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NAS BRUNSWICK
5090.3a

Final Report

Quarterly Monitoring Event 4 - November 1995
Building 95, Naval Air Station, Brunswick, Maine

Contract No. N62472-92-D-1296
Contract Task Order No. 0047

Prepared for

Department of the Navy
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Prepared by

EA Engineering, Science, and Technology
The Maple Building
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Newburgh, New York 12550

February 1996
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QUALITY REVIEW STATEMENT

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Final Report, Quarterly Monitoring Event 4 - November 1995, Building 95, Naval Air Station, Brunswick, Maine

EA Project Manager: Michael S. Battle, P.G.

In compliance with EA's Policy and Procedures for review of deliverables, this final deliverable has been reviewed for quality by the undersigned Senior Technical Reviewer(s). The information presented in this report/deliverable has been prepared in accordance with the approved scope of services for the project and reflects a proper presentation of the data and/or the conclusions drawn and/or the analyses or design completed during the conduct of the work. This statement is based upon the standards identified in the contract and/or the standard of care existing at the time of preparation.

Senior Technical Reviewer(s)

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2/14/96
Date

29600.47

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Michael S. Battle 2/15/96

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Date

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February 1996

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1. PROJECT DESCRIPTION

1.1 INTRODUCTION

Under Contract No. N62472-92-D-1296, Contract Task Order (CTO) No. 0047, Northern Division, Naval Facilities Engineering Command contracted with EA Engineering, Science, and Technology to perform long-term monitoring at Building 95 at Naval Air Station, Brunswick, Maine. Naval Air Station (NAS) Brunswick is located south of the Androscoggin River between Brunswick and Bath, Maine (Figure 1). Figure 2 provides the layout for the Building 95 site.

NAS Brunswick is an active base-owned and operated by the federal government through the Department of the Navy. In 1987, NAS Brunswick was placed on the National Priorities List by the U.S. Environmental Protection Agency (EPA) and is currently participating in the Navy's Installation Restoration Program. At the Building 95 site, the Navy is required to perform long-term monitoring, maintenance, and corrective measures as part of the long-term remedial actions required by the Action Memorandum dated April 1993 (ABB-ES 1993). A Long-Term Monitoring Plan (LTMP) was established pursuant to these Records of Decision (ABB-ES 1994). Approval of the LTMP was received from EPA and State of Maine Department of Environmental Protection on 23 June 1994. Approval of the Method Detection Limit Study for EPA Method 8260 was received from EPA Region I on 10 May 1995. Approval of the use of trace inductively coupled plasma methodologies for Target Analyte List (TAL) metals, except mercury and cyanide, was obtained from EPA Region I on 25 August 1995.

The LTMP document, which is comprised of a long-term monitoring program, Quality Assurance Project Plan, Safety and Health Plan, and remedial construction technical specifications, establishes the requirement for monitoring/sampling to be conducted on a quarterly basis for 5 years. Implementation of the LTMP will enable the Navy to collect data in order to conduct a 5-year review, which is a required analysis of newly promulgated or modified federal and state regulations to determine if they are applicable or relevant and appropriate requirements and to determine if they challenge the protectiveness of the implemented remedial strategy. Although sampling is planned for a 30-year period, review evaluations will provide a basis for continued sampling and proposing refinements/alterations to the monitoring program or remedial activity, if appropriate. The review evaluations shall occur a minimum of once every 5 years.

1.2 BACKGROUND

Building 95 was the pesticide/herbicide storage area and distribution center for NAS Brunswick until 1985. Previous investigations identified the presence of several herbicides and pesticides, including 4,4'-dichlorodiphenyltrichloroethane and pyrethrins in the soil and on structures at the site. Additionally, low concentrations of pesticides and inorganics were reported in groundwater samples.

Corrective measures were taken at the site following completion of a baseline risk assessment. Remedial measures included the removal of impacted soil and debris, placement of a geotextile liner at the bottom of the excavation, and backfill with clean fill. Long-term monitoring at the 4 existing monitoring wells will occur quarterly to establish whether any residual soil contamination remaining after the removal action is affecting ground-water quality.

1.3 PROGRAM OBJECTIVES

The objectives of the long-term monitoring program are to obtain data necessary to monitor the long-term effectiveness of the remedial actions conducted at Building 95. Monitoring, sampling, and inspection data collected during the performance of long-term monitoring will be used to:

- Assess ground-water quality following the completion of the removal action.
- Evaluate the long-term effectiveness of the soil and debris removal action by comparing ground-water chemical quality upgradient and downgradient of the site.
- Ensure the integrity of the liner system installed in the excavation is not compromised by exposure at the land surface or penetration by vegetation and/or animals.
- Assess the potential for adverse ecological impacts by monitoring for evidence of stressed vegetation.

2. LONG-TERM MONITORING PROGRAM

2.1 MEASUREMENT OF WATER LEVEL ELEVATIONS

Water level measurements were initially obtained on 1 November 1995 at the 4 ground-water monitoring wells located at the Building 95 site. Additional well gauging data were collected on 14 November 1995 prior to collection of the ground-water samples. Wells included in the gauging program are summarized in Table 1; the locations of the wells are provided on Figure 2.

Initial well gauging data were collected over a 2-hour period for purposes of rapidly obtaining water table elevations. Upon opening each well, a Century Foxboro Model 128 organic vapor analyzer, flame ionization detector was used to monitor the presence of volatile organic compounds (VOC) at the mouth of the well and in the breathing zone. Following safety and health clearance monitoring, well gauging was conducted using a Slope Indicator Model 51453 water level indicator, capable of measuring depth to water to an accuracy of 0.01 ft. Well gauging was completed by lowering the electronic water level sensing probe down the well and measuring depth to water from the notch/indelible marking on the top of the well PVC riser. The gauging instrument was decontaminated according to the rinse procedure specified in the LTMP (ABB-ES 1994).

2.2 GROUND-WATER MONITORING, SAMPLING, AND ANALYSIS

The ground-water sampling program was performed on 14 November 1995 in accordance with the general methodologies established in the LTMP (ABB-ES 1994). Previously installed dedicated Grundfos Redi-Flo2 stainless steel and Teflon® submersible pumping systems were utilized for sample collection. Ground-water samples were collected from each of the 4 wells using the low flow sampling technique. Appendix A provides a detailed summary of the protocol followed during the November 1995 sampling event. Figure 3 provides a schematic of a dedicated submersible pump assembly installed in a monitoring well.

An attempt was made to obtain ground-water samples from each well immediately upon reaching stabilization of water quality indicator parameters, including pH, conductivity, temperature, and turbidity. Water quality indicator parameters were measured using a Grant/YSI Model 3800 multiparameter water quality meter with flow-through cell calibrated according to manufacturer's instructions. Stabilization of water quality indicator parameters is observed when measurements agree within 10 percent on three successive readings. Stabilization of turbidity can be determined two ways according to the Quality Assurance Project Plan contained in the LTMP (ABB-ES 1994). The first involves obtaining three successive readings that agree to within 10 percent of the previous reading. The second method indicates that when the turbidity value is decreased to below 10 nephelometric turbidity units (NTU), the sample is considered to be at equilibrium. To the extent possible, site wells were sampled upon reaching equilibrium of water quality indicator parameters. The turbidity stabilized at values above 10 NTU at wells MW-NASB-066 (28 NTU) and MW-NASB-067(19 NTU).

Ground-water samples were collected for analysis of the following: Target Compound List (TCL) VOC plus a library search of 15 tentatively identified compounds by EPA Method 8260; TCL semivolatile organic compounds (SVOC) plus a library search of 20 tentatively identified compounds by EPA Method 8270; TCL pesticides by EPA Method 8080; pyrethrins and rotenone by modified EPA Method 8310; and TAL elements, including metals by trace inductively coupled plasma by EPA Method 6010, and cold vapor atomic adsorption (mercury only) by EPA Method 7470, and cyanide by EPA Method 9010. Samples were analyzed by Katahdin Analytical Services, Inc. (formerly Pace Incorporated) of Westbrook, Maine.

2.3 VISUAL INSPECTION

Site inspection activities were completed on 1 November 1995 by a civil engineer in accordance with the LTMP (ABB-ES 1994). Site inspection activities included the following:

- Inspection of the ground surface for exposure of geotextile cover
- Identification of stressed vegetation
- Inspection of the 4 site ground-water monitoring wells.

The results of the site inspection activities indicated no evidence of stressed vegetation in the site vicinity, nor any evidence of animal burroughing in the vicinity of the soil/debris removal area. Inspection of the excavated area confirmed no exposures of the geotextile cover at the ground surface. Consistent with the late autumn season, all deciduous trees were barren of leaves. All evergreen trees appeared alive and healthy. No physical evidence of tampering at the site wells was evident. Three of 4 wells were observed to be unlocked due to incompatible protective casings and casing lids. All 4 wells were observed to be unlabeled.

3. DATA MANAGEMENT

3.1 QUALITY ASSURANCE/QUALITY CONTROL

A rigorous quality assurance/quality control program is required by the LTMP to meet the data quality objectives of the ground-water sampling program, as outlined in the Quality Assurance Project Plan contained in the LTMP (ABB-ES 1994). The data obtained during the November 1995 sampling event were determined to be of sufficient quality to be used to evaluate ground-water quality conditions following completion of the removal action at the Building 95 site.

To meet the data quality objectives, chain-of-custody, sampling handling practices, and documentation were maintained in the field in accordance with the LTMP (ABB-ES 1994). A revised sample tracking system was employed during the November 1995 sampling event to improve the data quality review process. Sample data were noted both in field logbooks and on the field record forms contained in Appendix B.

Field quality control was documented through the submission of field quality control samples for analysis, including:

- **Trip Blank**—A trip blank was submitted with the sample shipment to assess the potential for aqueous sample contamination during sample shipment. The trip blank consists of deionized water in a volatile organic analysis vial shipped together with the volatile organic analysis sample vials in order to detect the possible introduction of contaminants during sample shipment.

- **Field Duplicate**—A field duplicate was collected to assess the homogeneity of the sampled media (ground water) and the precision of the sampling protocol. The field duplicate was collected by purging an equal volume of sample into two sets of sample containers. The field duplicate was collected and submitted for analysis at a rate of 10 percent of each sample delivery group, or a minimum of one per event.

- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**—As required by EPA analytical methods specified in SW-846, MS/MSD samples were collected at a minimum frequency of 5 percent for each sample delivery group. MS/MSD sample analyses are used to evaluate the effect of the sample matrix on the accuracy and precision of the laboratory methods and are collected in the field by purging an equal volume of sample into three sets of sample containers.

3.2 ANALYTICAL DATA QUALITY REVIEW

3.2.1 Procedure

Katahdin Analytical Services, Inc. provided data packages consisting of Level III (as defined by EPA Data Quality Objective guidance) deliverables, including sample analysis data, blank analysis data, duplicate sample results, surrogate recoveries, matrix spike recoveries, and laboratory control sample recoveries. The level of data quality required by the LTMP does not require validation and documentation of EPA Contract Laboratory Program procedures, though the data packages prepared by Katahdin Analytical Services, Inc. for VOC analyses are similar in content.

As required by the LTMP (ABB-ES 1994), review of laboratory data was performed on selected quality control parameters to evaluate precision, accuracy, completeness, and data quality objective requirements. The following parameters were evaluated in each data deliverable package:

- Chain-of-custody documentation
- Sample holding times
- Laboratory method blanks, trip blanks, and source water blanks
- Field duplicate sample results
- MS/MSD results
- Matrix spike recoveries
- Laboratory control sample recoveries
- Compound/analyte quantitation limits.

A summary of the analytical data quality review for data generated by Katahdin Analytical Services, Inc. is provided in Appendix C. With the exceptions discussed in Appendix C, the data represented in this report were found to meet specified acceptance criteria and, therefore, represent data in compliance with the Quality Assurance Project Plan contained in the LTMP (ABB-ES 1994).

4. WATER LEVEL GAUGING PROGRAM RESULTS

Water level measurements were initially obtained on 1 November 1995 at the 4 monitoring wells located at the Building 95 site; however, these data did not correlate with historic data due to the skewed response to rainfall infiltration caused by the presence of the geotextile liner. Therefore, the water level data collected 14 November 1995 were used to assess water table elevations. Ground-water potentiometric elevations measured on 14 November 1995 are provided in Table 2. Depth to ground water at the site ranged from 3.96 ft below top of well riser (MW-NASB-067) to 7.96 ft below top of well riser (MW-NASB-066). Water table elevations at site wells increased an average of 1.03 ft as compared to the 2 August 1995 well gauging data.

All monitoring wells were observed to be in good condition. There were no observations that would indicate any physical tampering of the site wells. As indicated in Section 2.3, 3 of 4 monitoring wells were observed to be unlocked, and all 4 unlabeled.

Water table elevations measured in site wells on 14 November 1995 ranged from 69.85 ft above mean sea level (MW-NASB-068) to 70.85 ft above mean sea level (MW-NASB-066). Based on the water table elevation data, the dominant direction of ground-water flow in the shallow water table is to the east-southeast. Figure 4 provides the interpreted direction of ground-water flow.

The average hydraulic gradient across the subject site was calculated according to the following equation (Driscoll 1986):

$$I = (h_1 - h_2)/L$$

where

I	=	Hydraulic gradient (ft/ft)
$h_1 - h_2$	=	Difference in hydraulic head between locations h_1 and h_2 (ft)
L	=	Distance along flowpath between locations h_1 and h_2 (ft).

The hydraulic gradient across the subject site is characterized as shallow at 0.97 percent (0.0097 feet per foot), with a vertical decrease of 0.85 ft in the water table elevation occurring over a normalized horizontal distance of 88 ft (i.e., as measured parallel to the direction of ground-water flow).

5. ANALYTICAL RESULTS

5.1 WATER QUALITY INDICATOR PARAMETERS

Water quality indicator parameters were measured during the collection of ground-water samples according to the methods specified in the LTMP (ABB-ES 1994). The results of water quality indicator parameter measurements taken at the time samples were collected are summarized in Table 3.

In general, the water quality indicator parameter measurements were fairly consistent across the site (Table 3). Ground-water pH ranged from 5.51 units (MW-NASB-068) to 5.81 units (MW-NASB-067), with pH measurements averaging 5.64 units. Dissolved oxygen measurements ranged from 1.39 mg/L (MW-NASB-066) to 3.67 mg/L (MW-NASB-065). Ground-water temperature measurements ranged from 13.7°C (MW-NASB-065) to 14.3°C (MW-NASB-066); conductivity measurements ranged from 154 μmhos/cm (MW-NASB-068) to 320 μmhos/cm (MW-NASB-066). Turbidity measurements were reflective of the slow rate of ground-water recharge into the wells during this event and ranged from 3 NTU (MW-NASB-065) to 28 NTU (MW-NASB-066). All 4 wells reached stabilization of the water quality indicator parameters prior to sampling.

5.2 GROUND WATER

Table 4 provides a summary of the analytical results for ground-water samples collected at the Building 95 site on 14 November 1995. Appendix D provides a summary table of the tentatively identified compounds (SVOC) reported in the ground-water samples. Appendix E contains the summary tables for the analyses completed. Figure 2 provides monitoring well locations.

Data generated as a result of the fourth quarterly sampling event indicate that 3 VOC were detected at reportable concentrations in the ground-water samples. Methylene chloride was reported at low concentrations in all ground-water samples analyzed; however, this compound was detected in the associated method blanks and is a common laboratory artifact.

VOC were reported in 2 of the monitoring wells sampled at Building 95 during the November 1995 event. With the exception of methylene chloride, no reportable concentrations of VOC were reported in MW-NASB-067 and MW-NASB-068. Detected VOC in MW-NASB-065 included total xylenes (11 μg/L) and ethylbenzene (3B μg/L). Detected VOC in MW-NASB-066 included total xylenes (1J μg/L) and ethylbenzene (1J μg/L). The duplicate sample of MW-NASB-068 reported trace concentrations of total xylenes (1J μg/L) and ethylbenzene (1J μg/L). The associated trip blank reported low concentrations of trichloroethene (1J μg/L), total xylenes (2J μg/L), ethylbenzene (1JB μg/L), chlorobenzene (1J μg/L), tetrachloroethene (1J μg/L), 1,2-dichlorobenzene (1J μg/L), and 1,4-dichlorobenzene (1J μg/L); of these compounds only total xylenes and ethylbenzene were reported in the ground-water samples.

Ethylbenzene was detected in the method blank associated with the analysis of the ground-water sample collected from MW-NASB-065, and the trip blank. It was not readily apparent what contributed to the presence of the remaining VOC in the trip blank.

Three SVOC were reported in the ground-water samples (Table 4). No SVOC were reported in the ground-water samples collected from MW-NASB-065 and MW-NASB-066. One SVOC (bis[2-ethylhexyl]phthalate) was reported at trace concentrations of 2JB μg/L (MW-NASB-067) and 1JB μg/L (MW-NASB-068); this compound may be a laboratory contaminant since it was also detected in the corresponding method blank. Diethyl phthalate and di-n-butyl phthalate were reported in 1 sample (MW-NASB-067) at concentrations of 1J μg/L and 6J μg/L, respectively.

No pesticides, total pyrethrins, or rotenone were detected in the 4 ground-water samples collected at the Building 95 site.

TAL elements were detected at reportable concentrations at the 4 ground-water sample locations (Table 4). Cyanide was not reported in any of the ground-water samples, but was reported in the duplicate sample collected from MW-NASB-068 at a concentration of 1.5B*μg/L. A total of 17 metals were reported in the ground-water samples, including aluminum, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, silver, sodium, vanadium, and zinc. Of these metals, only manganese was reported at a concentration above the State Maximum Exposure Guidelines and the Federal Maximum Contaminant Levels. Reported concentrations of manganese ranged from 58.3 μg/L (MW-NASB-067) to 233 μg/L (MW-NASB-068); the State Maximum Exposure Guideline is 200 μg/L and the Federal Maximum Contaminant Level is 50 μg/L (Secondary MCL).

6. SUMMARY AND CONCLUSIONS

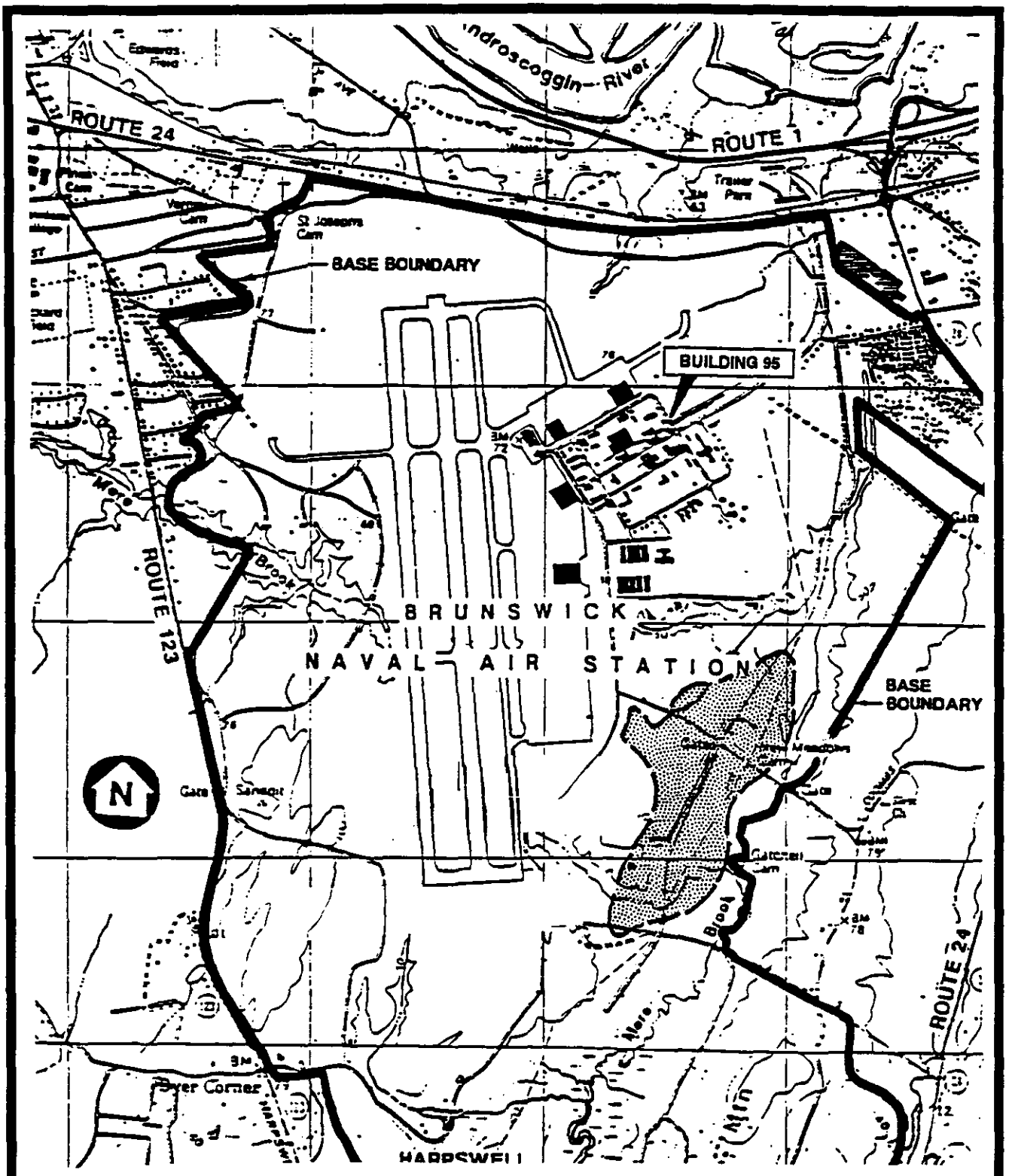
Ground-water monitoring and sampling at the 4 site monitoring wells, and visual inspection of the site, were conducted during the fourth quarterly monitoring event as specified in the LTMP (ABB-ES 1994). Depth to water ranged from 3.96 ft below top of well riser (MW-NASB-067) to 7.96 ft below top of well riser (MW-NASB-066) during the 14 November 1995 gauging event. Visual inspection of the site indicated no evidence of stressed vegetation, animal burroughing, exposure of geotextile liner, or physical tampering at monitoring wells.

Data generated during the fourth quarterly event indicate that 3 VOC were reported in the ground-water samples collected. With the exception of methylene chloride, no other VOC were reported in MW-NASB-067 and MW-NASB-068. The remaining 2 VOC detected were total xylenes and ethylbenzene. Total xylenes were reported at concentrations ranging from 1J μg/L (MW-NASB-066) to 11 μg/L (MW-NASB-065); ethylbenzene was reported at concentrations ranging from 1J μg/L (MW-NASB-065) to 3B μg/L (MW-NASB-065). No VOC were reported at concentrations exceeding Federal Maximum Contaminant Levels or State Maximum Exposure Guidelines.

Three SVOC were reported in the ground-water samples. Bis(2-ethylhexyl)phthalate was reported at trace concentrations in 2 of 4 samples and the corresponding method blank and may, therefore, be considered a laboratory contaminant. No other SVOC were reported in the ground-water samples collected at MW-NASB-065, MW-NASB-066, and MW-NASB-068. The remaining 2 SVOC, diethyl phthalate and di-n-butyl phthalate, were reported in MW-NASB-067 at concentrations of 1J μg/L and 6J μg/L, respectively.

No pesticides, total pyrethrins, or rotenone were reported in any of the 4 ground-water samples collected at the Building 95 site.

Seventeen TAL metals were reported in the ground-water samples collected at the Building 95 site. Of these analytes, only manganese was reported at concentrations above the corresponding State Maximum Exposure Guideline and the Federal Maximum Contaminant Level. The State Maximum Exposure Guideline of 200 μg/L was exceeded at MW-NASB-068 (233 μg/L); the secondary Federal Maximum Contaminant Level of 50 μg/L was exceeded at all 4 wells.



Source: USGS 7.5-minute series topographic maps: Brunswick, Maine, Quadrangles (1980); and Orrs Island, Maine, 1978. Scale 1:24,000.

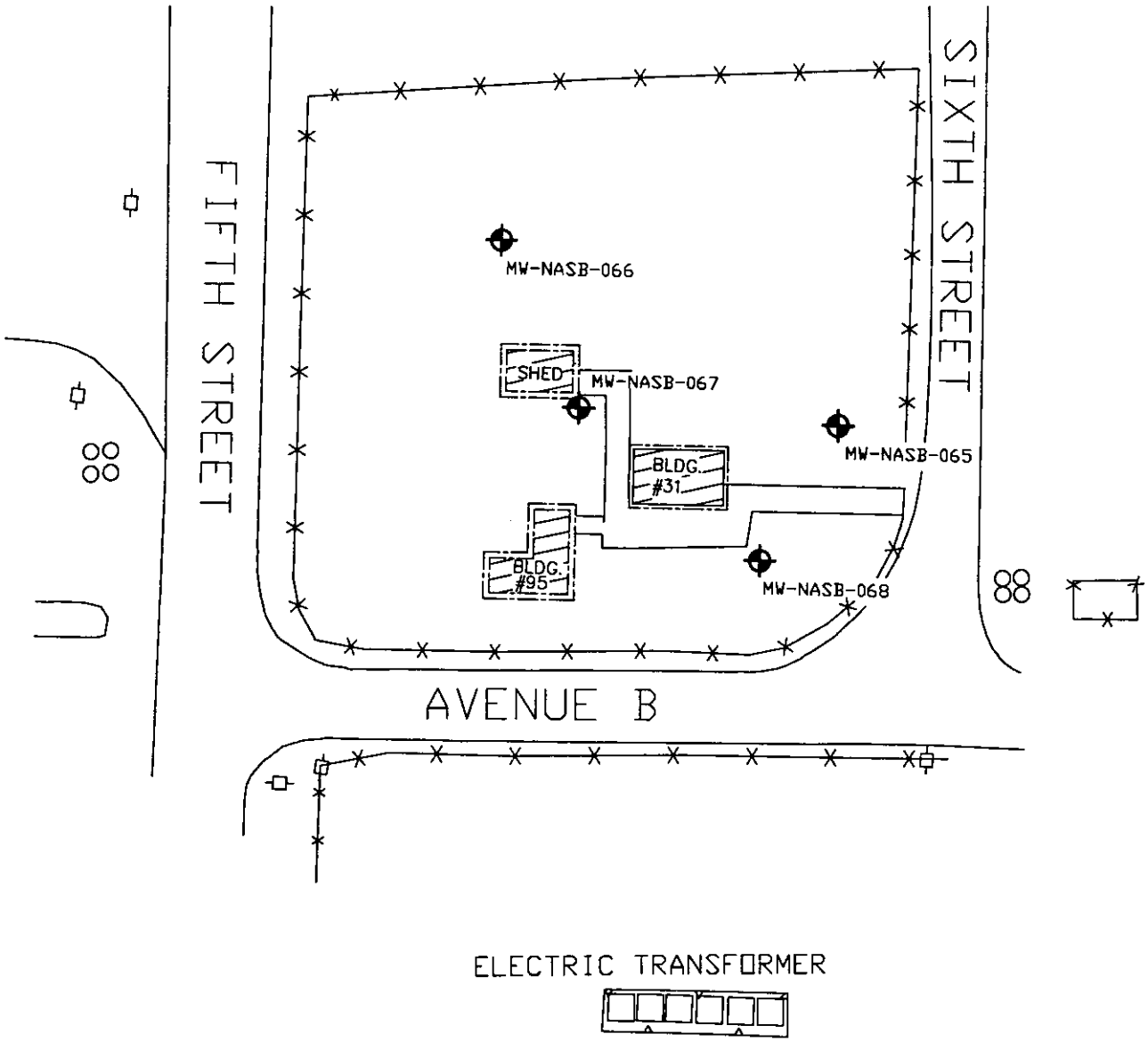
Figure 1. Site location map for Building 95, Naval Air Station, Brunswick, Maine.

LEGEND

MW-NASB-065 MONITORING WELL

FORMER BUILDINGS

CHAIN LINK FENCE



45' 0 45'

APPROXIMATE SCALE

NOTE: SITE PLAN TAKEN FROM THE INTEGRAPH VERSION 5 BASE-WIDE PLAN PROVIDED BY NAS BRUNSWICK PUBLIC WORKS DEPARTMENT ON 13 OCTOBER 1995.

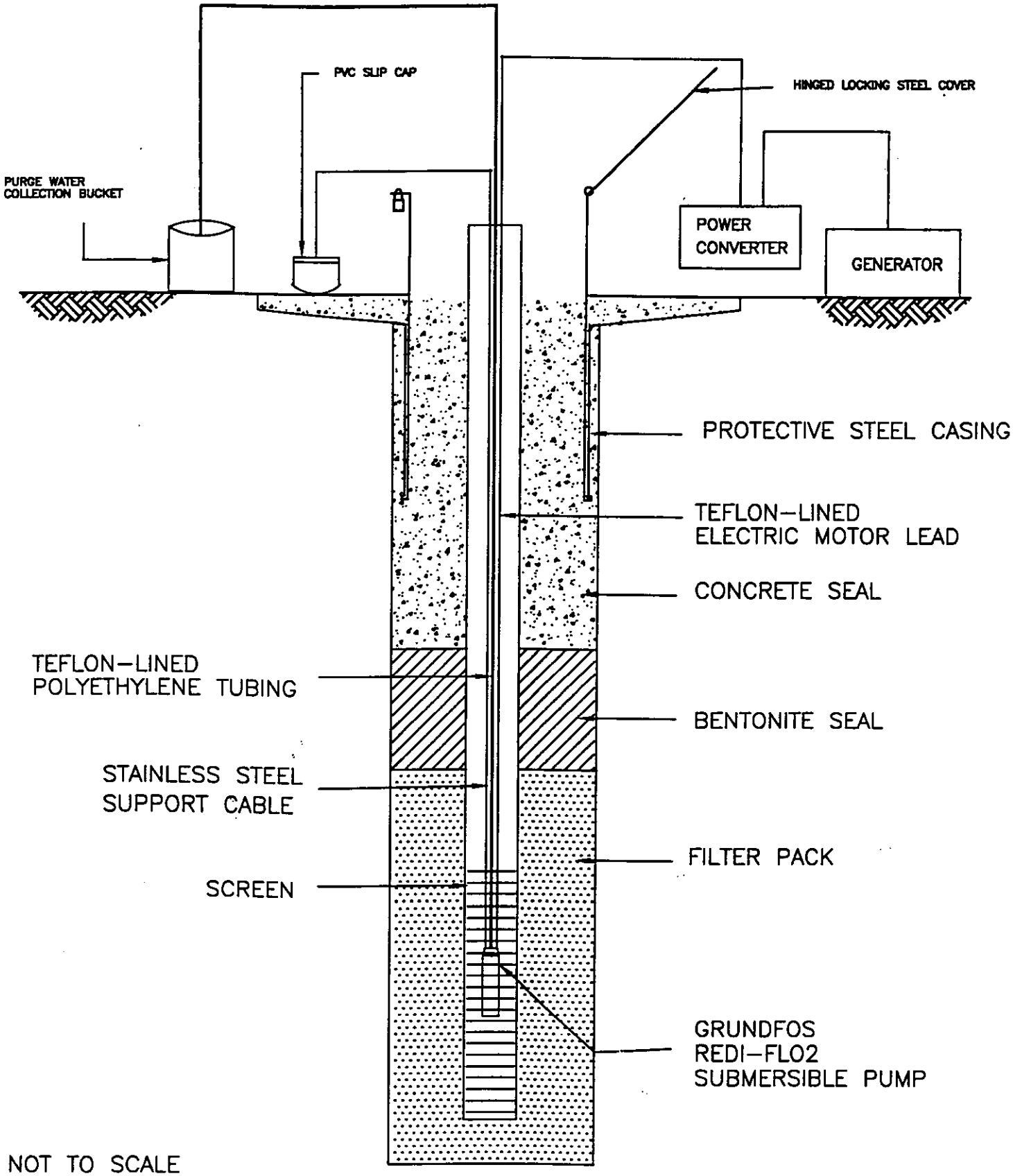
DWG. FILE No. F:\CAD\29600\47\BLD-95-2

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

BUILDING 95
NAVAL AIR STATION
BRUNSWICK, MAINE

FIGURE 2
SITE PLAN

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FILE No.
MSB		SY	MSB	AS SHOWN	13 DEC 95	29600.47	BLD95EV4



NOT TO SCALE

DWG. FILE No. F:\CAD\AGWELL

EA ENGINEERING, SCIENCE, AND TECHNOLOGY			SCHEMATIC OF GENERALIZED INSTALLATION OF DEDICATED SUBMERSIBLE PUMP SYSTEM IN A MONITORING WELL			FIGURE 3	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FILE No.
MSB		SY		N.T.S.	26 JUNE 1995	29600.47	PUMP

LEGEND

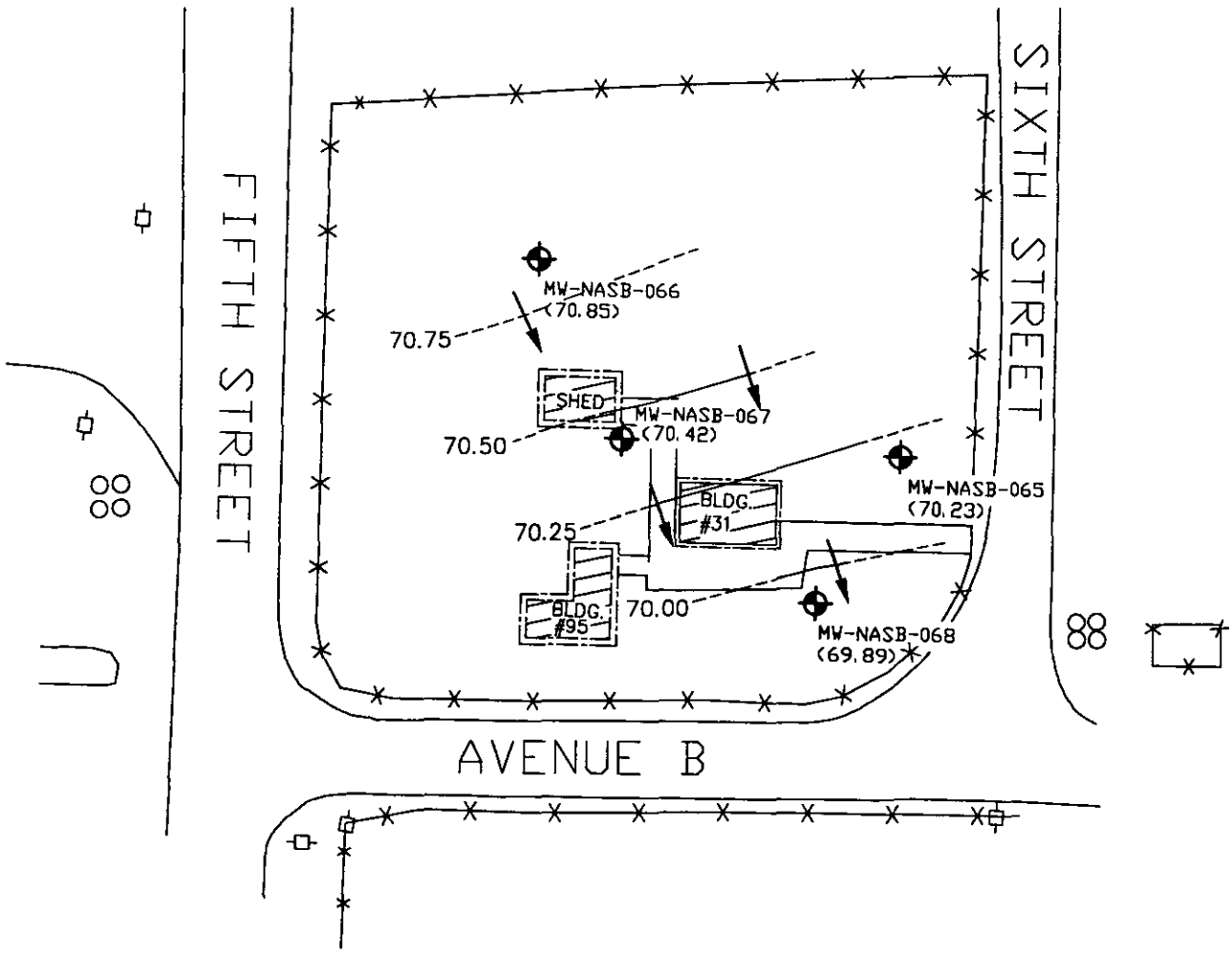
MW-NASB-065 (69.09) — MONITORING WELL (WATER TABLE ELEVATION, FT. MSL.)

INTERPRETED DIRECTION OF GROUND-WATER FLOW

69.00 — INTERPRETED POTENTIOMETRIC SURFACE DASHED WHERE INFERRED (CONTOUR INTERVAL = 0.25 FT)

FORMER BUILDINGS

CHAIN LINK FENCE



ELECTRIC TRANSFORMER

45' 0 45'

APPROXIMATE SCALE

WELL DESIGNATION	WELL RISER ELEVATION (FT. MSL.)
MW-NASB-065	74.33
MW-NASB-066	78.81
MW-NASB-067	74.38
MW-NASB-068	74.79

DWG. FILE No. F:\CAD\29600\47\BLD-95-2

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

BUILDING 95
NAVAL AIR STATION
BRUNSWICK, MAINE

FIGURE 4
INTERPRETED WATER TABLE ELEVATIONS, 14 NOV 1995 WELL GAUGING DATA

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FILE No.
MSB		SY	MSB	AS SHOWN	8 DEC 95	29600.47	BLD-95-2

TABLE 1 SUMMARY OF LONG-TERM MONITORING PROGRAM AT BUILDING 95, NAVAL AIR STATION, BRUNSWICK, MAINE

Sample Location	Sampling Frequency	Sample Parameters					
		TCL VOC	TCL SVOC	TCL Pesticides	Rotenone/ Pyrethrins	TAL Elements	Field Parameters[a]
Monitoring Wells							
MW-NASB-065	Quarterly	X	X	X	X	X	X
MW-NASB-066	Quarterly	X	X	X	X	X	X
MW-NASB-067	Quarterly	X	X	X	X	X	X
MW-NASB-068	Quarterly	X	X	X	X	X	X

(a) Determination of field parameters in accordance with EPA/600/4-79/020 using the following methods: pH (Method 150.1), temperature (Method 170.1), specific conductance (Method 180.1), and dissolved oxygen (Method 360.1). Includes water level measurement.

NOTE: SVOC = Semivolatile organic compounds; TAL = Target Analyte List; TCL = Target Compound List; VOC = Volatile organic compounds (EPA SW-846).

TABLE 2 MONITORING WELL GAUGING SUMMARY BUILDING 95, NAVAL AIR STATION, BRUNSWICK, MAINE

Well Designation	Previous Well Designation	Well Riser Elevation (ft MSL)	Gauging Data (14 November 1995)		
			Depth to Well Bottom (ft below top of PVC well riser)	Depth to Water (ft below top of PVC well riser)	Water Table Elevation (ft MSL)
Monitoring Wells					
MW-NASB-065	MW-95-01	74.33	15.50	4.10	70.23
MW-NASB-066	MW-95-02	78.81	19.79	7.96	70.85
MW-NASB-067	MW-95-03	74.38	15.00	3.96	70.42
MW-NASB-068	MW-95-04	74.79	15.05	4.94	69.85

NOTE: MSL = Mean sea level.

TABLE 3 SUMMARY OF WATER QUALITY INDICATOR PARAMETERS MEASURED IN GROUND-WATER SAMPLES COLLECTED ON 14 NOVEMBER 1995 AT BUILDING 95, NAVAL AIR STATION, BRUNSWICK, MAINE

Well Designation	Previous Well Designation	pH	Temperature (°C)	Conductivity (μmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Monitoring Wells						
MW-NASB-065	MW-95-01	5.62	13.7	228	3.67	3
MW-NASB-066	MW-95-02	5.63	14.3	320	1.39	28
MW-NASB-067	MW-95-03	5.81	13.8	246	1.68	19
MW-NASB-068	MW-95-04	5.51	13.9	154	2.86	9

NOTE: NTU = Nephelometric turbidity unit.

TABLE 4 SUMMARY OF ANALYTICAL RESULTS FOR GROUND-WATER SAMPLES COLLECTED ON 14 NOVEMBER 1995 AT BUILDING 95, NAVAL AIR STATION, BRUNSWICK, MAINE

Analyte	CRQL[a]/ CRDL	MW-NASB-065[b]	MW-NASB-066	MW-NASB-067[b]	MW-NASB-068[b]	MW-NASB-068 DUP	QT-008 (11/13/95)	MEG[c]	MCL[d]
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260 (μg/L)									
Methylene chloride	3.0	1JBX	4BX	5BX	4BX	4BX	2JB	---	5
Trichloroethene	2.5	(<2.5U)	(<2.5U)	(<2.5U)	(<2.5U)	(<2.5U)	1J	5	5
Total xylenes	2.0	11X	1JX	(<2U)	(<2U)	1JX	2J	600	10,000
Toluene	2.0	(<2U)	(<2U)	(<2U)	(<2U)	(<2U)	(<2U)	1,400	1,000
Ethylbenzene	2.0	3BX	1JX	(<2U)	(<2U)	1JX	1JB	700	700
Chlorobenzene	5.0	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	1J	47	100
Tetrachloroethene	2.0	(<2U)	(<2U)	(<2U)	(<2U)	(<2U)	1J	3	5
1,2-Dichlorobenzene	2.0	(<2U)	(<2U)	(<2U)	(<2U)	(<2U)	1J	600	600
1,4-Dichlorobenzene	2.0	(<2U)	(<2U)	(<2U)	(<2U)	(<2U)	1J	27	75

(a) CRQL is representative of Practical Quantitation Level.
(b) Reanalysis conducted dur to low surrogate recovery.
(c) Maximum Exposure Guideline (MEG) obtained from State of Maine Department of Human Services Revised Maximum Exposure Guidelines, memorandum dated 23 October 1992. Dashes (---) indicate no MEG applicable.
(d) Maximum Contamination Level (MCL) obtained from 40 CFR Parts 141 and 142 (U.S. EPA 1994). Dashes (---) indicate no MCL applicable.

NOTE: Only those analytes detected in at least one of the samples, and the contaminants of concern listed in the LTMP (ABB-ES 1994), are shown on this table.
U = Not detected. Sample quantitation limits are shown as (<____U).
J = Estimated concentration below detection limit.
B = Compound detected in associated method blank.
X = Compound detected in associated trip blank.
NR = Analysis not required.
B* = Analyte concentration is between the instrument detection limit and the Contract Required Detection Limit.
CRQL = Contract Required Quantification Limit for volatile organic compounds, semivolatile organic compounds, pesticides, total pyrethrins, and rotenone.
CRDL = Contract Required Detection Limit for Target Analyte List elements.

Analyte	CRQL[a]/ CRDL	MW-NASB-065[b]	MW-NASB-066	MW-NASB-067[b]	MW-NASB-068[b]	MW-NASB-068 DUP	QT-008 (11/13/95)	MEG[c]	MCL[d]
SEMIVOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8270 (μg/L)									
Diethyl phthalate	10	(<10U)	(<10U)	1J	(<10U)	(<10U)	NR	5,000	---
Di-n-butyl phthalate	10	(<10U)	(<10U)	6J	(<10U)	(<10U)	NR	220	---
bis(2-ethylhexyl)phthalate	10	(<10U)	(<10U)	2JB	1JB	(<10U)	NR	---	---
PESTICIDES BY EPA METHOD 8080 (μg/L)									
Heptachlor expoxide	0.05	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	NR	0.04	0.2
Gamma chlordane	0.05	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	NR	0.3[e]	2[f]
Alpha chlordane	0.05	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	(<0.05U)	NR	0.3[e]	2[f]
4,4'-DDE	0.1	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	NR	---	---
Endrin	0.1	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	NR	2	2
4,4'-DDT	0.1	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	NR	0.83	---
4,4'-DDD	0.1	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	NR	---	---
TOTAL PYRETHRINS AND ROTENONE BY EPA METHOD 8310 (MODIFIED) (μg/L)									
Total pyrethrins	1.4	(<1.0U)	(<1.0U)	(<1.0U)	(<1.0U)	(<1.0U)	NR	---	---
Rotenone	17	(<0.5U)	(<0.5U)	(<0.5U)	(<0.5U)	(<0.5U)	NR	4	---
TARGET ANALYTE LIST ELEMENTS BY SW-846 6000/7000 SERIES METHODS (μg/L)									
Aluminum	200.0	271	400	853	209	122B*	NR	1,430	50-200[g]
Barium	200.0	20.0B*	45.6B*	29.4B*	23.2B*	24.8B*	NR	1,500	2,000

(e) MEG for chlordane; no distinction between alpha or gamma.
(f) MCL for chlordane; no distinction between alpha or gamma.
(g) Secondary MCL, based on taste, odor, or color.

Analyte	CRQL[a]/ CRDL	MW-NASB-065[b]	MW-NASB-066	MW-NASB-067[b]	MW-NASB-068[b]	MW-NASB-068 DUP	QT-008 (11/13/95)	MEG[c]	MCL[d]
TARGET ANALYTE LIST ELEMENTS BY SW-846 6000/7000 SERIES METHODS (μg/L) (Continued)									
Beryllium	5.0	0.17B*	0.15B*	0.13B*	0.16B*	0.16B*	NR	---	4
Calcium	5,000.0	14,000	6,060	7,240	7,350	8,480	NR	---	---
Chromium	10.0	1.5B*	1.9B*	3.0B*	2.8B*	1.6B*	NR	100	100
Cobalt	50.0	2.9B*	2.0B*	1.0B*	2.5B*	2.8B*	NR	---	---
Copper	25.0	2.6B*	2.2B*	2.6B*	2.1B*	2.1B*	NR	---	1,300[h]
Iron	100.0	361	1,970	2,450	370	114	NR	---	300[g]
Lead	3.0	2.3B*	(<1.6U)	(<1.6U)	(<1.6U)	(<1.6U)	NR	---	15[h]
Magnesium	5,000.0	2,220B*	926B*	652B*	1,550B*	1,760B*	NR	---	---
Manganese	15.0	118	61.5	58.3	**233**	**242**	NR	200	50[g]
Nickel	40.0	4.1B*	3.4B*	1.8B*	3.0B*	2.4B*	NR	100	100
Potassium	5,000.0	5,040	2,110B*	1,480B*	2,520B*	2,940B*	NR	---	---
Silver	10.0	(<0.67U)	1.1B*	1.1B*	(<0.67U)	0.69B*	NR	50	100[g]
Sodium	5,000.0	21,700	55,900	39,700	17,900	18,300	NR	---	---
Vanadium	50.0	3.6B*	2.1B*	8.0B*	2.6B*	3.0B*	NR	---	---
Zinc	20.0	24.4	98.3	7.6B*	7.2B*	5.1B*	NR	---	5,000[g]
Cyanide	10.0	(<1.3U)	(<1.3U)	(<1.3U)	(<1.3U)	1.5B*	NR	154	200

NOTE: Concentrations in bold denote exceedance of MEG and MEL (primary levels).

(h) Action Level.

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Appendix A

Standard Operating Procedure for Ground-Water Sampling Using Dedicated Pump Systems

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APPENDIX A

STANDARD OPERATING PROCEDURES FOR FIELD SAMPLING

A.1 STANDARD OPERATING PROCEDURE NO. 1 - GROUND-WATER SAMPLING BY LOW-FLOW PURGE AND SAMPLING METHOD USING DEDICATED PUMPS

A.1.1 Scope of Application

The purpose of this Standard Operating Procedure (SOP) is to establish the protocol for collecting ground-water samples using dedicated pump systems. The procedure is designed to permit the collection of ground-water samples with minimum turbidity, and is intended to be used in conjunction with the analyses for the most common types of ground-water contaminants (volatile organic compounds [VOC] and semivolatile organic compounds [SVOC], pesticides, polychlorinated biphenyls [PCB], metals, and inorganic compounds). This SOP was prepared based on draft guidance prepared by U.S. Environmental Protection Agency (EPA) Region I and conforms with the procedures described in the long-term monitoring plan (LTMP) (ABB-ES 1994).

A.1.2 Equipment/Materials

- LTMP.
- Well construction data, location map, field data from last sampling event.
- Field logbook and Field Record of Well Gauging, Purging, and Sampling forms (Figure A-1).
- Water level measuring device, 0.01 ft accuracy (electronic preferred) for monitoring water level during pumping operations.
- Pumps: adjustable rate, variable displacement submersible centrifugal pumps constructed of stainless steel and Teflon®.
- Tubing: Teflon or Teflon-lined polyethylene must be used to collect samples for organic analysis. For samples collected for inorganics analysis, Teflon or Teflon-lined polyethylene, polyvinyl chloride (PVC), Tygon, or polyethylene tubing may be used.
- Flow measurement supplies (e.g., graduated cylinder and stop watch).

- Power source (generator, etc.).

- Water quality indicator parameter monitoring instruments—pH, turbidity, specific conductances, and temperature. Optional indicators—Eh and dissolved oxygen. Water quality indicator parameters will be measured in the field in accordance with EPA-600/4-79-020 (1983) using the following methods: temperature (Method 170.1), pH (Method 150.1), turbidity (Method 180.1), specific conductance (Method 120.1), and dissolved oxygen (Method 360.1).

- Decontamination supplies (for monitoring instrumentation).

- Sample bottles and sample preservation supplies (as required by the analytical methods).

- Sample tags or labels.

A.1.3 Preliminary Site Activities

The following site activities are required prior to performing well purging and ground-water sampling. Field logbooks and sampling forms should be filled out as the procedure is being performed, as noted:

- Enter the following information in the field logbook and sampling form, as appropriate: site name, project number, field personnel, well identification, weather conditions, date and time, equipment used, and quality assurance/quality control data for field instrumentation.

- Check well for damage or evidence of tampering, record pertinent observations in field logbook and sampling form.

- Lay out sheet of polyethylene for monitoring and sampling equipment.

- Unlock well and remove well cap (if applicable).

- Measure VOC with a flame ionization detector instrument at the rim of the well and in the breathing zone, and record the readings in the field logbook and the sampling form.

- If the well casing does not have a reference point (usually a v-cut or indelible mark in the well casing), make one.

- Measure and record the height of protective casing above the concrete pad or ground surface, as appropriate. This reading is compared to that recorded during well installation as an indication of possible well damage or settling that may have occurred.

- Measure and record the depth to water (to 0.01 ft) in each well to be sampled before purging begins. Care should be taken to minimize disturbance of any particulate attached to the sides or at the bottom of the well. The depth to well bottom should not be measured because of the potential to stir up sediment at the bottom of the well.

A.1.4 Sampling Procedure

The following general procedure should be followed to obtain representative ground-water samples. Field logbooks and sampling forms should be filled out as the procedure is being performed, as noted:

- Enter the following information in the field logbook and sampling form, as appropriate, prior to purging: purge date and time, purge method, and total well depth.

- Prepare the pump by checking electrical connections, discharge tubing, and motor (Grundfos Redi-Flo2). Locate the generator (if applicable) downwind of the well; connect the power converter to the generator.

- Connect the instrumentation header to the pump discharge and begin purging the well at 0.2-0.5 L/min, unless a different purge rate has been previously established for that well. Measure and record the water level and time with the pump in well before starting the pump. Continue pumping the well at 0.2-0.5 L/min.

- Establish that the water level has not dropped significantly such that the pump is dry (bubbles in discharge) or water is heard cascading down the inside of the well. This may be accomplished by setting the sensor of the water level meter approximately 3-6 in. below the static water level and monitoring for a continuous audible alarm, which indicates the sensor is in water and the level has not dropped more than 6 in. Ideally, the pump rate should cause little or no water level drawdown in the well (>0.5 ft and the water level should stabilize). The water level should be monitored every 3-5 minutes (or as appropriate) during pumping. Care should be taken not to cause entrainment of air in the pump system. Record pumping rate adjustments and depths to water. Pumping rates should, if needed, be reduced to the minimum capabilities of the pump (e.g., 0.1-0.2 L/min) to avoid pumping the well dry and/or to ensure

stabilization of indicator parameters. If the recharge rate of the well is very low and the well is purged dry, then sampling will commence as soon as the well has recharged to a sufficient level to collect the appropriate volume of samples with the pump.

- During purging of the well, monitor the water quality indicator parameters (turbidity, temperature, specific conductance, pH, etc.) every 3-5 minutes (or as appropriate). Record pumping rate, drawdown, water quality indicator parameters values, and clock time at 3- to 5-minute intervals in field logbook and sampling record. Purging of the standing well water is considered complete when three consecutive readings of the water quality indicator parameters agree within approximately 10 percent. Turbidity readings consistently below 10 nephelometric turbidity units (NTU) are considered to represent stabilization of discharge water for this parameter. If the parameters have stabilized, but the turbidity is not in the range of the 10 NTU goal, the pump flow rate should be decreased and measurement of the parameters should continue every 3-5 minutes. Measurements should be obtained using a flow through cell (preferred method) or taken in a clean container (a glass beaker is ideal).

- Reduce the pump flow rate to the lowest practical setting, usually about 0.1 L/min. Remove the in-line sensor, if applicable. If the water discharged by the pump is silty, wait for the water to clear before sampling. Ensure that bubbles are not observed in the discharge tubing. Record pertinent observations in field logbook and sampling records.

- Begin filling sample containers from the pump discharge, allowing the water to fill the containers by allowing the pump discharge to flow gently down the inside of the container with as little agitation or aeration as possible. Collect the samples in the order below, as applicable:

  — VOC
  — SVOC
  — Pesticides and PCB
  — Inorganics.

- VOC samples requiring pH adjustment will have their pH checked to assure that the proper pH has been obtained. This will require that a test sample be collected to determine the amount of preservative that needs to be added to the sample containers prior to sampling. Details on sample preservation are discussed in Section A.1.5.

- Label each sample as collected. Those samples (VOC, etc.) requiring cooling will be placed into an ice cooler for delivery to the laboratory. Metal samples, after preservation, do not need to be cooled.

- After collection of the samples, restore the dedicated pumping assembly to the well by hanging the tube, electric line, and support cable inside the well by the specially-designed PVC well cap assembly. Lock well.

- Complete remaining portions of Field Record of Well Gauging, Purging, and Sampling form (Figure A-1) after each well is sampled, including sample team members, sample date and time, total quantity of water removed, well sampling sequence and time of sample collection, types of sample bottles used, sample identification numbers, preservatives used, parameters requested for analysis, and field observations of sampling event.

A.1.5 Sample Preservation

The following preservation procedures are examples of typical preservation protocols specific to the indicated analyses. Minimum sample preservation requirements for each parameter group are summarized below:

- **VOC**—Aqueous VOC samples must be collected as specified below. Each VOC sample is taken in duplicate:

  — Uncap the sample bottle, taking care not to touch the Teflon-faced septum. If the septum is contaminated in any way, it should be replaced.

  — Fill a sample bottle, preserve with HC1, and check the pH. Adjust the volume of HCl to assure pH<2.

  — Add the amount of HC1 determined in the above step, and fill the sample vial slowly from the tubing, minimizing air entrainment, until the vial slightly overflows.

  — Place the Teflon-faced silicon rubber septum on the convex meniscus, Teflon side (shiny side) down and screw cap on.

  — Invert the bottle, tap lightly, and check for air bubbles.

  — If air bubbles are present, open the bottle, add sample to eliminate air bubbles, and reseal. Repeat this procedure until the bottle is filled and no air bubbles are detected.

  — Place samples on ice until shipment.

- **SVOC**—Fill the sample bottle, seal with a Teflon-lined cap, and place on ice for shipment.

- **Metals**—Fill the sample bottle, preserve the sample to pH<2 with nitric acid (HNO_3), seal container, and place sample on ice for shipment.

Disposable pipettes should be used to introduce chemicals into the samples. Chemicals used for preserving should be poured into a 150-ml beaker. They should not be drawn directly from the preservative bottles because the bottle may become contaminated. Measurements for pH and temperature should not be taken from the sample containers. When preserving samples to a required pH, pH paper should be used to check the resultant pH. The sample should be poured across the pH paper. Never place pH paper directly into sample.

NOTE: Shipping regulations limit the amount of preservative which can be added. For a 1-L sample, this is generally 1.5 ml of acid preservative.

A.1.6 Field Quality Control

Quality control samples are required to verify that the sample collection and handling process has not affected the quality of the ground-water samples. All field quality control samples must be prepared exactly as regular investigation samples with regard to sample volume, containers, and preservation. The following quality control samples will be collected for each sample delivery group (SDG) (an SDG may not exceed 20 samples) at the frequency noted:

- Field Duplicate—Required at a frequency of 10 percent per SDG.
- Matrix Spike/Matrix Spike Duplicate—Required at a frequency of 5 percent.
- Equipment Blank—Required once prior to installation of dedicated pump systems.
- Source Water Blank—Required at a frequency of once per sampling event.
- Trip Blank—Required for VOC samples at a frequency of one per sample shipment.

A.1.7 Decontamination

Non-dedicated sampling equipment and field monitoring equipment will be decontaminated prior to use and following sampling of each well. This equipment will be decontaminated by the procedure listed below. Alternative procedures must be approved by the Quality Assurance Officer prior to sampling event.

Procedure

The following decontamination procedure will be used:

- Flush the equipment with potable water
- Flush with non-phosphate detergent solution
- Flush with tap water to remove all of the detergent solution

- Flush with distilled/deionized water
- Flush with isopropyl alcohol
- Flush with distilled/deionized water.

It is recommended that the detergent and isopropyl alcohol used in the above sequence be used sparingly.

Appendix B

Field Monitoring and Sampling Forms

B.1 Field Record of Well Gauging Form
B.2 Field Record of Well Gauging, Purging, and Sampling Forms

Appendix B.1

Field Record of Well Gauging Form

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

FIELD RECORD OF WELL GAUGING

Project Name: NAS Brunswick	Project No: 29600.47	Date: 14 Nov 95
Weather/Temperature: RAIN, Cold, windy		
EA Personnel: KT, KR, TC	Equipment: OVA 123 / Slope Indicator	

Well No.	Labeled/ Capped	Well Locked	VOCs Concentration (ppm) Air Ambient	VOCs Concentration (ppm) Well Mouth	Casing/Seal Condition	Protective Casing Elevation (ft)	PVC Casing Elevation (ft)	Depth to Water (ft)	Measured Well Depth (ft)	Water Table Elevation (ft)
MWNAS865	N / Y	N	0, 0	0, 0	good	74.53	74.33	4.10	15.50	70.23
MWNAS866	N / Y	N	0, 0	0, 0	good	78.99	78.81	7.96	19.79	70.85
MWNAS867	N / Y	N	0, 0	1000, 0	good	74.55	74.38	3.96	15.00	70.42
MWNAS868	N / Y	N	0, 0	0, 0	good	74.92	74.79	4.94	15.05	69.85

NOTE: All measurements in feet mean sea level (MSL).

Transcribed from field data sheets and field Book by Brian Anderson

f:\wp\29600\47

Appendix B.2

Field Record of Well Gauging, Purging, and Sampling Forms

FIELD RECORD OF WELL GAUGING, PURGING, AND SAMPLING

SITE NAME: Site 95
WELL I.D.: ~~MW-1~~ MW-NASB-065
WELL CONDITION: good

PROJECT NUMBER: 29600.47/2280
WELL LOCK STATUS: no lock, not locked
WEATHER: overcast, cool, 40°F

GAUGE DATE: 11/14/95
SOUNDING METHOD: Slope indicator
STICK UP/DOWN (ft): 1.80

GAUGE TIME: 0935
MEASUREMENT REF: Top of pipe
WELL DIAMETER (in.): 2"

PURGE DATE: 11/14/95
PURGE METHOD: low flow
AMBIENT AIR VOCs (ppm) Start: 0 End: 0

PURGE TIME: 0940
FIELD TECHNICIAN: KR, KI, TC
WELL MOUTH VOCs (ppm): Start: 0 End: 0

WELL VOLUME

A. WELL DEPTH (ft): 15.50
B. DEPTH TO WATER (ft): 4.10
C. LIQUID DEPTH (ft) (A-B): 11.40
D. WELL VOLUME/FT (L): 0.605
E. WELL VOLUME (L) (C*D): 6.90
F. THREE WELL VOLUMES (L) (E*3): 20.70

	BEGINNING	Number of Well Volumes Purged				
		1	2	3	4	5
TIME (min)	0945	0948	0951	0954		
DEPTH TO WATER (ft)	4.13	4.13	4.14	4.15		
PURGE RATE (l/min)	.2L	.2L	.2L	.2L		
VOLUME PURGED (L)	1.0L	1.6L	2.2L	2.8L		
pH	5.68	5.64	5.62	5.62		
TEMPERATURE (C)	11.8	12.5	13.1	13.7		
CONDUCTIVITY (µmhos/cm)	0.239	0.230	0.232	0.228		
DISSOLVED OXYGEN (mg/L)	3.61	3.90	3.84	3.67		
~~eh (mv)~~						
TURBIDITY (NTU)	3	3	2	3		

TOTAL QUANTITY OF WATER REMOVED (L): 16.0L

SAMPLERS: KR, KI, TC
SAMPLING TIME (START/END): 1010/1114
SAMPLING DATE: 11/14/95
DECONTAMINATION FLUIDS USED: none
SAMPLE TYPE: Grab
SAMPLE PRESERVATIVES: 1:1 HCl, NaOH, HNO_3
SAMPLE BOTTLE IDs: BN-04-95-MW001
SAMPLE PARAMETERS: ~~BN-~~ VOCs, SVOCs, Pesticides, Rotenone/Pyrethrins, Total Elements, Cyanide
COMMENTS AND OBSERVATIONS: Turned pump off 0956/1010-Bump

ms/msD done at this well

1 of 2

FIELD RECORD OF WELL GAUGING, PURGING, AND SAMPLING

SITE NAME:	Site 95	PROJECT NUMBER:	29600.4.11.200
WELL I.D.:	MW-2 NASB-066	WELL LOCK STATUS:	locked, not locked
WELL CONDITION:	good	WEATHER:	overcast, cold, 30
GAUGE DATE:	11/14/95	GAUGE TIME:	1155
SOUNDING METHOD:	slope indicator	MEASUREMENT REF:	top of pipe
STICK UP/DOWN (ft):	2.00	WELL DIAMETER (in.):	2"
PURGE DATE:	11/14/95	PURGE TIME:	1200
PURGE METHOD:	low flow	FIELD TECHNICIAN:	KR, KI, TC
AMBIENT AIR VOCs (ppm)	Start: 0 End: 0	WELL MOUTH VOCs (ppm):	Start: 0 End: 0

WELL VOLUME

A. WELL DEPTH (ft):	19.79	D. WELL VOLUME/FT (L):	2.605
B. DEPTH TO WATER (ft):	7.96	E. WELL VOLUME (L) (C*D):	7.16
C. LIQUID DEPTH (ft) (A-B):	11.83	F. THREE WELL VOLUMES (L) (E*3):	21.48

	BEGINNING	Number of Well Volumes Purged 1	2	3	4	5	6
TIME (min)	1204	1207	1210	1213	1216	1219	122
DEPTH TO WATER (ft)	7.92	8.02	8.00	8.01	8.01	8.01	8.
PURGE RATE (l/min)	.2L	.2L	.2L	.2L	.2L	.2L	.2
VOLUME PURGED (L)	0.8L	1.4L	2.0L	2.6L	3.2L	3.8L	4.
pH	5.79	5.77	5.77	5.77	5.73	5.70	5.
TEMPERATURE (C)	10.9	11.0	12.0	13.2	14.0	14.1	14
CONDUCTIVITY (µmhos/cm)	0.282	0.280	0.294	0.308	0.312	0.322	0.
DISSOLVED OXYGEN (mg/L)	2.35	2.31	2.29	2.15	1.80	1.76	1.
~~eh (mv)~~							
TURBIDITY (NTU)	160	109	72	48	43	31	2

TOTAL QUANTITY OF WATER REMOVED (L): ~~9.8L~~ 10L

SAMPLERS: KR, KI, TC

SAMPLING TIME (START/END): 1230 / 1250

SAMPLING DATE: 11/14/95

DECONTAMINATION FLUIDS USED: none

SAMPLE TYPE: Grab

SAMPLE PRESERVATIVES: 1:1 HCl, HNO3, NaOH

SAMPLE BOTTLE IDs: BN-04-95-MW004

SAMPLE PARAMETERS: VOCs, SVOCs, Pesticides, Rotenone / Pyrethrins / Total Elements, cyanide

COMMENTS AND OBSERVATIONS:

2 of 2

FIELD RECORD OF WELL GAUGING, PURGING, AND SAMPLING

SITE NAME: Site 95
WELL I.D.: MW ~~[illegible]~~ NASA-066
WELL CONDITION: good

PROJECT NUMBER: 29600.47/720C
WELL LOCK STATUS: no lock, not locked
WEATHER: overcast, cold, 35°F

GAUGE DATE: 11/4/95
SOUNDING METHOD: Slope indicator
STICK UP/DOWN (ft): 2.00'

GAUGE TIME: 1155
MEASUREMENT REF: Top of pipe
WELL DIAMETER (in.): 2"

PURGE DATE: 11/14/95
PURGE METHOD: low flow
AMBIENT AIR VOCs (ppm) Start: 0 End: 0

PURGE TIME: 1200
FIELD TECHNICIAN: KR, KI, TC
WELL MOUTH VOCs (ppm): Start: 0 End: 0

WELL VOLUME

A. WELL DEPTH (ft): 19.79
B. DEPTH TO WATER (ft): 7.96
C. LIQUID DEPTH (ft) (A-B): 11.83
D. WELL VOLUME/FT (L): 0.005
E. WELL VOLUME (L) (C*D): 7.10
F. THREE WELL VOLUMES (L) (E*3): 21.28

	BEGINNING	Number of Well Volumes Purged				
		~~1~~ 8	~~2~~ 9	~~3~~ 10	4	5
TIME (min)	1225	1228	1231	1234		
DEPTH TO WATER (ft)	8.01	8.01	8.01	8.02		
PURGE RATE (l/min)	.2L	.2L	.2L	.2L		
VOLUME PURGED (L)	5.0L	5.6L	6.2L	6.8L		
pH	5.65	5.64	5.63	5.63		
TEMPERATURE (C)	14.2	14.3	14.3	14.3		
CONDUCTIVITY (µmhos/cm)	0.324	0.316	0.318	0.320		
DISSOLVED OXYGEN (mg/L)	1.48	1.48	1.42	1.39		
~~eh (mv)~~						
TURBIDITY (NTU)	24	24	28	28		

TOTAL QUANTITY OF WATER REMOVED (L): ~~9.8L~~ 10.0L

SAMPLERS: KR, KI, TC
SAMPLING TIME (START/END): 1236/1250
SAMPLING DATE: 11/14/95
DECONTAMINATION FLUIDS USED: none
SAMPLE TYPE: Grab
SAMPLE PRESERVATIVES: 1:1 HCl, HNO_3, NaOH
SAMPLE BOTTLE IDs: BN-04-95-MW004
SAMPLE PARAMETERS: VOCs, SVOCs, Pesticides, Rotenone/~~Pyrethrins~~, Pyrethrins, Tal Elements, Cyanide.
COMMENTS AND OBSERVATIONS:

FIELD RECORD OF WELL GAUGING, PURGING, AND SAMPLING

SITE NAME: Site 95
WELL I.D.: MW-NASB-067
WELL CONDITION: good

PROJECT NUMBER: 29600.47/2280
WELL LOCK STATUS: no lock, not locked
WEATHER: overcast, cold, 40°F

GAUGE DATE: 11/14/95
SOUNDING METHOD: Steel indicator
STICK UP/DOWN (ft): 1.20

GAUGE TIME: 1125
MEASUREMENT REF: Top of pipe
WELL DIAMETER (in.): 2"

PURGE DATE: 11/14/95
PURGE METHOD: low flow
AMBIENT AIR VOCs (ppm) Start: 0 End: 0

PURGE TIME: 1135
FIELD TECHNICIAN: KR, KI, JC
WELL MOUTH VOCs (ppm): Start: 1000 End: 0

WELL VOLUME

A. WELL DEPTH (ft): ~~19.79~~ 15.00
B. DEPTH TO WATER (ft): 3.96
C. LIQUID DEPTH (ft) (A-B): 11.04
D. WELL VOLUME/FT (L): 0.605
E. WELL VOLUME (L) (C*D): 6.68
F. THREE WELL VOLUMES (L) (E*3): 20.04

	BEGINNING	Number of Well Volumes Purged				
		1	2	3	4	5
TIME (min)	1139	1142	1145	1148	1151	1154
DEPTH TO WATER (ft)	3.97	3.96	3.95	3.95	4.00	4.00
PURGE RATE (l/min)	.2L	.2L	.2L	.2L	.2L	.2L
VOLUME PURGED (L)	.8L	1.4L	2.0L	2.6L	3.2L	3.8L
pH	5.80	5.80	5.80	5.80	5.81	5.81
TEMPERATURE (C)	11.3	11.7	12.5	13.4	13.7	13.8
CONDUCTIVITY (µmhos/cm)	0.260	0.248	0.248	0.248	0.248	0.246
DISSOLVED OXYGEN (mg/L)	1.91	1.95	1.91	1.77	1.70	1.68
~~eh (mv)~~						
TURBIDITY (NTU)	22	20	18	17	17	19

TOTAL QUANTITY OF WATER REMOVED (L): 6.2L

SAMPLERS: KR, KI, JC
SAMPLING TIME (START/END): 1155 / 1204
SAMPLING DATE: 11/14/95
DECONTAMINATION FLUIDS USED: none
SAMPLE TYPE: Grab
SAMPLE PRESERVATIVES: 1:1 HCl, HNO_3, NaOH
SAMPLE BOTTLE IDs: BN-CU-95-MW003
SAMPLE PARAMETERS: VOCs, SVOCs, Pesticides, Rotenone/Pyrethrins, Total Elements, Cyanide.
COMMENTS AND OBSERVATIONS:

FIELD RECORD OF WELL GAUGING, PURGING, AND SAMPLING

SITE NAME: Site 95
WELL I.D.: MW ~~5~~ NASB-068
WELL CONDITION: good

PROJECT NUMBER: 29600.47/2000
WELL LOCK STATUS: no lock, not locked
WEATHER: overcast, cool, 40°F

GAUGE DATE: 11/14/95
SOUNDING METHOD: water indicator
STICK UP/DOWN (ft): 3.05

GAUGE TIME: 1000
MEASUREMENT REF: top of pipe
WELL DIAMETER (in.): 2"

PURGE DATE: 11/14/95
PURGE METHOD: low flow
AMBIENT AIR VOCs (ppm) Start: 0 End: 0

PURGE TIME: 1030
FIELD TECHNICIAN: KR, KI, TC
WELL MOUTH VOCs (ppm): Start: 0 End: 0

WELL VOLUME

A. WELL DEPTH (ft): 15.05
B. DEPTH TO WATER (ft): 4.94
C. LIQUID DEPTH (ft) (A-B): 10.11

D. WELL VOLUME/FT (L): 0.605
E. WELL VOLUME (L) (C*D): 6.12
F. THREE WELL VOLUMES (L) (E*3): 18.36

	BEGINNING	Number of Well Volumes Purged 1	2	3	4	5	6
TIME (min)	1036	1039	1042	1045	1048	1051	1055
DEPTH TO WATER (ft)	4.94	5.97	5.12	4.96	4.99	4.96	4.95
PURGE RATE (l/min)	.1L	.1L	.1L	.1L	.1L	.1L	.1L
VOLUME PURGED (L)	0.6L	0.9L	1.2L	1.5L	1.8L	2.1L	2.5L
pH	5.52	5.51	5.51	5.51	5.51	5.51	5.51
TEMPERATURE (C)	12.0	11.6	12.0	12.6	13.0	13.4	13.9
CONDUCTIVITY (µmhos/cm)	0.180	0.180	0.162	0.158	0.156	0.156	0.154
DISSOLVED OXYGEN (mg/L)	2.80	3.03	3.14	3.11	3.07	2.91	2.86
~~eh (mv)~~							
TURBIDITY (NTU)	17	14	13	11	9	9	9

TOTAL QUANTITY OF WATER REMOVED (L): 5.3L

SAMPLERS: KR, KI, TC
SAMPLING TIME (START/END): 1100/1123
SAMPLING DATE: 11/14/95
DECONTAMINATION FLUIDS USED: none
SAMPLE TYPE: Grab
SAMPLE PRESERVATIVES: 1:1 HCl, NaOH, HNO3
SAMPLE BOTTLE IDs: BN-04-95-MW002
SAMPLE PARAMETERS: VOCs, SVOCs, Pesticides, Rotenone/Pyrethrins/Total Elements, cyanide
COMMENTS AND OBSERVATIONS: Duplicate done - BN-04-95-MWXD1

Appendix C

Analytical Data Quality Review

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APPENDIX C

REVIEW OF ANALYTICAL QUALITY CONTROL

C.1 INTRODUCTION

This investigation utilized both field quality control measures and analytical laboratory quality control measures to ensure that the data quality objectives presented in the project-specific Quality Assurance Project Plan (QAPP) contained in the Long-Term Monitoring Plan (ABB-ES 1994) were met.

The sampling program consisted of 4 aqueous (monitoring well) samples collected from the Building 95 site. For the combined analyses for this site, 1 aqueous sample delivery group (SDG) was provided to the laboratory. Sample duplicates and trip blanks were collected at the frequency required by the QAPP. Equipment rinsate blanks were not required due to the use of dedicated pumping systems.

Analytical quality control was reviewed for compliance with the data quality objectives of precision and accuracy for each sample and analysis type, including field quality control blanks (i.e., trip blank) and field sample duplication. Analytical precision was based upon the mean relative percent difference (RPD) values from the matrix spike/matrix spike duplicates (MS/MSD). Accuracy was based upon the reported spike recoveries for the MS/MSD and surrogate (system monitoring compound) recoveries for the samples. Completeness was quantified by reviewing the number of usable results to the number of samples scheduled for collection.

MS/MSD measure the effect of the sample matrix on the digestion and measurement methodology. Known quantities of target compounds are spiked into the sample matrix and recoveries are used to measure potential bias due to matrix effects. Surrogates measure the ability of the laboratory to extract the targeted analytes by evaluating the recovery of indicator compounds which are structurally similar to the targeted analytes. These are used as indicators for all of the analytes.

The following sections summarize the results of this program.

C.1.1 Field Sampling Program Quality Control

A field duplicate sample was collected for each matrix (i.e., ground water) and analyzed for the same parameters as the original environmental samples to determine field sampling precision. The potential for cross-contamination of volatile organics during sample storage and shipment was monitored by the trip blank which was shipped with the sample cooler containing aqueous

samples. The trip blank was analyzed for volatile organic compounds (VOC) by U.S. Environmental Protection Agency (EPA) Method 8260. An equipment rinsate blank was not required due to the use of dedicated pumping systems.

C.1.2 Laboratory Analytical Quality Control Program

Aqueous samples collected from the monitoring wells were analyzed for Target Compound List (TCL) VOC by EPA Method 8260, TCL semivolatile organic compounds (SVOC) by EPA Method 8270, TCL pesticides by EPA Method 8080, Target Analyte List (TAL) metals cyanide by EPA Method 9010 and mercury by EPA Method 7470, and the remainder of TAL metals by EPA Method 6010; pyrethrins and rotenone were analyzed by EPA Method 8310. The quality control measures specified in the methods, as well as those in the QAPP, were performed at the proper frequency by the laboratory to establish proper analytical quality control.

Analytical quality control results were reviewed for compliance with the data quality objectives of precision, accuracy, and completeness for each sample and analysis type. Analytical precision was based upon the mean RPD values of the MS/MSD. Accuracy was based upon the reported spike recoveries for the MS/MSD, laboratory control sample (LCS), and surrogate (system monitoring compound) recoveries for the samples. Field completeness was quantified by reviewing the number of samples taken to the number of samples scheduled for collection. The range of results for the data quality objective parameters is discussed for each sample matrix in the subsections below.

C.2 SAMPLE HOLDING TIMES

The holding times from dates of collection to sample processing were compared against the maximum holding times identified in the quality control requirements of the referenced analytical methods. The holding times were met for all methods and sample matrixes.

C.3 PRECISION

C.3.1 Volatile Organic Compounds

Five VOC are used to quantify the MS/MSD RPD. The control limits identified in the QAPP were the same as those reported by the laboratory.

The monitoring well aqueous samples MS/MSD RPD were within the laboratory established control limits. The results are usable as reported.

C.3.2 Semivolatile Organic Compounds

Eleven SVOC are used to quantify the MS/MSD RPD. The control limits identified in the QAPP were the same as those reported by the laboratory.

The monitoring well samples MS/MSD RPD were within the QAPP established control limits. The results are usable as reported.

C.3.3 Metals Target Analyte List (Including Cyanide)

All 24 analytes are used to quantify the MS/MSD RPD. There were no control limits identified in the QAPP for RPD as MSD are not usually run for TAL metals.

The aqueous samples MS/MSD RPD fell within the acceptable RPD of 35 percent. The results are usable as reported.

C.3.4 Pesticide Compounds

Six compounds are used to quantify the MS/MSD RPD. The control limits identified in the QAPP for aqueous samples were the same as those reported by the laboratory.

The aqueous sample for pesticide compounds run for MS/MSD was within the control limits identified in the QAPP. The results are usable as reported.

C.3.5 Total Pyrethrins and Rotenone

Two compounds are used to quantify the MS/MSD RPD. The control limits identified in the QAPP for aqueous samples were the same as those reported by the laboratory.

The monitoring well ground-water MS/MSD RPD for total pyrethrins and rotenone were within the control limits established in the QAPP. The results are usable as reported.

C.4 ACCURACY

C.4.1 Volatile Organic Compounds

Three system monitoring compounds are used to measure the ability of the laboratory to extract the target analytes by evaluating the recovery of indicator compounds which are structurally similar to targeted analytes as indicators for all of the analytes. The control limits for sediment samples identified in the QAPP and reported by the laboratory were the same for all three system monitoring compounds.

The monitoring well aqueous sample system monitoring compounds recoveries were within the laboratory established control limits and the control limits identified in the QAPP. The results are usable as reported.

Five VOC are used to quantify the MS/MSD recoveries against laboratory established control limits for each spiking analyte. The recovery limits identified by the laboratory were the same as those listed in the QAPP. An MS/MSD was analyzed at the correct frequency for the aqueous matrix.

The monitoring well aqueous samples MS/MSD recoveries were within the control limits identified in the QAPP. The results are usable as reported.

Five VOC are used to quantify the LCS recoveries against laboratory established control limits for each spiking analyte. The aqueous samples all had LCS recoveries within laboratory established control limits. No LCS recovery limits are stated in the QAPP. The results are usable as reported.

C.4.2 Semivolatile Organic Compounds

Eight system monitoring compounds are used to measure the ability of the laboratory to extract the target analytes by evaluating the recovery of indicator compounds which are structurally similar to the targeted analytes as indicators for all of the analytes.

The monitoring well sample surrogate recoveries were within the laboratory established control limits, with the following exceptions: nitrobenzene-d5 (31 percent) and 2-fluorobiphenyl (36 percent) in sample 95MW001 (MW-NASB-065); 2-fluorobiphenyl (40 percent) in sample 95MW002 (MW-NASB-068); and nitrobenzene-d5 (4 percent), 2-fluorobiphenyl (8 percent), phenol-d5 (4 percent), 2-fluorophenol (6 percent), and 2,4,6-tribromophenol (17 percent) in sample 95MW003 (MW-NASB-067). No actions are required for sample 95MW002 according to EPA Region I data validation criteria, as there was only one surrogate recovery not compliant with the QC limits. According to EPA Region I data validation criteria, the following actions should be noted for samples 95MW001 and 95MW003: in sample 95MW001, all of the base compounds were estimated due to the low surrogate recoveries. The data user should be aware that the laboratory re-analyzed the sample (95MW001RE) and all surrogates in the re-analysis were within the QC limits. The user should use the reported results from 95MW001RE. In sample 95MW003, all detected results were estimated, and all non-detects were unusable. The laboratory re-analyzed the sample (95MW003RE) and all surrogates in the re-analysis were within the QC limits. The data user should use the reported results from sample 95MW003RE only.

Eleven compounds are used to quantify the MS/MSD recoveries for aqueous samples. The control limits established in the QAPP were the same as those reported by the laboratory. The aqueous sample MS/MSD were analyzed at the correct frequency.

The monitoring well aqueous sample MS/MSD recoveries were within the control limits identified in the QAPP. The results are usable as reported.

Eleven SVOC are used to quantify the LCS recoveries with laboratory established control limits for each spiking analyte. The aqueous sample LCS recoveries were within laboratory established control limits. No LCS recovery limits are stated in the QAPP. The results are usable as reported.

C.4.3 Metals Target Analyte List (Including Cyanide)

All 24 analytes are used to quantify MS/MSD recoveries for aqueous samples. All of the MS recoveries were analyzed at the correct frequency.

The monitoring well aqueous sample MS/MSD recoveries for sample 95MW001 (MW-NASB-065) were within the control limits identified in the QAPP and reported by the laboratory (75-125 percent), with the exception of mercury (70.8 percent), which was reported below the lower control limit for MS recovery, indicating a possible low bias. The reported concentrations of mercury in samples 95MW001(MW-NASB-065), 95MW002 (MW-NASB-068), 95MW003 (MW-NASB-067), 95MW004 (MW-NASB-066), and 95MWXD1 (MW-NASB-068 Dup) were estimated due to low MS recovery, according to EPA Region I data validation criteria.

All 24 TAL metals are used to quantify the LCS recoveries with laboratory established control limits for each spiking analyte. The monitoring well aqueous LCS recoveries were within laboratory established control limits. The results are usable as reported.

C.4.4 Pesticide Compounds

Two compounds were used as system monitoring compounds on Columns 1 and 2, in order to measure the ability of the laboratory to extract the target analytes. The aqueous surrogate recoveries were within the laboratory established control limits, with the following exceptions: tetrachloro-m-xylene was reported below the lower control limit of 60 percent in samples 95MW003 (MW-NASB-067) (50 percent), 95MW004 (MW-NASB-066) (57 percent), and 95MWXD1 (MW-NASB-066 Dup) (45 percent). Decachlorophenyl was reported below the lower control limit of 60 percent in samples 95MW003 (51 percent) and 95MW004 (58 percent). Although no actions are specifically required for these samples according to EPA Region I data validation criteria, the data user should be aware that the surrogate recoveries for all four samples and the field duplicate were low. All positive results associated with these samples should be considered biased low.

Six compounds are used to quantify the MS/MSD recoveries for aqueous samples. The MS/MSD recovery limits established by the QAPP were the same as those reported by the laboratory. Aqueous MS/MSD were analyzed at the correct frequency.

The monitoring well aqueous sample MS/MSD recoveries were within the limits established by the QAPP. The results are usable as reported.

Six pesticide compounds are used to quantify the LCS recoveries with laboratory established control limits for each spiking analyte. The monitoring well aqueous LCS recoveries were within laboratory established control limits. There were no LCS recovery limits identified in the QAPP. The results are usable as reported.

C.4.5 Total Pyrethrins and Rotenone

Two system monitoring compounds are used to measure the ability of the laboratory to extract the target analytes by evaluating the recovery of indicator compounds which are structurally similar to the targeted analytes. The surrogate recoveries established by the QAPP were the same as those reported by the laboratory. The aqueous surrogate recoveries were within the QAPP established control limits.

The monitoring well aqueous sample MS/MSD recoveries were within the control limits established in the QAPP. The results are usable as reported.

Two compounds are used to quantify the LCS recoveries against laboratory established control limits for each spiking analyte. The monitoring well aqueous LCS recoveries were within laboratory established control limits. There were no LCS recoveries identified by the QAPP. The results are usable as reported.

C.5 COMPLETENESS

All of the planned field samples and the corresponding QC samples (duplicate and trip blank) were collected, resulting in a completeness level of 100 percent. The trip blank corresponding to the aqueous samples at this site was analyzed under a separate sample delivery group.

C.6 FIELD QUALITY CONTROL BLANKS

The field quality control blank collected for this site included one trip blank (S9QT008), which was submitted under a sample delivery group associated with Site 9. However, this is acceptable since the associated samples for Building 95 were shipped and stored with the trip blank.

C.7 DUPLICATE FIELD SAMPLES

Field duplicate samples were not identified to the laboratory. There was a set of duplicate field samples collected during monitoring well sampling. Sample duplication was evaluated using the RPD between the original and duplicated results. The RPD results from the duplicate monitoring well samples (SDG-95MW001) are shown below:

Analyte	Units	MW-NASB-068	MW-NASB-068-Dup	RPD %
Methylene chloride	μg/L	4B	4B	0
Total xylenes	μg/L	(<2U)	1J	200
Ethylbenzene	μg/L	(<2U)	1J	200
bis(2-ethylhexyl)phthalate	μg/L	1JB	(<10U)	200
Aluminum	μg/L	209	122B*	52.5
Barium	μg/L	23.2B*	24.8B*	6.7
Beryllium	μg/L	0.16B*	0.16B*	0
Calcium	μg/L	7,350	8,480	14.3
Chromium	μg/L	2.8B*	1.6B*	54.5
Cobalt	μg/L	2.5B*	2.8B*	11.3
Copper	μg/L	2.1B*	2.1B*	0
Iron	μg/L	370	114	105.8
Magnesium	μg/L	1,550B*	1,760B*	12.6
Manganese	μg/L	233	242	3.8
Nickel	μg/L	3.0B*	2.4B*	22.2
Potassium	μg/L	2,520B*	2,940B*	15.4
Silver	μg/L	(<0.67U)	0.69B*	200
Sodium	μg/L	17,900	18,300	2.2
Vanadium	μg/L	2.6B*	3.0B*	14.3
Zinc	μg/L	7.2B*	5.1B*	34.1
Cyanide	μg/L	(<1.3U)	1.5B*	200

NOTE:
B = Compound detected in associated method blank.
B* = Analyte concentration is between the instrument detection limit and Contract Required Detection Limit.
J = Estimated concentration below detection limit.
JB = Not detected. Sample quantitation limit shown as (<__U).

The RPD for all compounds and TAL analytes are in reasonable agreement between the two analyses, with the following exceptions: total xylenes, ethylbenzene, bis(2-ethylhexyl)phthalate, aluminum, chromium, iron, silver, and cyanide. The organic analysis results (total xylenes, ethylbenzene, and bis(2-ethylhexyl)phthalate) were reported below the Contract Required Quantitation Limit in either the sample or the duplicate, where analytical measurement error is expected, and were not detected in the sample or the duplicate. The results for aluminum and iron in both the sample and the duplicate should be considered as estimated, due to the large RPD between the two analyses. The results for silver and cyanide were reported below the Contract Required Detection Limit, where analytical measurement error is anticipated, in the duplicate and were reported not detected in the sample. Therefore, these RPD discrepancies are not considered significant.

Appendix D

Summary Tables for Analyses of Tentatively Identified Compounds

TABLE D-1 SUMMARY OF TENTATIVELY IDENTIFIED COMPOUNDS REPORTED IN GROUND-WATER SAMPLES COLLECTED ON 14 NOVEMBER 1995 AT BUILDING 95, NAVAL AIR STATION, BRUNSWICK, MAINE

Analyte	Run Time (min)	MW-NASB-065 [a]	MW-NASB-066	MW-NASB-067 [a]	MW-NASB-068 [a]	MW-NASB-068 DUP
SEMIVOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8270 (μg/L)						
Benzoic Acid	11.49			1JN	IJN	

(a) Reanalysis conducted due to low surrogate recovery.

NOTE: Only those analytes detected in at least one of the samples are shown on this table.
JN = Presumptive identification, estimated value.

Appendix E

Analytical Report Data Tables

APPENDIX E

SAMPLE KEY - BUILDING 95
NAVAL AIR STATION, BRUNSWICK, MAINE

Sample Designation	Sample Station
Monitoring Wells	
95-MW001	MW-NASB-065
95-MW004	MW-NASB-066
95-MW003	MW-NASB-067
95-MW002	MW-NASB-068
95-MWXD1	MW-NASB-068 DUP

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: EA Engineering
Address: Old Gurnet Road, Brunswick, Me 04011-5000
Phone: (207)798-5977

Report To: Mike Battle
Bill To: EA Newburgh
P.O. # / Billing Reference
Project Name / No.: BNAS 29602047/72D

Pace Client No.
Pace Project Manager
Pace Project No.: WL1584
Requested Due Date:

Sampled By (PRINT): Karen Ruszczyk 11/14/95
Sampler Signature: Karen Ruszczyk
Date Sampled: 11/14/95

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA-HCl	NaOH		VOCs	SVOCs	Total Elements	Cyanide	Pesticides	Extractable Pyrethroids	REMARKS
1	BN-04-95-MW001 MS MSD	1010	H_2O	1	24	X		[illegible]	X			X	X	[illegible]	[illegible]	X	X	VOAs by 8260, Plus library search
2	BN-04-95-MW001 MS	1010	H_2O	1	4			X		X				X	X			Total Elements and
3	BN-04-95-MW002	1100	H_2O	2	10	X		X	X	X		X	X	X	X	X	X	Cyanide reported to
4	BN-04-95-MW003	1155	H_2O	3	10	X		X	X	X		X	X	X	X	X	X	Table 7-1 in QAPP.
5	BN-04-95-MW004	1230	H_2O	4	10	X		X	X	X		X	X	X	X	X	X	
6																		
7																		
8	BN-04-95-MWXD1	—	H_2O	5	10	X		X	X	X		X	X	X	X	X	X	

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	RETURNED DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
	Thomas [illegible] EA	Jerry Lane	11-15-95	08:50
	Jerry Lane	[illegible]	11/15/95	1000

Additional Comments
- Temp blank included in cooler
- VOAs on this sheet included in cooler with trip blank #BN-04-95-QT001
- SDG starts with #BN-04-95-MW001 (new) and ends with #BN-04-95-MW004.

[redacted]GINAL [redacted]4 Coolers [redacted] received [redacted] all temps [redacted] °C [redacted]

SEE REVERSE SIDE FOR INSTRUCTIONS

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-1
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Volatile Organics by EPA 8260								1,2
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Methylene chloride	JB1	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(2) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-1
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Trichloroethene	<2.5	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/17/95	DW	
Tetrachloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/11/95

LJO/jcbglp(dw)/kwh
LK17VLW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-1
Report Date: 12/11/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chlorobenzene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Ethylbenzene	B3	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total Xylenes	11.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Dibromofluoromethane (Surr.)	106.	%	1.0		EPA 8260	11/17/95	DW	
Toluene-d8 (Surr.)	106.	%	1.0		EPA 8260	11/17/95	DW	
p-Bromofluorobenzene (Surr.)	100.	%	1.0		EPA 8260	11/17/95	DW	
1,2-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,4-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/11/95

LJO/jcbgbp (dw) /kwh
LK17VLW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: 95MW001

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-1

Sample wt/vol: 5 (g/ml) ml

Lab File ID: Y2747

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A

Date Analyzed: 11/17/95

GC Column: RTX-624 ID: 0.53

Dilution Factor: 1.0

Soil Extract Volume: 0 (ul)

Soil Aliquot Volume: 0 (ul)

Number of TIC's Found: 1

CONCENTRATION UNITS (ug/L or ug/KG) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124389	Carbon Dioxide	1.91	6	JN
2.					
3.					
4.					
5.					
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25.					
26.					
27.					
28.					
29.					
30.					

Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-1
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
RE TCL Semivolatile Organics by USEPA 8270								1,2
Phenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
bis(2-Chloroethyl)ether	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Isophorone	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 12/01/95 by RAL using EPA 3520
(2) Extracted outside of holding times.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-1
Report Date: 12/20/95
PO No. : 802LSOA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Naphthalene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2-Methylnaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01ENW1

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-1
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Acenaphthylene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
Acenaphthene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Fluorene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-1
Report Date: 12/20/95
PO No. : 802LSOA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/08/95	JC	
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Anthracene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Carbazole	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Pyrene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Chrysene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
bis(2-Ethylhexyl)phthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-1
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Dibenzo(a,h)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
Benzo(g,h,i)perylene	<10.	µg/L	1.0	10	EPA 8270	12/08/95	JC	
2-Fluorophenol(Surr.)	74.	%	1.0		EPA 8270	12/08/95	JC	
Phenol-d5(Surr.)	76.	%	1.0		EPA 8270	12/08/95	JC	
Nitrobenzene-d5(Surr.)	89.	%	1.0		EPA 8270	12/08/95	JC	
2-Fluorobiphenyl(Surr.)	83.	%	1.0		EPA 8270	12/08/95	JC	
2,4,6-Tribromophenol(Surr.)	98.	%	1.0		EPA 8270	12/08/95	JC	
Terphenyl-d14(Surr.)	89.	%	1.0		EPA 8270	12/08/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample No.
95MW001RE

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-1RE

Sample wt/vol: 1000 (g/ml) ml

Lab File ID: X9450

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A N (Y/N) Decanted

Date Extracted: 12/1/95

Concentrated Extract Volume 1000 (ul)

Date Analyzed: 12/8/95

Injection Volume 1.0 (ul)

Dilution Factor: 1.0

GPC Cleanup: N (Y/N)

Soil Aliquot Volume: 0 (ul)

pH: N/A

CONCENTRATION UNITS
(ug/L or ug/KG) ug/L

Number of TIC's: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	5.71	5	JB
2.				
3.				
4.				
5.				
6.				
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9.				
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20.				
21.				
22.				

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-1
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Pesticides by USEPA 8080								1
alpha-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-BHC (Lindane)	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Aldrin	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
beta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
delta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor epoxide	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Endosulfan I	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
alpha-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
4,4'-DDE	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Dieldrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
4,4'-DDD	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan II	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by RAL using EPA 3510

12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-1
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW001	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4,4'-DDT	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin aldehyde	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan sulfate	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Methoxychlor	<0.5	µg/L	1.0	0.5	EPA 8080	11/26/95	KP	
Endrin ketone	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Toxaphene	<1.	µg/L	1.0	1	EPA 8080	11/26/95	KP	
2,4,5,6-Tetrachloro-meta-xylene (%	62.	%	1.0		EPA 8080	11/26/95	KP	
Decachlorobiphenyl (% Recovery)	65.	%	1.0		EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/14/95

LJO/jcbgbp(dw)/kp/kwh

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

95MW001

Lab Name: PACE_ME Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 95MW00

Matrix (soil/water): WATER Lab Sample ID: WL1884-1

Level (low/med): LOW Date Received: 11/15/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	271			P
7440-36-0	Antimony	2.6	U		P
7440-38-2	Arsenic	2.8	U		P
7440-39-3	Barium	20.0	B		P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	0.24	U		P
7440-70-2	Calcium	14000			P
7440-47-3	Chromium	1.5	B		P
7440-48-4	Cobalt	2.9	B		P
7440-50-8	Copper	2.6	B		P
7439-89-6	Iron	361			P
7439-92-1	Lead	2.3	B		P
7439-95-4	Magnesium	2220	B		P
7439-96-5	Manganese	118			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	4.1	B		P
7440-09-7	Potassium	5040			P
7782-49-2	Selenium	3.7	U		P
7440-22-4	Silver	0.67	U		P
7440-23-5	Sodium	21700			P
7440-28-0	Thallium	5.5	U		P
7440-62-2	Vanadium	3.6	B		P
7440-66-6	Zinc	24.4			P
5712-5	Cyanide	1.3	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-4
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTE
Volatile Organics by EPA 8260								
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Methylene chloride	B4	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(2) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

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Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-4
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Trichloroethene	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/18/95	DW	
Tetrachloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

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12/11/95

LJO/jcbgbp (dw) /kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-4
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chlorobenzene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Ethylbenzene	J1	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total Xylenes	J1	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Dibromofluoromethane (Surr.)	100.	%	1.0		EPA 8260	11/18/95	DW	
Toluene-d8 (Surr.)	102.	%	1.0		EPA 8260	11/18/95	DW	
p-Bromofluorobenzene (Surr.)	100.	%	1.0		EPA 8260	11/18/95	DW	
1,2-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,4-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: 95MW004

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-4

Sample wt/vol: 5 (g/ml) ml

Lab File ID: Y2756

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A

Date Analyzed: 11/18/95

GC Column: RTX-624 ID: 0.53

Dilution Factor: 1.0

Soil Extract Volume: 0 (ul)

Soil Aliquot Volume: 0 (ul)

Number of TIC's Found: 0

CONCENTRATION UNITS (ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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27.				
28.				
29.				
30.				

Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-4
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Semivolatile Organics by USEPA 8270B								1
Phenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroethyl)ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Isophorone	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

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(1) Sample Preparation on 11/21/95 by MAM using EPA 3520

12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-4
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Naphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Methylnaphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Acenaphthylene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-4
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Acenaphthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Fluorene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-4
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Carbazole	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Chrysene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Ethylhexyl)phthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

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Katahdin
ANALYTICAL SERVICES

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-4
Report Date: 12/20/95
PO No. : 802LSOA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibenzo(a,h)anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(g,h,i)perylene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Fluorophenol(Surr.)	47.	%	1.0		EPA 8270B	11/28/95	JC	
Phenol-d5(Surr.)	45.	%	1.0		EPA 8270B	11/28/95	JC	
Nitrobenzene-d5(Surr.)	52.	%	1.0		EPA 8270B	11/28/95	JC	
2-Fluorobiphenyl(Surr.)	53.	%	1.0		EPA 8270B	11/28/95	JC	
2,4,6-Tribromophenol(Surr.)	66.	%	1.0		EPA 8270B	11/28/95	JC	
Terphenyl-d14(Surr.)	66.	%	1.0		EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample No.
95MW004

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-4

Sample wt/vol: 1000 (g/ml) ml

Lab File ID: Z9066

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A N (Y/N) Decanted

Date Extracted: 11/21/95

Concentrated Extract Volume 1000 (ul)

Date Analyzed: 11/28/95

Injection Volume 1.0 (ul)

Dilution Factor: 1.0

GPC Cleanup: N (Y/N)

Soil Aliquot Volume: 0 (ul)

pH: N/A

CONCENTRATION UNITS
(ug/L or ug/KG) ug/L

Number of TIC's: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-4
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Pesticides by USEPA 8080								1
alpha-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-BHC (Lindane)	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Aldrin	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
beta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
delta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor epoxide	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Endosulfan I	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
alpha-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
4,4'-DDE	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Dieldrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
4,4'-DDD	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan II	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by RAL using EPA 3510

12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-4
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW004	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4,4'-DDT	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin aldehyde	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan sulfate	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Methoxychlor	<0.5	µg/L	1.0	0.5	EPA 8080	11/26/95	KP	
Endrin ketone	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Toxaphene	<1.	µg/L	1.0	1	EPA 8080	11/26/95	KP	
2,4,5,6-Tetrachloro-meta-xylene (%	57.	%	1.0		EPA 8080	11/26/95	KP	
Decachlorobiphenyl (% Recovery)	58.	%	1.0		EPA 8080	11/26/95	KP	

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12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Tel: (207) 874-2400 Fax: (207) 775-4029

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

95MW004

Lab Name: PACE_ME Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 95MW00

Matrix (soil/water): WATER Lab Sample ID: WL1884-4

Level (low/med): LOW__ Date Received: 11/15/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	400	_		P_
7440-36-0	Antimony_	2.6	U		P_
7440-38-2	Arsenic__	2.8	U		P_
7440-39-3	Barium___	45.6	B		P_
7440-41-7	Beryllium	0.15	B		P_
7440-43-9	Cadmium__	0.24	U		P_
7440-70-2	Calcium__	6060	_		P_
7440-47-3	Chromium_	1.9	B		P_
7440-48-4	Cobalt___	2.0	B		P_
7440-50-8	Copper___	2.2	B		P_
7439-89-6	Iron____	1970	_		P_
7439-92-1	Lead____	1.6	U		P_
7439-95-4	Magnesium	926	B		P_
7439-96-5	Manganese	61.5	_		P_
7439-97-6	Mercury__	0.10	U	N	CV
7440-02-0	Nickel___	3.4	B		P_
7440-09-7	Potassium	2110	B		P_
7782-49-2	Selenium_	3.7	U		P_
7440-22-4	Silver___	1.1	B		P_
7440-23-5	Sodium___	55900	_		P_
7440-28-0	Thallium_	5.5	U		P_
7440-62-2	Vanadium_	2.1	B		P_
7440-66-6	Zinc____	98.3	_		P_
5712-5___	Cyanide__	1.3	U	N	C_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-3
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVE
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/9

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOT
Volatile Organics by EPA 8260								
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Methylene chloride	B5	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sampl specific reporting limits. Sample-specific limits are indicated by results annotated with '<' valu
(1) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-3
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTE
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Trichloroethene	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/18/95	DW	
Tetrachloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chlorobenzene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Ethylbenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sampl specific reporting limits. Sample-specific limits are indicated by results annotated with '<' valu

12/11/95

LJO/jcbgbp (dw) /kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-3
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTE
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total Xylenes	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Dibromofluoromethane (Surr.)	99.	%	1.0		EPA 8260	11/18/95	DW	
Toluene-d8 (Surr.)	103.	%	1.0		EPA 8260	11/18/95	DW	
p-Bromofluorobenzene (Surr.)	102.	%	1.0		EPA 8260	11/18/95	DW	
1,2-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,4-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sampl specific reporting limits. Sample-specific limits are indicated by results annotated with '<' valu

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

340 County Road, Westbrook, ME 04092
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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: 95MW003

Lab Name	PACE, INC.	SDG No.:	95MW001
Matrix (soil/water)	Water	Lab Sample ID:	WL1884-3
Sample wt/vol:	5 (g/ml) ml	Lab File ID:	Y2755
Level: (low/med)	low	Date Received:	11/15/95
% Moisture: not dec.	N/A	Date Analyzed:	11/18/95
GC Column:	RTX-624 ID: 0.53	Dilution Factor:	1.0
Soil Extract Volume:	0 (ul)	Soil Aliquot Volume:	0 (ul)
Number of TIC's Found:	0	CONCENTRATION UNITS (ug/L or ug/KG)	ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-3
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
RE TCL Semivolatile Organics by USEPA 8270								1,2,3,4
Phenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroethyl)ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 12/01/95 by RAL using EPA 3520
(2) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(3) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.
(4) Extracted outside of holding time.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-3
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Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Isophorone	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Naphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Methylnaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-3
Report Date: 12/20/95
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CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Acenaphthylene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Acenaphthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

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EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Diethylphthalate	J1	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Fluorene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Carbazole	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Di-n-butylphthalate	J6	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-3
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Chrysene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Ethylhexyl)phthalate	JB2	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Dibenzo(a,h)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-3
Report Date: 12/20/95
PO No. : 802LSQA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo(g,h,i)perylene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Fluorophenol(Surr.)	38.	%	1.0		EPA 8270	12/07/95	JC	
Phenol-d5(Surr.)	54.	%	1.0		EPA 8270	12/07/95	JC	
Nitrobenzene-d5(Surr.)	52.	%	1.0		EPA 8270	12/07/95	JC	
2-Fluorobiphenyl(Surr.)	72.	%	1.0		EPA 8270	12/07/95	JC	
2,4,6-Tribromophenol(Surr.)	78.	%	1.0		EPA 8270	12/07/95	JC	
Terphenyl-d14(Surr.)	88.	%	1.0		EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample No.
95MW003RE

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-3RE

Sample wt/vol: 1000 (g/ml) ml

Lab File ID: X9441

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A N (Y/N) Decanted

Date Extracted: 12/1/95

Concentrated Extract Volume 1000 (ul)

Date Analyzed: 12/7/95

Injection Volume 1.0 (ul)

Dilution Factor: 1.0

GPC Cleanup: N (Y/N)

Soil Aliquot Volume: 0 (ul)

pH: N/A

CONCENTRATION UNITS
(ug/L or ug/KG) ug/L

Number of TIC's: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	65850	Benzoic Acid	11.49	1	JN
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21.					
22.					

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-3
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Pesticides by USEPA 8080								1
alpha-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-BHC (Lindane)	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Aldrin	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
beta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
delta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor epoxide	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Endosulfan I	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
alpha-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
4,4'-DDE	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Dieldrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
4,4'-DDD	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan II	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by RAL using EPA 3510

12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-3
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED	DATE RECEIVED
95MW003	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4,4'-DDT	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin aldehyde	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan sulfate	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Methoxychlor	<0.5	µg/L	1.0	0.5	EPA 8080	11/26/95	KP	
Endrin ketone	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Toxaphene	<1.	µg/L	1.0	1	EPA 8080	11/26/95	KP	
2,4,5,6-Tetrachloro-meta-xylene (%	50.	%	1.0		EPA 8080	11/26/95	KP	
Decachlorobiphenyl (% Recovery)	49.	%	1.0		EPA 8080	11/26/95	KP	

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12/14/95

LJO/jcbgbp(dw)/kp/kwh

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

95MW003

Lab Name: PACE_ME Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 95MW00

Matrix (soil/water): WATER Lab Sample ID: WL1884-3

Level (low/med): LOW Date Received: 11/15/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	853			P
7440-36-0	Antimony	2.6	U		P
7440-38-2	Arsenic	2.8	U		P
7440-39-3	Barium	29.4	B		P
7440-41-7	Beryllium	0.13	B		P
7440-43-9	Cadmium	0.24	U		P
7440-70-2	Calcium	7240			P
7440-47-3	Chromium	3.0	B		P
7440-48-4	Cobalt	1.0	B		P
7440-50-8	Copper	2.6	B		P
7439-89-6	Iron	2450			P
7439-92-1	Lead	1.6	U		P
7439-95-4	Magnesium	652	B		P
7439-96-5	Manganese	58.3			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	1.8	B		P
7440-09-7	Potassium	1480	B		P
7782-49-2	Selenium	3.7	U		P
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	39700			P
7440-28-0	Thallium	5.5	U		P
7440-62-2	Vanadium	8.0	B		P
7440-66-6	Zinc	7.6	B		P
5712-5	Cyanide	1.3	U	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-2
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVE
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/9

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOT
Volatile Organics by EPA 8260								
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Methylene chloride	B4	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samp specific reporting limits. Sample-specific limits are indicated by results annotated with '<' val
(1) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-2
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVE
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOT
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Trichloroethene	<2.5	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/17/95	DW	
Tetrachloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chlorobenzene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Ethylbenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sampl specific reporting limits. Sample-specific limits are indicated by results annotated with '<' valu

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-2
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTE
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total Xylenes	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Dibromofluoromethane (Surr.)	99.	%	1.0		EPA 8260	11/17/95	DW	
Toluene-d8 (Surr.)	100.	%	1.0		EPA 8260	11/17/95	DW	
p-Bromofluorobenzene (Surr.)	98.	%	1.0		EPA 8260	11/17/95	DW	
1,2-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,4-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample specific reporting limits. Sample-specific limits are indicated by results annotated with '<' value

12/11/95

LJO/jcbgbp (dw) /kwh
LK17VLW3

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: 95MW002

Lab Name	PACE, INC.	SDG No.:	95MW001
Matrix (soil/water)	Water	Lab Sample ID:	WL1884-2
Sample wt/vol:	5 (g/ml) ml	Lab File ID:	Y2754
Level: (low/med)	low	Date Received:	11/15/95
% Moisture: not dec.	N/A	Date Analyzed:	11/17/95
GC Column:	RTX-624 ID: 0.53	Dilution Factor:	1.0
Soil Extract Volume:	0 (ul)	Soil Aliquot Volume:	0 (ul)
Number of TIC's Found:	1	CONCENTRATION UNITS (ug/L or ug/KG)	ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124389	Carbon Dioxide	1.90	6	JN
2.					
3.					
4.					
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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
RE TCL Semivolatile Organics by USEPA 8270								1,2,3,4
Phenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroethyl)ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

(1) Sample Preparation on 12/01/95 by RAL using EPA 3520
(2) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(3) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.
(4) Extracted past holding time.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01ENW1

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Katahdin ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Isophorone	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Naphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Methylnaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Acenaphthylene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Acenaphthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Fluorene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270	12/07/95	JC	
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Carbazole	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Chrysene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
bis(2-Ethylhexyl)phthalate	JB1	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
Dibenzo(a,h)anthracene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

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Katahdin
ANALYTICAL SERVICES

A WBE Laboratory

Lab Number : WL-1884-2
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Benzo(g,h,i)perylene	<10.	µg/L	1.0	10	EPA 8270	12/07/95	JC	
2-Fluorophenol(Surr.)	56.	%	1.0		EPA 8270	12/07/95	JC	
Phenol-d5(Surr.)	61.	%	1.0		EPA 8270	12/07/95	JC	
Nitrobenzene-d5(Surr.)	74.	%	1.0		EPA 8270	12/07/95	JC	
2-Fluorobiphenyl(Surr.)	73.	%	1.0		EPA 8270	12/07/95	JC	
2,4,6-Tribromophenol(Surr.)	71.	%	1.0		EPA 8270	12/07/95	JC	
Terphenyl-d14(Surr.)	72.	%	1.0		EPA 8270	12/07/95	JC	

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12/20/95

LJO/jcbkwh/mjd(dw)
LL01BNW1

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample No.: 95MW002RE

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-2RE

Sample wt/vol: 1000 (g/ml) ml

Lab File ID: X9440

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A N (Y/N) Decanted

Date Extracted: 12/1/95

Concentrated Extract Volume 1000 (ul)

Date Analyzed: 12/7/95

Injection Volume 1.0 (ul)

Dilution Factor: 1.0

GPC Cleanup: N (Y/N)

Soil Aliquot Volume: 0 (ul)

pH: N/A

CONCENTRATION UNITS (ug/L or ug/KG) ug/L

Number of TIC's: 1

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	65850	Benzoic Acid	11.49	1	JN
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22.					

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-2
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Pesticides by USEPA 8080								1
alpha-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-BHC (Lindane)	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Aldrin	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
beta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
delta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor epoxide	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Endosulfan I	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
alpha-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
4,4'-DDE	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Dieldrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
4,4'-DDD	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan II	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by RAL using EPA 3510

12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-2
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MW002	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4,4'-DDT	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin aldehyde	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan sulfate	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Methoxychlor	<0.5	µg/L	1.0	0.5	EPA 8080	11/26/95	KP	
Endrin ketone	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Toxaphene	<1.	µg/L	1.0	1	EPA 8080	11/26/95	KP	
2,4,5,6-Tetrachloro-meta-xylene (%	60.	%	1.0		EPA 8080	11/26/95	KP	
Decachlorobiphenyl (% Recovery)	73.	%	1.0		EPA 8080	11/26/95	KP	

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12/14/95

LJO/jcbgbp (dw) /kp/kwh

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

95MW002

Lab Name: PACE_ME Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 95MW00

Matrix (soil/water): WATER Lab Sample ID: WL1884-2

Level (low/med): LOW__ Date Received: 11/15/95

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	209	_		P_
7440-36-0	Antimony_	2.6	U		P_
7440-38-2	Arsenic__	2.8	U		P_
7440-39-3	Barium___	23.2	B		P_
7440-41-7	Beryllium	0.16	B		P_
7440-43-9	Cadmium__	0.24	U		P_
7440-70-2	Calcium__	7350	_		P_
7440-47-3	Chromium_	2.8	B		P_
7440-48-4	Cobalt___	2.5	B		P_
7440-50-8	Copper___	2.1	B		P_
7439-89-6	Iron____	370	_		P_
7439-92-1	Lead____	1.6	U		P_
7439-95-4	Magnesium	1550	B		P_
7439-96-5	Manganese	233	_		P_
7439-97-6	Mercury__	0.10	U	N	CV
7440-02-0	Nickel___	3.0	B		P_
7440-09-7	Potassium	2520	B		P_
7782-49-2	Selenium_	3.7	U		P_
7440-22-4	Silver___	0.67	U		P_
7440-23-5	Sodium___	17900	_		P_
7440-28-0	Thallium_	5.5	U		P_
7440-62-2	Vanadium_	2.6	B		P_
7440-66-6	Zinc____	7.2	B		P_
5712-5___	Cyanide__	1.3	U	N	C_

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Volatile Organics by EPA 8260								1,2
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Methylene chloride	B4	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/18/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values
(1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(2) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

340 County Road, Westbrook, ME 04092
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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Trichloroethene	<2.5	µg/L	1.0	2.5	EPA 8260	11/18/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/18/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/18/95	DW	
Tetrachloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samp-
specific reporting limits. Sample-specific limits are indicated by results annotated with '<' valu

12/11/95

LJO/jcbgbp(dw)/kwh
LK17VLW3

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chlorobenzene	<5.	µg/L	1.0	5.0	EPA 8260	11/18/95	DW	
Ethylbenzene	J1	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Total Xylenes	J1	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
Dibromofluoromethane (Surr.)	100.	%	1.0		EPA 8260	11/18/95	DW	
Toluene-d8 (Surr.)	101.	%	1.0		EPA 8260	11/18/95	DW	
p-Bromofluorobenzene (Surr.)	96.	%	1.0		EPA 8260	11/18/95	DW	
1,2-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	
1,4-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/18/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values

12/11/95

LJO/jcbgbp (dw) /kwh
LK17VLW3

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: 95MWXD1

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-5

Sample wt/vol: 5 (g/ml) ml

Lab File ID: Y2757

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A

Date Analyzed: 11/18/95

GC Column: RTX-624 ID: 0.53

Dilution Factor: 1.0

Soil Extract Volume: 0 (ul)

Soil Aliquot Volume: 0 (ul)

Number of TIC's Found: 0

CONCENTRATION UNITS (ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Semivolatile Organics by USEPA 8270B								1
Phenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroethyl)ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Chlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,3-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,4-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,2-Dichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroisopropyl) ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
n-Nitroso-dipropylamine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachloroethane	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Nitrobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Isophorone	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Nitrophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by MAM using EPA 3520

12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/20/95
PO No. : 802LSQA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4-Dimethylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Chloroethoxy)methane	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
1,2,4-Trichlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Naphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chloroaniline	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorobutadiene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chloro-3-methylphenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Methylnaphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorocyclopentadiene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4,6-Trichlorophenol	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4,5-Trichlorophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
2-Chloronaphthalene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Dimethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Acenaphthylene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/20/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,6-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
3-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Acenaphthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dinitrophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
4-Nitrophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
Dibenzofuran	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2,4-Dinitrotoluene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Diethylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Chlorophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Fluorene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Nitroaniline	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
4,6-Dinitro-2-methylphenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	
n-Nitrosodiphenylamine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
4-Bromophenyl phenyl ether	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Hexachlorobenzene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Pentachlorophenol	<25.	µg/L	1.0	25	EPA 8270B	11/28/95	JC	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/20/95

LJO/jcbkwh/ljo(dw)
LK21ENW2

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Katahdin
ANALYTICAL SERVICES

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-5
Report Date: 12/20/95
PO No. : 802LSQA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Phenanthrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Carbazole	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Di-n-butylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Butyl benzylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
3,3'-Dichlorobenzidine	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(a)anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Chrysene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
bis(2-Ethylhexyl)phthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Di-n-octylphthalate	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(b)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(k)fluoranthene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(a)pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Indeno(1,2,3-cd)pyrene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
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Katahdin
ANALYTICAL SERVICES

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1884-5
Report Date: 12/20/95
PO No. : 802LSQA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibenzo(a,h)anthracene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
Benzo(g,h,i)perylene	<10.	µg/L	1.0	10	EPA 8270B	11/28/95	JC	
2-Fluorophenol(Surr.)	57.	%	1.0		EPA 8270B	11/28/95	JC	
Phenol-d5(Surr.)	60.	%	1.0		EPA 8270B	11/28/95	JC	
Nitrobenzene-d5(Surr.)	61.	%	1.0		EPA 8270B	11/28/95	JC	
2-Fluorobiphenyl(Surr.)	64.	%	1.0		EPA 8270B	11/28/95	JC	
2,4,6-Tribromophenol(Surr.)	76.	%	1.0		EPA 8270B	11/28/95	JC	
Terphenyl-d14(Surr.)	70.	%	1.0		EPA 8270B	11/28/95	JC	

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12/20/95

LJO/jcbkwh/ljo(dw)
LK21BNW2

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample No.
95MWXD1

Lab Name: PACE, INC.

SDG No.: 95MW001

Matrix (soil/water): Water

Lab Sample ID: WL1884-5

Sample wt/vol: 1000 (g/ml) ml

Lab File ID: Z9067

Level: (low/med) low

Date Received: 11/15/95

% Moisture: not dec. N/A N (Y/N) Decanted

Date Extracted: 11/21/95

Concentrated Extract Volume 1000 (ul)

Date Analyzed: 11/28/95

Injection Volume 1.0 (ul)

Dilution Factor: 1.0

GPC Cleanup: N (Y/N)

Soil Aliquot Volume: 0 (ul)

pH: N/A

CONCENTRATION UNITS
(ug/L or ug/KG) ug/L

Number of TIC's: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Pesticides by USEPA 8080								1
alpha-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-BHC (Lindane)	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Aldrin	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
beta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
delta-BHC	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Heptachlor epoxide	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
Endosulfan I	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
gamma-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
alpha-Chlordane	<0.05	µg/L	1.0	0.05	EPA 8080	11/26/95	KP	
4,4'-DDE	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Dieldrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
4,4'-DDD	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan II	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) Sample Preparation on 11/21/95 by RAL using EPA 3510

12/14/95

LJO/jcbgbp(dw)/kp/kwh

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1884-5
Report Date: 12/14/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
95MWXD1	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4,4'-DDT	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endrin aldehyde	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Endosulfan sulfate	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Methoxychlor	<0.5	µg/L	1.0	0.5	EPA 8080	11/26/95	KP	
Endrin ketone	<0.1	µg/L	1.0	0.1	EPA 8080	11/26/95	KP	
Toxaphene	<1.	µg/L	1.0	1	EPA 8080	11/26/95	KP	
2,4,5,6-Tetrachloro-meta-xylene (%	45.	%	1.0		EPA 8080	11/26/95	KP	
Decachlorobiphenyl (% Recovery)	63.	%	1.0		EPA 8080	11/26/95	KP	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/14/95

LJO/jcbgbp (dw) /kp/kwh

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

95MWXD1

Lab Name: PACE_ME Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 95MW00

Matrix (soil/water): WATER Lab Sample ID: WL1884-5

Level (low/med): LOW Date Received: 11/15/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	122	B		P
7440-36-0	Antimony	2.6	U		P
7440-38-2	Arsenic	2.8	U		P
7440-39-3	Barium	24.8	B		P
7440-41-7	Beryllium	0.16	B		P
7440-43-9	Cadmium	0.24	U		P
7440-70-2	Calcium	8480			P
7440-47-3	Chromium	1.6	B		P
7440-48-4	Cobalt	2.8	B		P
7440-50-8	Copper	2.1	B		P
7439-89-6	Iron	114			P
7439-92-1	Lead	1.6	U		P
7439-95-4	Magnesium	1760	B		P
7439-96-5	Manganese	242			P
7439-97-6	Mercury	0.10	U	N	CV
7440-02-0	Nickel	2.4	B		P
7440-09-7	Potassium	2940	B		P
7782-49-2	Selenium	3.7	U		P
7440-22-4	Silver	0.69	B		P
7440-23-5	Sodium	18300			P
7440-28-0	Thallium	5.5	U		P
7440-62-2	Vanadium	3.0	B		P
7440-66-6	Zinc	5.1	B		P
5712-5	Cyanide	1.5	B	N	C

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

MODIFIED METHOD 8310 ROTENONE and TOTAL PYRETHRINS
By HPLC with UV Detection

Case No: IL2011 Client: PACE-Westbrook Analyst: DLB

Seq File: Dec11 Matrix: Aqueous Units: ug/L

Detection Limits ug/L	PACE Sample I.D.	W-Blank	2011-01	2011-02	2011-03	2011-04	2011-05	2011-06
	Client Sample I.D.	Water Blk	MW001	MW002	MW003	MW004	MWXD1	MW001 MS
	Date Sampled	N.A.	11/14/95	11/14/95	11/14/95	11/14/95	11/14/95	11/14/95
	Date Analyzed	12/12/95	12/12/95	12/12/95	12/12/95	12/12/95	12/12/95	12/12/95
0.5	Rotenone	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	3.1
1.0	Total Pyrethrins	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	6.5

Internal And Surrogate Standard Recovery Data

D - Surrogate Diluted Out

Limits								
50 - 150	IS Naphthalene	111	89	94	96	95	97	109
50 - 150	SS Pyrene	139	120	103	113	107	115	97
50 - 150	SS Benz(b)fluor-anthene	143	120	100	108	100	114	95

* Denotes Recovery Outside of Quality Control Limits

Detection Limits ug/L	PACE Sample I.D.	2011-07	LCS	LCSD				
	Client Sample I.D.	MW001 MSD	Spike	Spike Dup				
	Date Sampled	11/14/95	N.A.	N.A.				
	Date Analyzed	12/12/95	12/12/95	12/12/95				
0.5	Rotenone	4.2	1.9	1.9				
1.0	Total Pyrethrins	6.5	3.6	3.6				

Internal And Surrogate Standard Recovery Data

D - Surrogate Diluted Out

Limits								
50 - 150	IS Naphthalene	106	114	87				
50 - 150	SS Pyrene	115	101	[illegible]				
50 - 150	SS Benz(b)fluor-anthene	116	102	106				

* Denotes Recovery Outside of Quality Control Limits

Date Received: 11/16/95 Date Extracted: 11/20/95 Date Reported: 12/18/95

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An Equal Opportunity Employer

Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1882-2
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9QT008	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Volatile Organics by EPA 8260								1,2
Chloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromomethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Vinyl chloride	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Methylene chloride	JB2	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
Acetone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Carbon disulfide	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethene	<1.	µg/L	1.0	1.0	EPA 8260	11/17/95	DW	
1,1-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total 1,2-Dichloroethene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Chloroform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
2-Butanone	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,1-Trichloroethane	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.
(1) "J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.
(2) "B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

12/11/95

LJO/jcbejn/gbp(dw)/kwh/tjg
LK17VLW2

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Katahdin
ANALYTICAL SERVICES

Lab Number : WL-1882-2
Report Date: 12/11/95
PO No. : 802LSOA

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9QT008	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Carbon tetrachloride	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromodichloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,2-Dichloropropane	<2.5	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
cis-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Trichloroethene	J1	µg/L	1.0	2.5	EPA 8260	11/17/95	DW	
Dibromochloromethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
1,1,2-Trichloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Benzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
trans-1,3-Dichloropropene	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Bromoform	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
4-Methyl-2-pentanone	<3.	µg/L	1.0	3.0	EPA 8260	11/17/95	DW	
2-Hexanone	<4.	µg/L	1.0	4.0	EPA 8260	11/17/95	DW	
Tetrachloroethene	J1	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,1,2,2-Tetrachloroethane	<5.	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Toluene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/11/95

LJO/jcbejn/gbp(dw)/kwh/tjg
LK17VLW2

340 County Road, Westbrook, ME 04092
Tel: (207) 874-2400 Fax: (207) 775-4029

Katahdin
ANALYTICAL SERVICES

CLIENT: Data Management
EA Engineering
3 Washington Center
Newburgh, New York 12550

Lab Number : WL-1882-2
Report Date: 12/11/95
PO No. : 802LSOA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED
S9QT008	Aqueous	K.RUSCZYK	11/14/95	11/15/95

PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chlorobenzene	J1	µg/L	1.0	5.0	EPA 8260	11/17/95	DW	
Ethylbenzene	JB1	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Styrene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Total Xylenes	J2	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
Dibromofluoromethane (Surr.)	103.	%	1.0		EPA 8260	11/17/95	DW	
Toluene-d8 (Surr.)	106.	%	1.0		EPA 8260	11/17/95	DW	
p-Bromofluorobenzene (Surr.)	102.	%	1.0		EPA 8260	11/17/95	DW	
1,2-Dichlorobenzene	J1	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,3-Dichlorobenzene	<2.	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	
1,4-Dichlorobenzene	J1	µg/L	1.0	2.0	EPA 8260	11/17/95	DW	

* PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/11/95

LJO/jcbejn/gbp(dw)/kwh/tjg
LK17VLW2

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EA Sample Name: S9QT008

Lab Name	PACE, INC.	SDG No.:	S9MW001
Matrix (soil/water)	Water	Lab Sample ID:	WL1882-2
Sample wt/vol:	5 (g/ml) ml	Lab File ID:	Y2746
Level: (low/med)	low	Date Received:	11/15/95
% Moisture: not dec.	N/A	Date Analyzed:	11/17/95
GC Column:	RTX-624 ID: 0.53	Dilution Factor:	1.0
Soil Extract Volume:	0 (ul)	Soil Aliquot Volume:	0 (ul)
Number of TIC's Found:	0	CONCENTRATION UNITS (ug/L or ug/KG)	ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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