1100000

JOB FILE: 95194

REPORT DATE: 07 JAN 87

RECEIPT DATE: 24 NOV 86

EST. COMP. DATE: 106 JAN 87

LAB ID	PROJECT ID	CONC	29	30	31	32	33	34	35	36	RM
95194	1-B-11-20-86-805P	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	1
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95195	1-D-11-20-86-647P	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	2
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95196	5-D-11-20-86-745P	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	3
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95197	2-D-11-20-86-893P	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	4
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95198	4-D-11-20-86-1036P	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.010	<0.005	<0.005	5
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95199	3-D-11-20-86-1127P	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.005	<0.005	6
		ZREC	95.75	100.55	92						
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95200	6-B-11-20-86-1150P	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	0.58	<0.005	7
		ZREC							0.60		
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	
95201	RINPATE BLK 11-20-86 1159	CONC	<0.10	<0.10	<0.005	<0.010	<0.010	<0.010	<0.005	<0.005	8
		ZREC									
		DUPL									
		OID	08936356	08936356	08936356	08936356	08936356	08936356	08936356	08936356	

ACRO ACROLEIN ACRY ACRYLONITRILE
 TOLFLM TRICHLOROFLUOROMETHANE 3DCLBZ 19-DICHLOROBENZENE 2DCLBZ 12-DICHLOROBENZENE
 4DCLBZ 14-DICHLOROBENZENE BUTANO 2-BUTANONE CISD1C CIS 12-DICHLOROETHYLENE
 T-XYLE TOTAL XYLENE

ENVIRONMENTAL LABORATORY ANALYTICAL LABORATORY GROUP DATA REPORTING SHEET (SHEET 5 OF 5)

JOB DESCRIPTION: HHTOP (CHAIN OF CUSTODY) RDGE444E1100000 JOB FILE: 95194
 REPORT DATE: 07 JAN 87 RECEIPT DATE: 24 NOV 86 EST. COM. DATE: 06 JAN 87

LAB ID	PROJECT ID	ANALYSIS	37	39	39	UNKNOWN	ROW
		PPM	TOLUEN *	DICLET *	BRI-LDZ *		
95194	1-S 11-20-86 60SP	94.7	92.6	105	None	1	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		
95195	1-D 11-20-86 647P	94.6	90.9	93.0	None	2	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		
95196	5-D 11-20-86 745P	97.1	89.9	99.2	None	3	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		
95197	2-D 11-20-86 639P	95.6	92.9	87.0	None	4	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		
95198	4-D 11-20-86 1030P	99.8	94.6	99.8	None	5	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		
95199	3-D 11-20-86 1127P	97.1	95.5	110	None	6	
		ZREC					
		DUPL	88.1	97.7	93.0		
		OID	08936356	08936356	08936356		
95200	6-S 11-20-86 1150P	102	92.7	97.9	None	7	
		ZREC		95.3	100		
		DUPL	101	95.2	97.9		
		OID	08936356	08936356	08936356		
95201	RINGATE DLK 11-20-85 1159	96.0	98.0	100	None	8	
		ZREC					
		DUPL					
		OID	08936356	08936356	08936356		

TOLUEN TOLUENE-D8 (SURR) DICLET 12 DICHLOROTHANE-D4 (S) BRI-LDZ 4 BROMOFLUOROBENZENE (SU)

* = Surrogate values which are reported in percent recovery.

NIROP

External QA sample run with NIROP samples.

ERA # 507 (prepared 1/17/86)

<u>Analyte</u>	<u>WES VALUE</u>	<u>TRUE VALUE</u>	<u>EXPECTED RANGE</u>
1,2-Dichloroethane	37.1	39.2	25-53
1,1,1-Trichloroethane	154.5	183	110-250
1,2-Dichloropropane	51.1	57.9	24-92
Trichloroethane	76.2	73.2	56-90
1,1,2-Trichloroethane	155.3	152	110-190
Benzene	15.2	17.3	10-23
1,1,2,2-Tetrachloroethane	65.8	80.5	55-100
Chlorobenzene	50.6	55.6	34-77

4.3 Surrogate spike recovery must be evaluated for acceptance by determining whether the concentration (measured as percent recovery) falls inside the contract required recovery limits listed in Table 4.2.

4.4 Treatment of surrogate spike recovery information is according to paragraphs 4.4.1 through 4.4.2.

4.4.1 Method Blank Surrogate Spike Recovery

The laboratory must take the actions listed below if any one of the following conditions exist:

- Recovery of any one surrogate compound in the volatile fraction is outside the required surrogate spike recovery limits.
- Recovery of any one surrogate compound in either the base/neutral or acid fraction is outside surrogate spike recovery limits.

TABLE 4.2. CONTRACT REQUIRED SURROGATE SPIKE RECOVERY LIMITS

Fraction	Surrogate Compound	Low/Medium Water	Low/Medium Soil/Sediment
VOA	Toluene-d ₈	88-110	81-117
VOA	4-Bromofluorobenzene	86-115	74-121
VOA	1,2-Dichloroethane-d ₄	76-114	70-121
BNA	Nitrobenzene-d ₅	35-114	23-120
BNA	2-Fluorobiphenyl	43-116	30-115
BNA	p-Terphenyl-d ₁₄	33-141	18-137
BNA	Phenol-d ₅	10-94	24-113
BNA	2-Fluorophenol	21-100	25-121
BNA	2,4,6-Tribromophenol	10-123	19-122
Pest.	Dibutylchloroendate	(24-154)*	(20-150)*

* These limits are for advisory purposes only. They are not used to determine if a sample should be reanalyzed. When sufficient data becomes available, the USEPA may set performance based contract required windows.

4.4.1.1 Check calculations to assure there are no errors; check internal standard and surrogate spiking solutions for degradation, contamination, etc; also, check instrument performance.

4.4.1.2 Recalculate or reinject/repurge the blank or extract if steps in 4.4.1.1 fail to reveal the cause of the non-compliant surrogate recoveries.

4.4.1.3 Re-extract and reanalyze the blank.

4.4.1.4 If the measures listed in 4.4.1.1 thru 4.4.1.3 fail to correct

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

TABLE 1 - Sheet 1 of 6

Project: NIROP
Date Sample Received: 11-19-87
Customer Station No: 9-S
Material Description: WATER

MRD No.

Sample No.	Analysis Procedure No.	Analysis	TOTAL	Result	Units
			METALS	Dissolved METALS	
9-S	EPA-200.7	Antimony	< 50	< 50	ug/L
	EPA-7060	Arsenic	—	—	ug/L
	EPA-200.7	Barium	257	64	ug/L
	EPA-200.7	Beryllium	3	< 2	ug/L
	EPA-200.7	Cadmium	< 3	< 3	ug/L
	EPA-200.7	Calcium	308,000	140,000	ug/L
	EPA-200.7	Chromium	248	< 5	ug/L
	EPA-200.7	Copper	246	< 5	ug/L
	EPA-200.7	Lead	109	< 10	ug/L
	EPA-200.7	Magnesium	92,000	37,000	ug/L
	EPA-200.7	Manganese	1808	22	ug/L
	EPA-7470	Mercury	0.3	< 0.2	ug/L
	EPA-200.7	Nickel	195	7	ug/L
	EPA-200.7	Potassium	7 000	7,000	ug/L
	EPA-7740	Selenium			ug/L
	EPA-200.7	Silver	< 10	< 10	ug/L
	EPA-200.7	Sodium	34,000	27,000	ug/L
	EPA-200.7	Thallium	< 50	< 50	ug/L
	EPA-200.7	Zinc	1568	174	ug/L
		SM-403	ALKALINITY (as CaCO ₃)		427	mg/L
	EPA-353.2	Nitrate		5.2	mg/L
	EPA-375.2	Sulfate		124	mg/L
	SD-407B	CHLORIDES		17	mg/L
	EPA-335.2	Cyanide		0.003	mg/L

PROJECT: NIROP
DATE SAMPLE RECEIVED: 11-22-87
MATERIAL DESCRIPTION: WATER

SAMPLE ID.	NITRATE mg/L [EPA-353-2]
1-D	0.02
2-D	<0.01
3-D	0.04
4-D	<0.01
5-D	<0.01
1-S	0.14
6-S	1.64
Rinsate Blank	0.01

11. HYDROGEOLOGICAL CALCULATIONS

DEPARTMENT OF THE ARMY
Missouri River Division, Corps of Engineers
Division Laboratory
Omaha, Nebraska

TABLE 1 - Sheet 2 of 6

Project: *NIRAP*
Date Sample Received: *11-19-87*
Customer Station No: *3-S*
Material Description: *WATER*

MRD No.

Sample No.	Analysis Procedure No.	Analysis	Result		Units
			TOTAL METALS	DISCLOSED METALS	
<i>3-S</i>	EPA-200.7	Antimony	<50	<50	ug/L
	EPA-7060	Arsenic	3	<2	ug/L
	EPA-200.7	Barium	132	86	ug/L
	EPA-200.7	Beryllium	<2	<2	ug/L
	EPA-200.7	Cadmium	<3	<3	ug/L
	EPA-200.7	Calcium	175,000	168,000	ug/L
	EPA-200.7	Chromium	21	<5	ug/L
	EPA-200.7	Copper	16	<5	ug/L
	EPA-200.7	Lead	17	<10	ug/L
	EPA-200.7	Magnesium	32,000	32,000	ug/L
	EPA-200.7	Manganese	1524	1094	ug/L
	EPA-7470	Mercury	<0.2	<0.2	ug/L
	EPA-200.7	Nickel	18	8	ug/L
	EPA-200.7	Potassium	30,000	3,000	ug/L
	EPA-7740	Selenium	<2	<2	ug/L
	EPA-200.7	Silver	<10	<10	ug/L
	EPA-200.7	Sodium	5,000	6,000	ug/L
	EPA-200.7	Thallium	<50	<50	ug/L
	EPA-200.7	Zinc	1146	141	ug/L
		<i>SM 154 EB 403</i>	ALKALINITY (AS CaCO ₃)		468	mg/L
	EPA-353.2	Nitrate		2.78	mg/L
	EPA-375.2	Sulfate		129	mg/L
	<i>SD-407B</i>	CHLORIDES		6	mg/L
	EPA-335.2	Cyanide		0.002	mg/L

DEPARTMENT OF THE ARMY
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Division Laboratory
Omaha, Nebraska

TABLE 1 - Sheet 3 of 6

Project: N1R0P
Date Sample Received: 11-19-87
Customer Station No: 15-S
Material Description: WATER

MRD No.

Sample No.	Analysis Procedure No.	Analysis	TOTAL	Result	Units
			<u>METALS</u>	<u>DISSOLVON METALS</u>	
15-S	EPA-200.7	Antimony	< 50	< 50	ug/L
	EPA-7060	Arsenic	—	—	ug/L
	EPA-200.7	Barium	114	61	ug/L
	EPA-200.7	Beryllium	< 2	< 2	ug/L
	EPA-200.7	Cadmium	< 3	< 3	ug/L
	EPA-200.7	Calcium	197,000	192,000	ug/L
	EPA-200.7	Chromium	17	< 5	ug/L
	EPA-200.7	Copper	52	< 5	ug/L
	EPA-200.7	Lead	123	< 10	ug/L
	EPA-200.7	Magnesium	60,000	59,000	ug/L
	EPA-200.7	Manganese	2592	2253	ug/L
	EPA-7470	Mercury	20.2	20.2	ug/L
	EPA-200.7	Nickel	32	7	ug/L
	EPA-200.7	Potassium	5,000	4,000	ug/L
	EPA-7740	Selenium	< 2	< 2	ug/L
	EPA-200.7	Silver	< 10	< 10	ug/L
	EPA-200.7	Sodium	12,000	12,000	ug/L
	EPA-200.7	Thallium	< 50	< 50	ug/L
	EPA-200.7	Zinc	28,204	2163	ug/L
		Sm 403	ALKALINITY		468	mg/L
	EPA-353.2	Nitrate		0.01	mg/L
	EPA-375.2	Sulfate		293	mg/L
	SB-407B	CHLORIDES		16	
	EPA-335.2	Cyanide		0.002	mg/L

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Omaha, Nebraska

TABLE 1 - Sheet 4 of 6

Project: *NIRDP*
Date Sample Received: *11-19-87*
Customer Station No: *RINSATE*
Material Description: *WATER*

MRD No.

Sample No.	Analysis Procedure No.	Analysis	Result		Units
			TOTAL METALS	DISSOLVED METAL	
<i>RINSATE</i>	EPA-200.7	Antimony	< 50	< 50	ug/L
	EPA-7060	Arsenic	< 2	< 2	ug/L
	EPA-200.7	Barium	< 3	< 3	ug/L
	EPA-200.7	Beryllium	< 2	< 2	ug/L
	EPA-200.7	Cadmium	< 3	< 3	ug/L
	EPA-200.7	Calcium			ug/L
	EPA-200.7	Chromium	< 5	< 5	ug/L
	EPA-200.7	Copper	< 5	< 5	ug/L
	EPA-200.7	Lead	< 10	< 10	ug/L
	EPA-200.7	Magnesium	< 1,000	< 1,000	ug/L
	EPA-200.7	Manganese	< 5	< 5	ug/L
	EPA-7470	Mercury	< 0.2	< 0.2	ug/L
	EPA-200.7	Nickel	7	< 5	ug/L
	EPA-200.7	Potassium	< 1,000	< 1,000	ug/L
	EPA-7740	Selenium	< 2	< 2	ug/L
	EPA-200.7	Silver	< 10	< 10	ug/L
	EPA-200.7	Sodium	< 1,000	< 1,000	ug/L
	EPA-200.7	Thallium	< 50	< 50	ug/L
	EPA-200.7	Zinc	5	7	ug/L
		<i>SM-403</i>	<i>ALKALINITY</i>		4	mg/L
	EPA-353.2	Nitrate		< 0.01	mg/L
	EPA-375.2	Sulfate		< 10	mg/L
		<i>CHLORIDE</i>		2	<i>mg/L</i>
	EPA-335.2	Cyanide		0.002	mg/L

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TABLE 1 - Sheet 5 of 6

Project: *NIRDP*
Date Sample Received: *11-29-67*
Customer Station No: *FIELD BLANK*
Material Description: *WATER*

MRD No.

<u>Sample No.</u>	<u>Analysis Procedure No.</u>	<u>Analysis</u>	<u>Result</u>	<u>Units</u>
<i>FIELD BLANK</i>	EPA-200.7	Antimony	NOT TESTED	ug/L
	EPA-7060	Arsenic		ug/L
	EPA-200.7	Barium		ug/L
	EPA-200.7	Beryllium		ug/L
	EPA-200.7	Cadmium		ug/L
	EPA-200.7	Calcium		ug/L
	EPA-200.7	Chromium		ug/L
	EPA-200.7	Copper		ug/L
	EPA-200.7	Lead		ug/L
	EPA-200.7	Magnesium		ug/L
	EPA-200.7	Manganese		ug/L
	EPA-7470	Mercury		ug/L
	EPA-200.7	Nickel		ug/L
	EPA-200.7	Potassium		ug/L
	EPA-7740	Selenium		ug/L
	EPA-200.7	Silver		ug/L
	EPA-200.7	Sodium		ug/L
	EPA-200.7	Thallium		ug/L
	EPA-200.7	Zinc		ug/L
	EPA-353.2	Nitrate		<0.07	mg/L
EPA-375.2	Sulfate	—	mg/L	
EPA-335.2	Cyanide	0.001	mg/L	

HYDROGEOLOGICAL CALCULATIONS

SOIL/WATER PARTITIONING OF TCE

Studies have shown that adsorption of organic compounds to soil from water is primarily due to partitioning to the organic phase (Chiou et al., 1979 and Chiou et al., 1981). More recently Chiou et al., (1983) showed that the partitioning relationship of individual compounds is strongly correlated with the water solubility of each compound and fairly independent of the type of soil organic matter.

For a group of organic compounds Chiou et al., (1983) found the following relationship:

$$\log K_{om} = -0.73 \log S + 0.001 \quad \text{Eq. 1}$$

Where:

K_{om} is partition coefficient between the soil organic matter and water

S is the molar water solubility

Furthermore the slope of the sorption isotherm (sc/wc) can be calculated from:

$$K_{om} (OMC) = \frac{SC}{WC} \quad \text{Eq. 2}$$

Where:

OMC is the fractional organic matter content of soil

SC is soil concentration in $\mu\text{g/g}$

WC is water concentration in equilibrium with soil in mg/L

Rearranging Equation 2:

$$WC = \frac{SC}{K_{om} (OMC)} \quad \text{Eq. 3}$$

It is possible to calculate the expected soil water concentrations at equilibrium given the other parameters are known.

The molar solubility of TCE is 0.011M (Banerjee et al., 1980). From Equation 1:

$$\begin{aligned}\log K_{om} &= -0.73 (\log 0.011) + 0.001 \\ &= +1.43 + .001 \\ \log K_{om} &= + 1.43 \\ K_{om} &= 26.9\end{aligned}$$

Let's assume that the organic matter content of the soils at NIROP is 1.0%. A typical soil concentration measured in the unsaturated zone was 110 ug/g. From equation 3:

$$\begin{aligned}WC &= \frac{110}{(26.9) (0.01)} \\ WC &= 410 \text{ mg/L}\end{aligned}$$

Karichoff (1981) developed a correlation between K_{om} and the octanol/water partition coefficient:

$$K_{om} = 0.411 (K_{ow}) \quad \text{Eq. 4}$$

Where:

K_{ow} is the octanol/water partition coefficient

For trichloroethylene the octanol/water partition coefficient is approximately 430 (Banerjee et.al., 1980). Substituting in Eq. 4 the K_{om} is 180.

Revisiting Eq. 3 and substituting our new estimate of K_{om} , the calculated soil water concentration is:

$$\begin{aligned}WC &= \frac{110 \text{ ug/g}}{180 (.01)} = 60 \text{ mg/L}\end{aligned}$$

These two methods represent the two most reasonable estimates of soil water concentration. Therefore, we can assume that the soil water concentration will be in the range of 60 - 410 mg/L TCE for a soil containing 110 ug/g TCE.

This range of values represents the highest concentration achievable in soil water which has reached equilibrium with soils containing 110 ug/g TCE. Ground water below these soils would contain lower concentrations because the leachate would be diluted by clean water. In addition the soils in the saturated zone would sorb TCE. Therefore soils containing 110 ug/g TCE would result in a ground water concentration of much less than 410 mg/L.

The most uncertainty in this calculation is in the estimation of the organic matter content of the soil. The calculated soil water concentration is inversely proportional to the organic matter content of the soils. Therefore, a soil water concentration of 205 mg/L would be calculated if the organic matter estimate is doubled to 0.02.

References

- Chiou, C.T., L. J. Peters and V. Freed. 1979. Science 206:831.
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- Chiou, C.T., P.E. Porter and D.W. Schemdding. 1983. Partition equilibrium of nonionic organic compounds between soil organic matter and water. Environ. Sci. & Technol. 17 (4):227-231.
- Banerjee, S., S.H. Yalkowsky and S.C. Valvani, 1980. Water solubility and octanol/water partition coefficients of organics. Limitations of the solubility-partition coefficient correlation. Environ Sci. & Technol. 14 (10):1227-1229.
- Karickhoff, S.W. 1981. Semi-empirical estimation of sorption of hydrophobic pollutants on natural sediments and soils. Chemosphere. 10(8):833-846.



COMPUTATION SHEET

1406 East Washington Avenue Suite 124

Madison Wisconsin 53703 (608) 255-2134

SHEET _____ OF _____

PROJECT / PROPOSAL NAME EPCOR	PREPARED		CHECKED		PROJECT / PROPOSAL NO.
	By: E.P.S.	Date: ~12/85	By:	Date:	

HYDROGEOLOGICAL PARAMETERS: (PAPA DORVILLE, 1984)

AVERAGE
 $K, f/d$ n (ASSUMED)

SHALLOW	230	0.3
DEEP	14.2	0.3
PRAIRIE DU CHIEN	46	0.2

Flow:

$$a) \quad i_{\text{ON-SITE}} = \frac{dh}{dL} = \frac{2 \text{ ft}}{1700 \text{ ft}} = 1.2 \cdot 10^{-3} \quad (\text{INTERPOLATED FROM 7/86 WATER TABLE MAP})$$

$$i_{\text{BELOW CONTACT LINE}} = \frac{dh}{dL} = \frac{6 \text{ ft}}{800 \text{ ft}} = 0.0075 \approx 7.5 \cdot 10^{-3}$$

AVERAGE i FROM SOURCE TO RIVER $4.3 \cdot 10^{-3}$

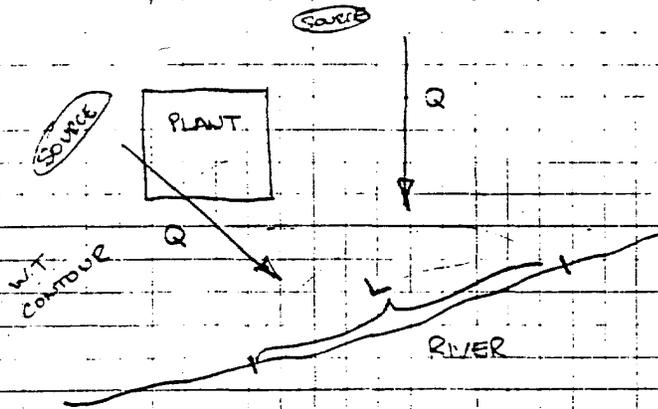
b) ASSUME EQUIVALENT UNIFORM AQUIFER WITH A TYPICAL K OF 100 f/d (FROM ABOVE) AND $n = 0.3$

$$c) \quad \therefore \bar{v} = \frac{K i}{n} = \frac{(100 \text{ f/d}) (4.3 \cdot 10^{-3})}{0.3} = \underline{\underline{1.5 \text{ f/d}}}$$

$$\left[\left(\frac{1.5 \text{ f}}{\text{d}} \right) \left(\frac{12.1 \text{ in}}{\text{ft}} \right) \left(\frac{2.54 \text{ cm}}{\text{in}} \right) \left(\frac{1 \text{ m}}{100 \text{ cm}} \right) \left(\frac{365 \text{ d}}{\text{yr}} \right) \right] = \underline{\underline{167 \text{ m/yr}}}$$

PROJECT / PROPOSAL NAME FRIDLEY	PREPARED	CHECKED	PROJECT / PROPOSAL NO.
	By: [Signature]	By: [Signature]	

GW RECHARGE TO MISSISSIPPI RIVER:



DISCHARGE TO RIVER, $Q = K L b$

WHERE $K =$ HYDRAULIC CONDUCTIVITY, f/d
 $= 100 f/d$ (PAPADOPOULOS, 1984)

$L =$ GRADIENT
 $= 0.01 f/g$ (BASED ON WATER TABLE CONTOURS, JULY 1986)

$L =$ LENGTH OF SHORELINE ACROSS WHICH FLOW FROM THE SITE OCCURS, f
 $\approx 1800 f$ (FROM WATER TABLE MAP, JULY 1986)

$b =$ THICKNESS OF ALLUVIAL AQUIFER
 $\approx 100 f$ (BASED ON BORING LOGS)

$\therefore Q = \left(\frac{100 f}{d}\right) (0.01) (1800 f) (100 f)$
 $= 180,000 f^3/d$



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SHEET _____ OF _____

PROJECT / PROPOSAL NAME FRIDLEY	PREPARED		CHECKED		PROJECT / PROPOSAL NO.
	By: FMS	Date: 5/16/84	By:	Date:	

DILUTION OF GW WITHIN MISSISSIPPI :

FLOW FROM STE, $Q_s = 180,000 \text{ ft}^3/\text{d}$ (SEE PREVIOUS CALC.)

RIVER DAILY LOW FLOW,
 $Q_R = 100,000,000 \text{ ft}^3/\text{d}$ (PAPADOPOULOS 1984)

$$\therefore \text{DILUTION FACTOR} = \frac{Q_R}{Q_s}$$

$$= 555$$

AFTER COMPLETE MIXING

IF RECHARGE ONLY MIXES WITH 10% OF FLOW BEFORE INTAKE :

$$\text{DILUTION FACTOR} = 55$$



COMPUTATION SHEET

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SHEET _____

OF _____

PROJECT/PROPOSAL NAME F215 SV	PREPARED	CHECKED	PROJECT/PROPOSAL NO.
	By: ENI Date: 2/11/02	By: Date:	

PARAMETER	VALUE	SOURCE
SEEPAGE VELOCITY, v m/yr	.167	CALCULATED
LONGITUDINAL DISPERSIVITY, α_x m	50	TYPICAL VALUE, SAND GRAVEL (ANDERSON, '92)
TRANSVERSE DISPERSIVITY, α_y m	5	$\alpha_y = 0.1 \alpha_x$
TRANSVERSE DISPERSIVITY, α_z m	5	$\alpha_z = 0.1 \alpha_x$
X DISPERSION COEFFICIENT, D_x m^2/yr	8350 ✓	$D_x = \bar{v} \alpha_x$
y,z DISPERSION COEFFICIENTS, D_y, D_z m^2/yr	835 ✓	$D_{y,z} = \bar{v} \alpha_{y,z}$
SOURCE SIZE, $y \times z$	$y = 60$ $z = 0.5$	ASSUME 60 m PIT WITH MIXING OVER TOP 0.5 m OF WATER TABLE
SOLUTION GEOMETRY	TOP OF SOURCE AT WATER TABLE	PER MODEL CONVENTION

12. HEALTH RISK COMPUTATION WORKSHEETS

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Barium, dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB- CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF AC- TUAL TO ACC- EPTABLE, CHRONIC	RATIO OF AC- TUAL TO ACC- EPTABLE, CHRONIC
Background	Highest mean well	0.134	0.029	0.003944	N.A	0.00029	ERR	13.60000
	Lowest mean well	0.064	0.029	0.001856	N.A	0.00029	ERR	4.40000
On-site Sources	Highest mean well	0.165	0.029	0.004785	N.A	0.00029	ERR	16.50000
	Lowest mean well	0.034	0.029	0.000986	N.A	0.00029	ERR	3.40000
Downgradient Property Line	Highest mean well	0.106	0.029	0.003074	N.A	0.00029	ERR	10.60000
	Lowest mean well	0.061	0.029	0.001769	N.A	0.00029	ERR	4.10000
Off-site	Highest mean well	0.111	0.029	0.003219	N.A	0.00029	ERR	11.10000
	Lowest mean well	0.032	0.029	0.000928	N.A	0.00029	ERR	3.20000
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	N.A	0.00029	ERR	0.00000
	Calculated at 10% dilution of groundwater	0.001	0.029	0.000029	N.A	0.00029	ERR	0.10000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Cadmium, dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB-CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF ACTUAL TO ACCEPTABLE, SUB-CHRONIC	RATIO OF ACTUAL TO ACCEPTABLE, CHRONIC
Background	Highest mean well	0.0021	0.029	0.0000609	0.00029	0.00029	0.210000	0.21000
	Lowest mean well	0.0008	0.029	0.0000232	0.00029	0.00029	0.080000	0.08000
On-site Sources	Highest mean well	0.0009	0.029	0.0000261	0.00029	0.00029	0.090000	0.09000
	Lowest mean well	0.00005	0.029	0.00000145	0.00029	0.00029	0.005000	0.00500
Downgradient Property Line	Highest mean well	0.0009	0.029	0.0000261	0.00029	0.00029	0.090000	0.09000
	Lowest mean well	0.00005	0.029	0.00000145	0.00029	0.00029	0.005000	0.00500
Off-site	Highest mean well	0.0024	0.029	0.0000696	0.00029	0.00029	0.240000	0.24000
	Lowest mean well	0.002	0.029	0.000058	0.00029	0.00029	0.200000	0.20000
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	0.00029	0.00029	0.000000	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	0.00029	0.00029	0.000000	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Chromium, dissolved

LOCATION	CRITERIA	CONCENTRA- TION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB- CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF AC- TUAL TO ACC- EPTABLE, SUB- CHRONIC	RATIO OF AC- TUAL TO ACC- EPTABLE, CHRONIC
Background	Highest mean well	0.002	0.029	0.000052	14	1.5	0.000004	0.00004
	Lowest mean well	0.0005	0.029	0.0000145	14	1.5	0.000001	0.00001
On-site Sources	Highest mean well	0.005	0.029	0.000145	14	1.5	0.000010	0.00010
	Lowest mean well	0.001	0.029	0.000029	14	1.5	0.000002	0.00002
Downgradient Property Line	Highest mean well	0.002	0.029	0.000052	14	1.5	0.000004	0.00004
	Lowest mean well	0.0005	0.029	0.0000145	14	1.5	0.000001	0.00001
Off-site	Highest mean well	0.003	0.029	0.000087	14	1.5	0.000006	0.00006
	Lowest mean well	0.002	0.029	0.000052	14	1.5	0.000004	0.00004
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	14	1.5	0.000000	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	14	1.5	0.000000	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: LEAD, DISSOLVED

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB- CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF AC- TUAL TO ACC- EPTABLE, SUB- CHRONIC	RATIO OF AC- TUAL TO ACC- EPTABLE, CHRONIC
Background	Highest mean well	0.005	0.029	0.000145	N.A.	0.0014	ERR	0.10357
	Lowest mean well	0.001	0.029	0.000029	N.A.	0.0014	ERR	0.02071
On-site Sources	Highest mean well	0.005	0.029	0.000145	N.A.	0.0014	ERR	0.10357
	Lowest mean well	0.0005	0.029	0.0000145	N.A.	0.0014	ERR	0.01036
Downgradient Property Line	Highest mean well	0.003	0.029	0.000087	N.A.	0.0014	ERR	0.06214
	Lowest mean well	0.0005	0.029	0.0000145	N.A.	0.0014	ERR	0.01036
Off-site	Highest mean well	0.011	0.029	0.000319	N.A.	0.0014	ERR	0.22786
	Lowest mean well	0.002	0.029	0.000058	N.A.	0.0014	ERR	0.04143
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	N.A.	0.0014	ERR	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	N.A.	0.0014	ERR	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Manganese, dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB- CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF AC- TUAL TO ACC- PTABLE, SUB- CHRONIC	RATIO OF AC- TUAL TO ACC- PTABLE, CHRONIC
Background	Highest mean well	1.96	0.029	0.05684	0.53	0.22	0.107245	0.25836
	Lowest mean well	0.876	0.029	0.025404	0.53	0.22	0.047932	0.11547
On-site Sources	Highest mean well	1.94	0.029	0.05626	0.53	0.22	0.106151	0.25573
	Lowest mean well	0.002	0.029	0.000058	0.53	0.22	0.000109	0.00026
Downgradient Property Line	Highest mean well	0.593	0.029	0.017197	0.53	0.22	0.032447	0.07817
	Lowest mean well	0.003	0.029	0.000087	0.53	0.22	0.000164	0.00040
Off-site	Highest mean well	0.92	0.029	0.02668	0.53	0.22	0.050340	0.12127
	Lowest mean well	0.034	0.029	0.000986	0.53	0.22	0.001860	0.00448
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0.001	0.029	0.000029	0.53	0.22	0.000055	0.00013
	Calculated at 10% dilution of groundwater	0.013	0.029	0.000377	0.53	0.22	0.000711	0.00171

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Mercury, dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB-CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF ACTUAL TO ACCEPTABLE, SUB-CHRONIC	RATIO OF ACTUAL TO ACCEPTABLE, CHRONIC
Background	Highest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
	Lowest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
On-site Sources	Highest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
	Lowest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
Downgradient Property Line	Highest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
	Lowest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
Off-site	Highest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
	Lowest mean well	0.0002	0.029	0.0000058	0.002	0.002	0.002900	0.00290
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	0.002	0.002	0.000000	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	0.002	0.002	0.000000	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Nickel, dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB-CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF ACTUAL TO ACCEPTABLE, SUB-CHRONIC	RATIO OF ACTUAL TO ACCEPTABLE, CHRONIC
Background	Highest mean well	0.037	0.029	0.001073	0.02	0.1	0.053650	0.01673
	Lowest mean well	0.0005	0.029	0.0000145	0.02	0.1	0.000725	0.00015
On-site Sources	Highest mean well	0.072	0.029	0.002086	0.02	0.1	0.104400	0.02086
	Lowest mean well	0.0005	0.029	0.0000145	0.02	0.1	0.000725	0.00015
Downgradient Property Line	Highest mean well	0.043	0.029	0.001247	0.02	0.1	0.062350	0.01247
	Lowest mean well	0.0005	0.029	0.0000145	0.02	0.1	0.000725	0.00015
Off-site	Highest mean well	0.002	0.029	0.000058	0.02	0.1	0.002900	0.00058
	Lowest mean well	0.0005	0.029	0.0000145	0.02	0.1	0.000725	0.00015
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	0.02	0.1	0.000000	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	0.02	0.1	0.000000	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS

CONSTITUENT: Selenium, dissolved

LOCATION	CRITERIA	CONCENTRATION, µg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, µg/kg/day	ACCEPTABLE INTAKE, SUB- CHRONIC, µg/kg/day	ACCEPTABLE INTAKE, CHRONIC, µg/kg/day	RATIO OF AC- TUAL TO ACC- EPTABLE, SUB- CHRONIC	RATIO OF AC- TUAL TO ACC- EPTABLE, CHRONIC
Background	Highest mean well	0.008	0.029	0.000232	0.0032	0.003	0.072500	0.07733
	Lowest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
On-site Sources	Highest mean well	0.049	0.029	0.001421	0.0032	0.003	0.444063	0.47367
	Lowest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
Downgradient Property Line	Highest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
	Lowest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
Off-site	Highest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
	Lowest mean well	0.0025	0.029	0.0000725	0.0032	0.003	0.022656	0.02417
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0	0.029	0	0.0032	0.003	0.000000	0.00000
	Calculated at 10% dilution of groundwater	0	0.029	0	0.0032	0.003	0.000000	0.00000

RISK CALCULATIONS FOR NONCARCINOGENS
 CONSTITUENT: Lind. dissolved

LOCATION	CRITERIA	CONCENTRATION, mg/L	HUMAN INTAKE FACTOR, L/kg/day	SUBCHRONIC & CHRONIC INTAKE, mg/kg/day	ACCEPTABLE INTAKE, SUB-CHRONIC, mg/kg/day	ACCEPTABLE INTAKE, CHRONIC, mg/kg/day	RATIO OF AD-TUAL TO ACC- EPTABLE, SUB-CHRONIC	RATIO OF AD-TUAL TO ACC- EPTABLE, CHRONIC
Background	Highest mean well	3.81	0.029	0.11049	0.21	0.21	0.526143	0.52614
	Lowest mean well	1.84	0.029	0.05336	0.21	0.21	0.254095	0.25410
On-site Sources	Highest mean well	4.42	0.029	0.12818	0.21	0.21	0.610381	0.61038
	Lowest mean well	0.015	0.029	0.000435	0.21	0.21	0.002071	0.00207
Downgradient Property Line	Highest mean well	0.909	0.029	0.026361	0.21	0.21	0.125529	0.12553
	Lowest mean well	0.086	0.029	0.002494	0.21	0.21	0.011876	0.01188
Off-site	Highest mean well	4.71	0.029	0.13659	0.21	0.21	0.650429	0.65043
	Lowest mean well	1.03	0.029	0.02987	0.21	0.21	0.142238	0.14224
Minneapolis Water Supply Intake	Calculated at 100% dilution of groundwater	0.005	0.029	0.000145	0.21	0.21	0.000690	0.00069
	Calculated at 10% dilution of groundwater	0.049	0.029	0.001421	0.21	0.21	0.006767	0.00677

WORKSHEET 6-1

CRITICAL TOXICITY VALUES

Chemical	Ingestion Route		Carcinogenic Potency Factor (mg/kg/day) ⁻¹
	AIS (mg/kg/day)	AIC (mg/kg/day)	
1. PCBs	NL	NL	4.3 E +00
2.			
3.			
4. 1,1 trichloro- ethane	NL	5.4 E -01	
5. 1,1 dichloro- ethane	1.2 E +00	1.2 E -01	
6. 1,1 dichloro- ethene	NL	NL	
7. Benzene	NL	NL	4.45 E -02
8. Bis(2 ethyl- hexyl) phthalate	NL	NL	
9. Chloroform	NL	NL	7 E -02
10. Cis 1,2 dichloro- ethene	NL	NL	

WORKSHEET 6-1

CRITICAL TOXICITY VALUES

Chemical	Ingestion Route		Carcinogenic Potency Factor (mg/kg/day) ⁻¹
	AIS (mg/kg/day)	AIC (mg/kg/day)	
1. Ethylbenzene	9.7E-01	9.7E-02	
2. Methylene Chloride	NL	5E-02	
3. Tetrachloroethene	NL	1E-02	5.1E-02
4. Toluene	4.3E-01	2.9E-01	
5. Trans 1,1-dichloroethene	NL	NL	
6. Trichloroethene	NL	NL	1.1E-02
7.			
8.			
9.			
10.			

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: BACKGROUND

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. 1,1,1 trichloro-ethane	.029	.0038	1.1 -04	
2. 1,1 dichloro-ethane		.0002	5.8 -06	
3. 1,1 dichloro-ethylene		.0038	1.1 -04	
4. Benzene		.0025	7.3 -06	
5. Bis(2 ethyl-hexyl) phthalate		.0038	1.1 -04	
6. Chloroform		.0025	7.3 -06	
7. Cis 1,2 dichloro-ethylene		.0066	1.9 -04	
8. Ethylbenzene		.0021	6.1 -05	
9. Methylene Chloride		.0038	1.1 -04	
10. Tetrachloro-ethylene		.0025	7.3 -06	

1120.03 102:RPT:frid0718ws

* Chronic will be the SAME AS subchronic

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: BACKGROUND

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. Toluene	.029	.0062 .0025	1.8 -04 7.3 -06	
2. Trans 1,2 dichloro-ethylene	↓	.0038 .0025	1.1 -04 7.3 -06	
3. Trichloro-ethylene		.1330 .0025	3.9 -03 7.3 -06	
4. PCB's		.00051 .00038	1.5 -05 1.1 -05	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				

1120.03 102:RPT:frid0718ws * Chronic will be the same as subchronic

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: BACKGROUND

Chemical	Oral		
	SDI	AIS	SDI:AIS
1. <u>1,1,1 trichloro-ethane</u>	—	—	—
2. <u>1,1 dichloro-ethane</u>	1.1 -04 7.3 -06	1.2	.000092 .000006
3. <u>1,1 dichloro-ethylene</u>	—	—	—
4. <u>Benzene</u>	—	—	—
5. <u>Bis (2 ethyl-hexyl) phthalate</u>	—	—	—
6. <u>Chloroform</u>	—	—	—
7. <u>cis 1,2-dichloro-ethylene</u>	—	—	—
8. <u>Ethylbenzene</u>	1.1 -04 7.3 -06	9.7 -01	.00011 .0000075
9. <u>methylene chloride</u>	—	—	—
10. <u>Tetrachloro-ethylene</u>	—	—	—
Sum of Oral SDI:AIS Ratios	= _____		

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: BACK GROUND

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. <u>Toluene</u>	<u>1.8</u> <u>7.3</u>	<u>-04</u> <u>-06</u>	<u>.00042</u> <u>.000017</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>—</u>	<u>-7</u>	<u>—</u>
3. <u>Trichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>PCB'S</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Sum of Oral SDI:AIS Ratios = _____

WORKSHEET 7-2 BACKGROUND
CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		
	CDI	AIC	CDI:AIC
1. <u>1,1,1 trichloro-ethane</u>	<u>1.1 -04</u> <u>5.8 -06</u>	<u>5.4 -01</u>	<u>.0002</u> <u>.000011</u>
2. <u>1,1 dichloro-ethane</u>	<u>1.1 -04</u> <u>7.3 -06</u>	<u>1.2 -01</u>	<u>.00092</u> <u>.00006</u>
3. <u>1,1 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>Benzene</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. <u>Bis (2ethyl-hexyl) phthalate</u>	<u>—</u>	<u>—</u>	<u>—</u>
6. <u>Chloroform</u>	<u>—</u>	<u>—</u>	<u>—</u>
7. <u>Cis 1,2 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
8. <u>Ethylbenzene</u>	<u>1.1 -04</u> <u>7.3 -06</u>	<u>9.7 -02</u>	<u>.0011</u> <u>.000075</u>
9. <u>Methylene chloride</u>	<u>1.6 -03</u> <u>7.3 -06</u>	<u>5 -02</u>	<u>.032</u> <u>.00015</u>
10. <u>Tetrachloro-ethylene</u>	<u>1.1 -04</u> <u>5.8 -06</u>	<u>1 -02</u>	<u>.011</u> <u>.00058</u>
Sum of Oral CDI:AIC Ratios	=		

WORKSHEET 7-2 - BACKGROUND

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		CDI:AIC
	CDI	AIC	
1. Toluene	1.8 -04 7.3 -06	2.9 -01	.00062 000025
2. Trans 1,2 dichloro-ethylene	—	—	—
3. Trichloro-ethylene	—	—	—
4. PCB's	—	—	—
5.	—	—	—
6.	—	—	—
7.	—	—	—
8.	—	—	—
9.	—	—	—
10.	—	—	—
Sum of Oral CDI:AIC Ratios	=		

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: ON-SITE

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. 1,1,1 trichloro-ethane	.029	.2667 .0025	7.7 -03 7.3 -05	
2. 1,1 dichloro-ethane		.0540 .0025	1.6 -03 7.3 -05	
3. 1,1 dichloro-ethylene		.0038 .0025	1.7 -04 7.3 -05	
4. Benzene		.0143 .0025	4.1 -04 7.3 -05	
5. Bis(2-ethyl-hexyl) phthalate		.0379 0	1.1 -03 0	
6. Chloroform		.0038 .0025	1.1 -04 7.3 -05	
7. Cis 1,2 dichloro-ethylene		.34 .0025	4.9 -03 7.3 -05	
8. Ethylbenzene		.0655 .0025	1.9 -03 7.3 -05	
9. Methylene Chloride		6.8408 .0025	2.0 -01 7.3 -05	
10. Tetrachloro-ethylene		↓	1.833 .0025	5.3 -02 7.3 -05

1120.03 102:RPT:frid0718ws

* Chronic will be the SAME AS subchronic

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: ON-SITE

Chemical	Human Intake Factor (l/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. Toluene	.029	.0067 .0025	1.9 -04 7.3 -05	
2. Trans 1,2 dichloro-ethylene	↓	.4500 .0025	1.3 -02 7.3 -05	
3. Trichloro-ethylene		7.9167 .0025	2.3 -01 7.3 -05	
4. PCB's		↓	.0016	5 -05
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____

1120.03 102:RPT:frid0718ws * Chronic will be the same as subchronic

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: ON-SITE

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. 1,1 trichloro-ethane	—	—	—
2. 1,1 dichloro-ethane	1.6 -03 7.3 -05	1.2 00	.0013 .000061
3. 1,1 dichloro-ethylene	—	—	—
4. Benzene	—	—	—
5. Bis (2 ethyl-hexyl) phthalate	—	—	—
6. Chloroform	—	—	—
7. cis 1,2-dichloro-ethylene	—	—	—
8. Ethylbenzene	1.9 -03 7.3 -05	9.7 -01	.002 .000075
9. methylene chloride	—	—	—
10. Tetrachloro-ethylene	—	—	—
Sum of Oral SDI:AIS Ratios	=		

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: ON-SITE

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. <u>Toluene</u>	<u>1.9 -04</u> <u>7.3 -05</u>	<u>4.3 -01</u>	<u>.00044</u> <u>.00017</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
3. <u>Trichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>PCB's</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

Sum of Oral SDI:AIS Ratios = _____

1120.03 102:RPT:frid0718ws

WORKSHEET 7-2 - ON-SITE

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		
	CDI	AIC	CDI:AIC
1. 1,1,1 trichloro-ethane	7.7 -03 7.3 -05	5.4 -01	.0014 .00014
2. 1,1 dichloro-ethane	1.6 -03 7.3 -05	1.2 -01	.013 .00036
3. 1,1 dichloro-ethylene	-	-	-
4. Benzene	-	-	-
5. Bis (2ethyl-hexyl) phthalate	-	-	-
6. Chloroform	-	-	-
7. Cis 1,2 dichloro-ethylene	-	-	-
8. Ethylbenzene	1.9 -03 7.3 -05	9.7 -02	.0002 .0000075
9. Methylene chloride	2.0 -01 7.3 -05	5 -02	4.0 .0015
10. Tetrachloro-ethylene	5.3 -02 7.3 -05	1 -02	5.3 .0073
Sum of Oral CDI:AIC Ratios	=		

WORKSHEET 7-2 - *ONSITE*

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		
	CDI	AIC	CDI:AIC
1. <u>Toluene</u>	<u>1.9 -04</u> <u>7.3 -05</u>	<u>2.9 -01</u>	<u>.00066</u> <u>.00025</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>-</u>	<u>-</u>	<u>-</u>
3. <u>Trichloro-ethylene</u>	<u>-</u>	<u>-</u>	<u>-</u>
4. <u>PCB's</u>	<u>-</u>	<u>-</u>	<u>-</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Sum of Oral CDI:AIC Ratios	= _____		

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: Property Line

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. 1,1 trichloro-ethane	.029	.0616 .0025	1.8 -03 7.3 -05	
2. 1,1 dichloro-ethane		.0065 .0025	1.9 -04 7.3 -05	
3. 1,1 dichloro-ethylene		.0038 .0025	1.1 -04 7.3 -05	
4. Benzene		.0050 .0025	1.5 -04 7.3 -05	
5. Bis(2 ethyl-hexyl) phthalate		.0564 .0003	1.6 -03 8.7 -06	
6. Chloroform		.0038 .0025	1.1 -04 7.3 -05	
7. Cis 1,2 dichloro-ethylene		.2490 .0025	7.2 -03 7.3 -05	
8. Ethylbenzene		.0038 .0025	1.1 -04 7.3 -05	
9. Methylene Chloride		.0772 .0025	2.2 -03 7.3 -05	
10. Tetrachloro-ethylene	↓	.0554 .0025	1.6 -03 7.3 -05	

1120.03 102:RPT:frid0718ws * Chronic will be the same as subchronic

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: Property Line

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. Toluene	.029	.0072 .0025	2.1 -04 7.3 -05	
2. Trans 1,2 dichloro-ethylene	↓	.1728 .0025	2.5 -05 7.3 -05	
3. Trichloro-ethylene		1.3321 .0033	3.9 -02 9.6 -05	
4. PCB's		.0011	3.19 -05	
5.				
6.				
7.				
8.				
9.				
10.				

1120.03 102:RPT:frid0718ws * Chronic will be the same as subchronic

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: Property Line

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. <u>1,1,1 trichloro-ethane</u>	-	-	-
2. <u>1,1 dichloro-ethane</u>	1.9 -04 7.3 -05	1.2 00	.00016 .000061
3. <u>1,1 dichloro-ethylene</u>	-	-	-
4. <u>Benzene</u>	-	-	-
5. <u>Bis (2 ethyl-hexyl) phthalate</u>	-	-	-
6. <u>Chloroform</u>	-	-	-
7. <u>cis 1,2-dichloro-ethylene</u>	-	-	-
8. <u>Ethylbenzene</u>	1.1 -04 7.3 -05	9.7 -01	.00011 .000075
9. <u>methylene chloride</u>	-	-	-
10. <u>Tetrachloro-ethylene</u>	-	-	-
Sum of Oral SDI:AIS Ratios	=		

1120.03 102:RPT:frid0718ws

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: Property Line

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. <u>Toluene</u>	<u>2.1</u> <u>7.3</u>	<u>-04</u> <u>-05</u>	<u>.00049</u> <u>.00017</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>-</u>	<u>-</u>	<u>-</u>
3. <u>Trichloro-ethylene</u>	<u>-</u>	<u>-</u>	<u>-</u>
4. <u>PCB's</u>	<u>-</u>	<u>-</u>	<u>-</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Sum of Oral SDI:AIS Ratios	= _____		

WORKSHEET 7-2 - Property Line

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		
	CDI	AIC	CDI:AIC
1. 1,1,1 trichloro-ethane	1.8 -03 7.3 -05	5.4 -01	.0033 .00014
2. 1,1 dichloro-ethane	1.9 -04 7.3 -05	1.2 -01	.0016 .00061
3. 1,1 dichloro-ethylene	—	—	—
4. Benzene	—	—	—
5. Bis (2ethyl- hexyl) phthalate	—	—	—
6. Chloroform	—	—	—
7. Cis 1,2 dichloro-ethylene	—	—	—
8. Ethylbenzene	1.1 -04 7.3 -05	9.7 -02	.0011 .00075
9. Methylene Chloride	2.2 -03 7.3 -05	5 -02	.044 .0015
10. Tetrachloro-ethylene	1.6 -03 7.3 -05	1 -02	.16 .0073
Sum of Oral CDI:AIC Ratios	= _____		

WORKSHEET 7-2 - Property Line

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	CDI		Oral AIC		CDI:AIC
1. <u>Toluene</u>	<u>2.1</u> <u>7.3</u>	<u>-04</u> <u>-05</u>	<u>2.9</u>	<u>-01</u>	<u>.00072</u> <u>.00025</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
3. <u>Trichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>PCB's</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. _____	_____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____	_____
Sum of Oral CDI:AIC Ratios	= _____				

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: Off-site

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. 1,1,1 trichloro-ethane	.029	.0056	1.6 -04	
2. 1,1 dichloro-ethane		.0025	7.3 -05	
3. 1,1 dichloro-ethylene		.0025	7.3 -05	
4. Benzene		.0045 .0025	1.3 -04 7.3 -05	
5. Bis(2 ethyl-hexyl) phthalate		—	—	
6. Chloroform		.0025	7.3 -05	
7. Cis 1,2 dichloro-ethylene		.3300 .0025	9.6 -03 7.3 -05	
8. Ethylbenzene		.0025	7.3 -05	
9. Methylene chloride		.0025	7.3 -05	
10. Tetrachloro-ethylene		↓	.0025	7.3 -05

1120.03 102:RPT:frid0718ws

* Chronic will be the same as subchronic

WORKSHEET 5-2

CALCULATE GROUND WATER INTAKES

Exposure Point: Off site

Chemical	Human Intake Factor (1/kg/day)	Short-Term Concentration (mg/l)	Subchronic Daily Intake (mg/kg/day)	Chronic * Daily Intake (mg/kg/day)
1. Toluene	.029	.0054 .0025	1.6 -04 7.3 -05	
2. Trans 1,2 dichloro-ethylene	|	2.515 .0025	7.3 -02 7.3 -05	
3. Trichloro-ethylene		8.20 .0025	2.4 -01 7.3 -05	
4. PCB's		↓	.0012	3.48 -05
5.				
6.				
7.				
8.				
9.				
10.				

1120.03 102:RPT:frid0718ws * Chronic will be the same as subchronic

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: off-site

Chemical	Oral		
	SDI	AIS	SDI:AIS
1. <u>1,1,1 trichloro-ethane</u>	<u>—</u>	<u>—</u>	<u>—</u>
2. <u>1,1 dichloro-ethane</u>	<u>7.3 -05</u>	<u>1.2 00</u>	<u>.000061</u>
3. <u>1,1 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>Benzene</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. <u>Bis (2 ethyl-hexyl) phthalate</u>	<u>—</u>	<u>—</u>	<u>—</u>
6. <u>Chloroform</u>	<u>—</u>	<u>—</u>	<u>—</u>
7. <u>cis 1,2-dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
8. <u>Ethylbenzene</u>	<u>7.3 -05</u>	<u>9.7 -01</u>	<u>.000075</u>
9. <u>methylene chloride</u>	<u>—</u>	<u>—</u>	<u>—</u>
10. <u>Tetrachloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
Sum of Oral SDI:AIS Ratios	= <u> </u>		

WORKSHEET 7-1

CALCULATION OF SUBCHRONIC HAZARD INDEX

Total Exposure Point: off-site

Chemical	Oral		SDI:AIS
	SDI	AIS	
1. <u>Toluene</u>	<u>1.6 -04</u> <u>7.3 -05</u>	<u>4.3 -01</u>	<u>.00037</u> <u>.000017</u>
2. <u>Trans 1,2 dichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
3. <u>Trichloro-ethylene</u>	<u>—</u>	<u>—</u>	<u>—</u>
4. <u>PCB's</u>	<u>—</u>	<u>—</u>	<u>—</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Sum of Oral SDI:AIS Ratios	= _____		

1120.03 102:RPT:frid0718ws

WORKSHEET 7-2 - off-site

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		CDI:AIC
	CDI	AIC	
1. 1,1,1 trichloro-ethane	1.6 -04 7.3 -05	5.4 -01	.0003 .00014
2. 1,1 dichloro-ethane	7.3 -05	1.2 -01	.00061
3. 1,1 dichloro-ethylene	—	—	—
4. Benzene	—	—	—
5. Bis (2ethyl-hexyl) phthalate	—	—	—
6. Chloroform	—	—	—
7. Cis 1,2 dichloro-ethylene	—	—	—
8. Ethylbenzene	7.3 -05	9.7 -02	.00075
9. Methylene chloride	7.3 -05	5 -02	.0015
10. Tetrachloro-ethylene	7.3 -05	1 -02	.0073
Sum of Oral CDI:AIC Ratios	= _____		

WORKSHEET 7-2 -off-site

CALCULATION OF CHRONIC HAZARD INDEX

Chemical	Oral		CDI:AIC
	CDI	AIC	
1. Toluene	1.6 -04 7.3 -05	2.9 -01	.0021 .00025
2. Trans 1,2 dichloro-ethylene	—	—	—
3. Trichloro-ethylene	—	—	—
4. PCB's	—	—	—
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
Sum of Oral CDI:AIC Ratios	= _____		