RESULTS OF HYDROGEOLOGIC EVALUATION AND APPENDIX IX SAMPLING INDUSTRIAL WASTEWATER TREATMENT PLANT NAVAL AIR STATION-JACKSONVILLE

Prepared for

NAVAL FACILITIES ENGINEERING COMMAND
Southern Division
Charleston, South Carolina

DECEMBER 1987

GERAGHTY & MILLER, INC.
Ground-Water Consultants

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Prepared by

GERAGHTY & MILLER, INC.
Ground-Water Consultants
3820 Northdale Boulevard, Suite 200
Tampa, Florida 33624

GERAGHTY & MILLER, INC.
Ground-Water Consultants
Our 30th year

December 24, 1987

Mr. Michael Green
Environmental Engineer
Code 11433
Southern Division
Naval Facilities Engineering
Command
2155 Eagle Drive
Charleston, South Carolina 29411

Dear Mr. Green:

Please find enclosed six copies of the report entitled "Results of Hydrogeologic Evaluation and Appendix IX Sampling, Industrial Wastewater Treatment Plant, Naval Air Station, Jacksonville." The report discusses the results of a field investigation/monitor-well sampling program at the Industrial Wastewater Treatment Plant and provides recommendations for the actions at the site.

If you have any questions or comments, please do not hesitate to call us.

Sincerely,

GERAGHTY & MILLER, INC.

Michael O'Hagan
Michael O'Hagan
Staff Scientist

Fred A. Seguiti
Fred A. Seguiti
Associate

Enclosures
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INTRODUCTION

On June 15, 1987, the Florida Department of Environmental Regulation (FDER) issued an Operation Permit (No. H016-119108; Appendix A) for the Sludge Drying beds (SD beds) located at the Industrial Wastewater Treatment Plant, Naval Air Station - Jacksonville (NAS-Jax), Jacksonville, Florida (Figure 1). Geraghty & Miller, Inc., (G&M) was retained by the Naval Facilities Engineering Command, Southern Division (Navy), to provide hydrogeological consulting services for the ground-water monitoring requirements of the permit. This report summarizes the result of a field investigation which included collection of water-level measurements, evaluation of the permeability of shallow sediments at the site, and collection of ground-water samples for analysis of the list of constituents contained in Appendix IX of Part 264 (Appendix IX) of 40 Code of Federal Regulations (CFR).

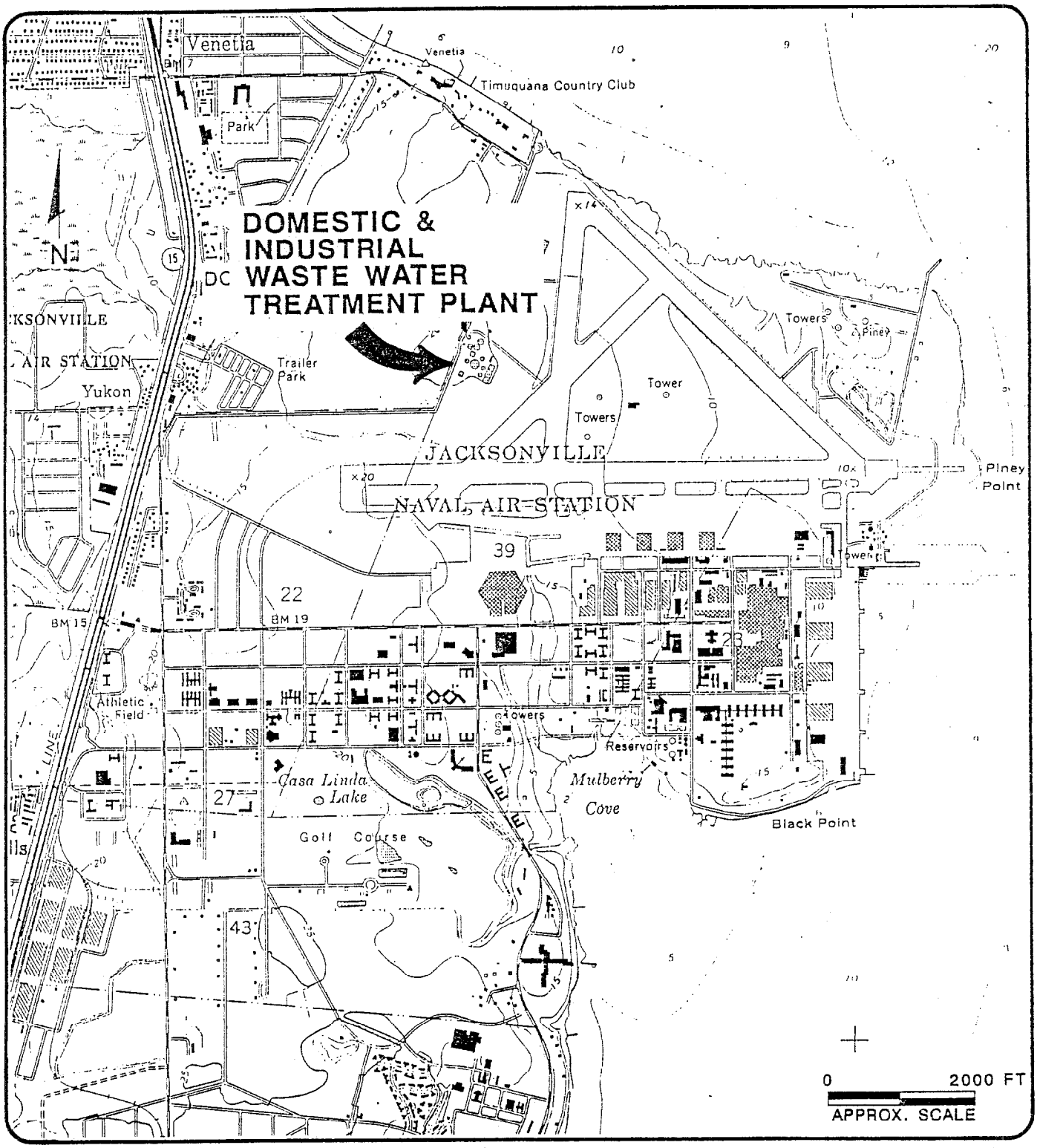

Figure 1. Location Map

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DESCRIPTION OF WASTE GENERATION AND TREATMENT

The industrial wastewater treated at the IWWTP originates in the Naval Air Rework Facility (NARF) area. In general, the bulk of this waste is derived from paint-stripping operations with lesser contributions from the plating and metal treatment shops. Appendix B lists the compounds used in the plating shop and metal treating shop.

Wastewater is generated in the plating and metal treating shops from plating operations of various aircraft components and parts. The wastewater is of two types: (1) concentrated (derived from the plating bath) and (2) diluted (derived from the rinse water of the plated parts). The diluted wastewater is separated according to its content (i.e., chromate rinse wastes, cyanide, and mixed acid-alkali) and is pumped to the appropriate 12,000-gal (gallon) steel holding tank at the IWWTP. The concentrated wastewater generally is containerized in 55-gal drums for off-site disposal; however, some of these drummed wastes also occasionally reach the IWWTP.

The IWWTP can treat only one type of wastewater at a time. Therefore, upon filling the individual holding tanks, the wastewater batch is pumped to the designated mixing basin where chemicals are added depending on the nature of

the wastewater. Sulfur dioxide (SO_2) and sulfuric acid (H_2SO_4) are used to treat the chromate waste while the cyanide waste is treated with gaseous chlorine. The pH of the mixed acid-alkali waste is adjusted (to 8.5) in the mixing basin by either increasing it with sodium hydroxide or lowering it with sulfuric acid.

The treated wastewater from the mixing basins then is pumped to the reactor clarifier where the pH is further adjusted to 8.5 with sodium hydroxide. Solids are allowed to settle in the clarifier aided by the addition of a polymer. The bottom sludge is placed in the unlined SD beds where any remaining fluid is collected via a drain system underlying the beds. This fluid then is pumped to the domestic wastewater treatment plant (DWWTP). After drying, the sludge is drummed for off-site disposal. The clear fluid at the top of the clarifier is decanted and pumped to the DWWTP. This effluent is treated with domestic wastewater and then discharged to the St. Johns River in accordance with the National Pollutant Discharge Elimination System (NPDES) permit.

HISTORY OF GROUND-WATER MONITORING

Interim Status Detection Monitoring Program (40 CFR 265.92)

Prior to September 28, 1987, the detection monitoring system (Figure 2) at the IWTP SD beds consisted of four shallow PVC monitor wells: one upgradient (NAS4-9) and three downgradient (NAS4-4, NAS4-5, and NAS4-10). Detection monitoring has been conducted according to procedures and techniques stipulated under Section 265.92(a) at the SD beds since March 7, 1984; the water-quality parameters are specified in 265.92(b)(1), (2), and (3). Upon completion of two years of ground-water monitoring, a comparison of this data was performed in accordance with Section 265.93(b); the statistical analyses confirm significant increases in indicator parameters (specific conductance, total organic carbon, and total organic halides) at the downgradient well NAS4-5. Also, selected hazardous-waste constituents (cadmium, nickel, and cyanide) were detected in the ground water from monitor well NAS4-5 in elevated concentrations when compared to the concentrations from the upgradient well NAS4-9.

Hazardous-Waste Operating Permit Detection Monitoring Program (40 CFR 264.98)

The hazardous-waste operating permit issued for the facility established a new Detection Monitoring Program for the facility. This new program included an additional well,

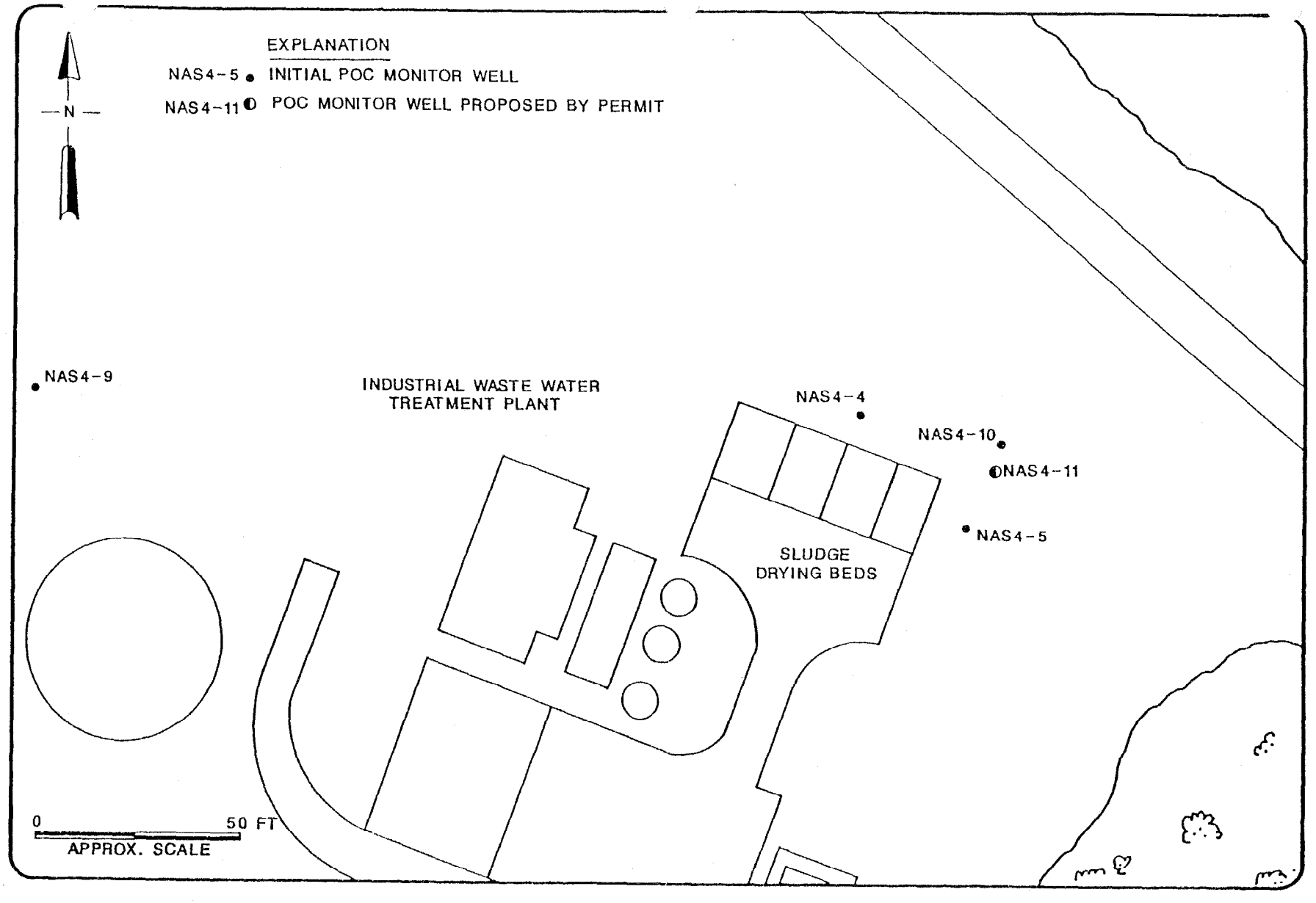

Figure 2. Site Map

CLIENT NAME:

U. S. Navy

a revised parameter list, and established the applicable ground-water protection standard.

Wells NAS4-4, NAS4-5, NAS4-9, and NAS4-10 were designated pursuant to 264.95(a) as the point of compliance (POC). Condition 35 of the permit required an additional downgradient POC will be installed at the site. On September 28, 1987, well NAS4-11 was installed at the site. Installation and construction details of the monitor well have been summarized previously (G&M, 1987). The present monitor-well network is shown in Figure 2; well-construction diagrams and lithologic logs of the wells are given in Appendix C.

Permit Condition 37 mandated a semi-annual ground-water monitoring program consisting of sampling and analysis of indicator parameters (264.98[a][1]), F006 constituents (261 Appendix VII), 264.94 Table 1 constituents, and volatile organic compounds (VOCs; Florida Administrative Code [FAC] 17-4.245[b] and 17-4.246). In addition, the permit established the applicable ground-water protection standard (264.94) and mandated, in Condition 46, sampling the monitor-well network for Appendix IX constituents if the ground-water protection standard was exceeded after the first semi-annual sampling.

This revised ground-water monitoring program was, however, never implemented. Upon installation of the new POC

well, the Navy was prepared to sample the revised network for the proposed list of indicators, F006, 264.94 Table 1, and VOCs, as specified in Condition 37, when they were notified by the FDER to substitute the Condition 37 analysis with a complete round of Appendix IX sampling.

FIELD INVESTIGATION

Slug Tests and Water-Level Measurements

In-situ hydraulic conductivity tests (slug tests) were performed in three of the monitor wells to determine the hydraulic conductivity of the aquifer materials around the screened or open portions of the wells. The slug test consisted of lowering a closed-end pipe (slug) in the cased borehole to displace the water column from the initial static water level. The displaced water rapidly rose in the space between the slug and the well casing and then fell with time. This phase of the slug test was essentially a falling head test. After the water level had equilibrated, the slug was quickly removed. The water level quickly fell and then began to rise to the initial water level, thereby simulating a rising head test. The water level in the well was measured using a pressure transducer. The slug-test data were analyzed using the method proposed by Bouwer and Rice (1976).

Ground-Water Sampling

Ground-water samples were collected from each monitor well on September 29 and 30, and November 1, 1987, and analyzed for Appendix IX constituents. Water-level measurements were obtained and approximately four well water volumes were removed from each monitor well prior to sample collection. Ground water was evacuated using a peristalic pump with a Teflon drop line.

The ground-water samples were collected with a Teflon bailer for VOCs and with a Teflon drop line and peristaltic pump for inorganic compounds. All total cyanide samples were tested in the field for the presence of sulfide, residual chlorine, and other oxidizing agents that may interfere with laboratory detection of cyanide. The pH, temperature, and specific conductance were determined in the field at the time of sampling; these measurements are contained on Table 1 of Appendix F. Sample preservation methods consisted of: ice for VOCs, base/neutral acid extractables, pesticides, and herbicides; nitric acid (NHO_3) for metals; sodium hydroxide (NaOH) for total cyanide; and NaOH and zinc acetate for sulfide. Before sampling each well, the sampling equipment was thoroughly decontaminated with MICRO laboratory cleaning soap and a deionized water rinse. All sampling was carefully documented. Upon completion of sampling at the site, all samples were forwarded via overnight express to Pioneer Laboratory for analysis.

HYDROGEOLOGIC SETTING

The waste-treatment facilities are located approximately three-tenths of a mile north of the east-west landing strip, as shown in Figure 1. Land-surface elevations are about 20 feet (ft) above mean sea level, gradually sloping in all directions away from the facility.

Stratigraphy

The subsurface consists of roughly 40 to 50 ft of intercalated quartz sands, clayey sands, clay, and shell. These sediments are underlain by the Hawthorn Formation, which consists of sandy clays, clays, and lenses of limestone that are 300 ft thick; the clayey sediments act as a confining unit between the surficial aquifer and the underlying Floridan aquifer. The discontinuous limestone and sand lenses in the Hawthorn Formation, generally referred to as the secondary artesian aquifer or rock aquifer, serve as a source of water locally supplying some domestic wells. The Floridan aquifer consists of over 1,000 ft of limestones and dolostones and serves as the principal source of water supply for public and commercial uses in the area. Figure 3 shows a generalized geologic column representative of the Jacksonville area (Leve, 1966).

The saturated unconsolidated sandy sediments near land surface comprise the surficial aquifer. A sieve analysis of sediment from the 6- to 8-ft interval of monitor well NAS4-11

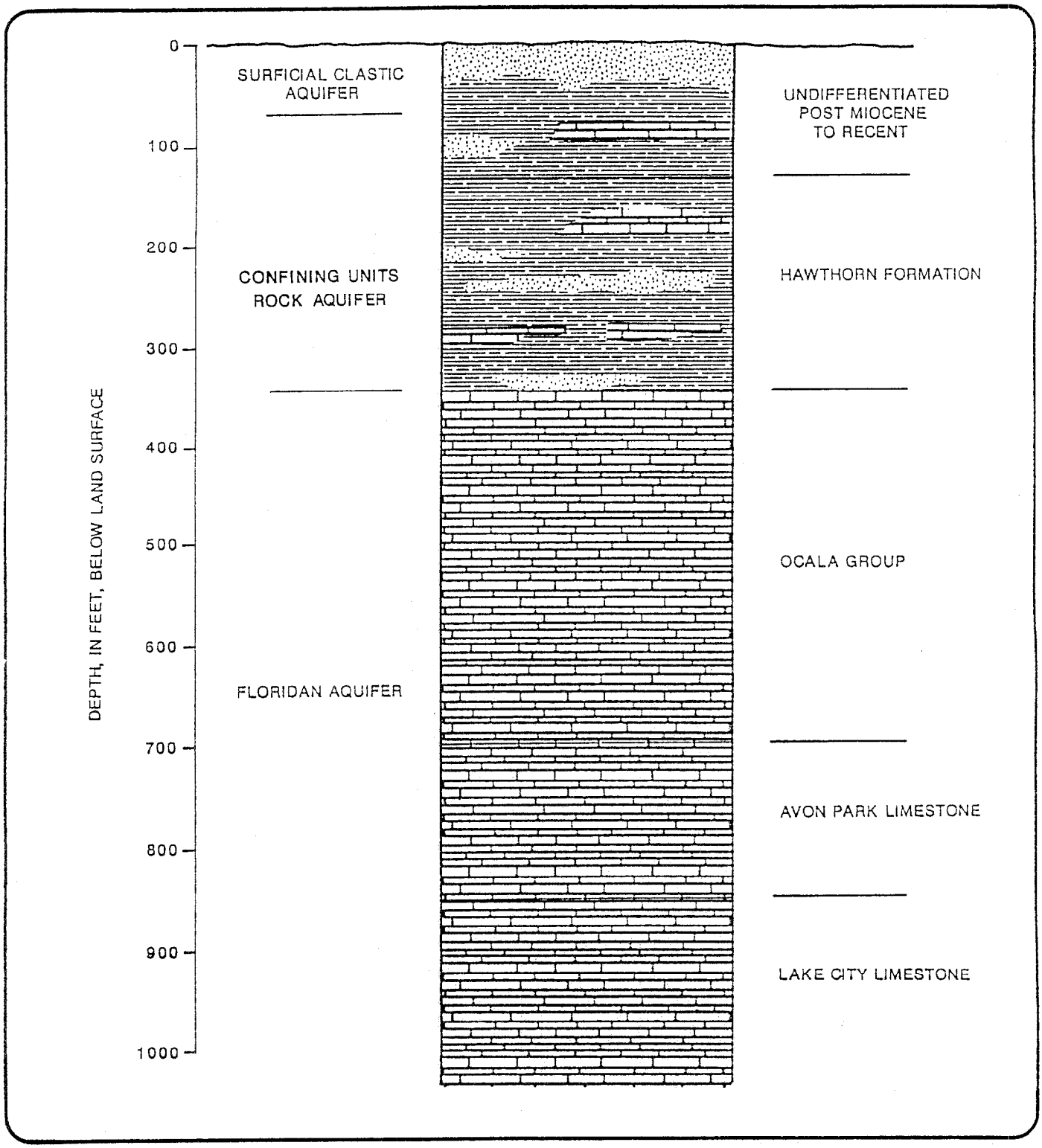

Figure 3. Generalized Geologic Column

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indicated the sediment is a silty fine sand (Appendix C). The lithologic logs of the compliance monitor wells indicate a low permeability sandy clay or clay layer at approximately 12 to 14 ft below land surface (Figure 4). This low permeability layer delineates the base of the uppermost aquifer (264.97[a]) at the site (FDER, 1986).

A water-level measuring point (top of casing) was established on each monitor well and referenced to a common datum (mean sea level, msl) by a registered professional surveyor. Water-level measurements collected from the wells were converted to elevations and are tabulated in Table 1. Based on measurements collected during September, October, and November 1987, the direction of shallow ground-water flow in the uppermost aquifer appears to be to the east (Figure 5).

Slug tests on monitor wells NAS4-4, NAS4-5, and NAS4-9 (Table 2 and Appendix E) were analyzed by methods proposed by Bouwer and Rice (1976) and provide a range of calculated values between 3.65×10^{-5} ft/sec to 1.08×10^{-4} ft/sec (21 to 62 gallons per day per square foot). Using these two values, an estimated hydraulic gradient of 0.005 ft/ft (based on water-level measurements collected on September 29, 1987) and an assumed effective porosity of 20 percent, the rate of ground-water flow is estimated to range from approximately 29 to 85 ft per year (ft/yr) at the site.

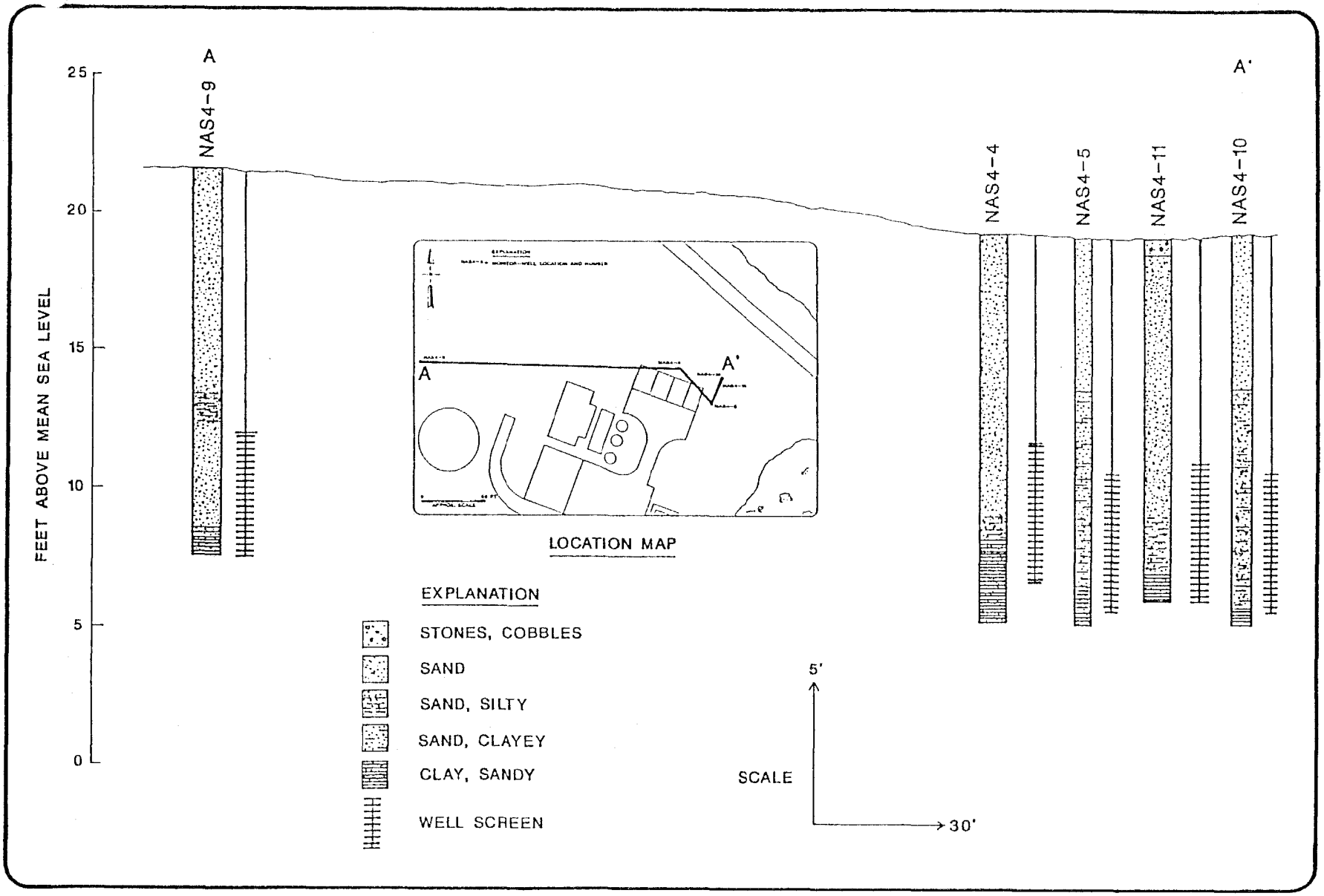

Figure 4. Geologic Cross-Section A-A'

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Table 1. Water Levels in the Monitor Wells
September 29, October 22, and November 24, 1987

Well Designation	Elevation of Measuring Point (ft, msl)	September 29, 1987		October 22, 1987		November 24, 1987	
		Depth to Water (ft)	Water-Level Elevation (ft, msl)	Depth to Water (ft)	Water-Level Elevation (ft, msl)	Depth to Water (ft)	Water-Level Elevation (ft, msl)
NAS4-4	21.28	7.53	13.75	8.0	13.28	6.58	14.70
NAS4-5	20.62	7.12	13.50	7.61	13.01	6.18	14.44
NAS4-9	23.52	8.90	14.62	9.45	14.07	7.66	15.86
NAS4-10	20.75	7.27	13.48	7.80	12.95	6.33	14.42
NAS4-11	20.63	7.11	13.52	7.64	12.99	6.15	14.48

ft, msl = Feet above mean sea level. All elevations based on the National Geodetic Survey Vertical Traverse from Benchmark No. 4 (brass disc labeled "Naval Reservation 1939") as shown on the benchmark listing for the U.S. Naval Air Station - Jacksonville.

ft = feet

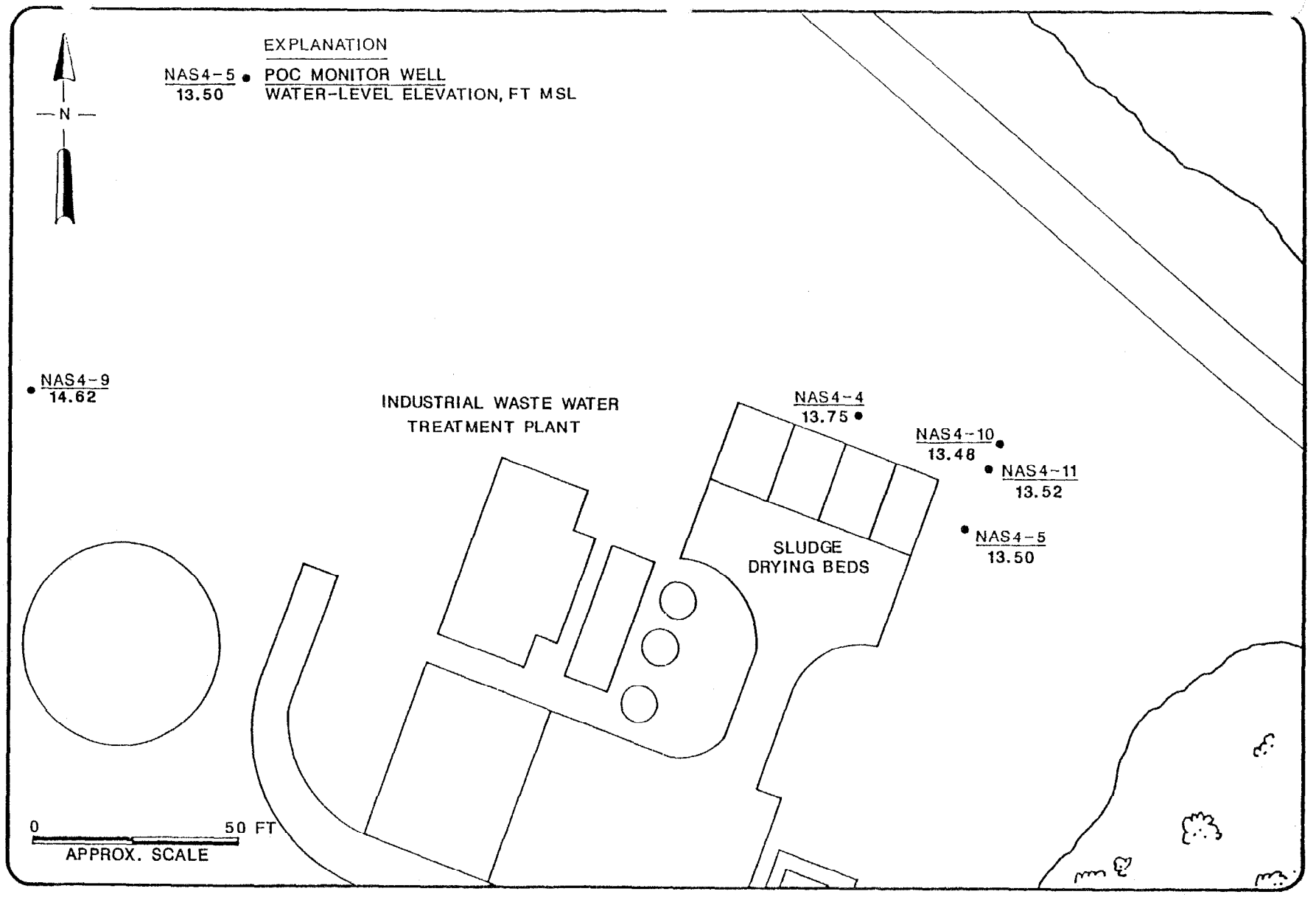

Figure 5. Water-Level Elevations in the Monitor Wells, September 29, 1987

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U. S. Navy

Table 2. Hydraulic Conductivity Values Obtained from In-Situ ("Slug") Tests

Well Designation	Hydraulic Conductivity (K)	
	Feet per Second (ft/sec)	Gallons per day per square foot (gpd/ft^2)
NAS4-4	3.65×10^{-5}	21
NAS4-5	4.93×10^{-5}	28
NAS4-9	1.08×10^{-4}	62

Potentiometric Relationships

The potentiometric surface of the Floridan aquifer at NAS-Jax is approximately 25 ft msl (Schiner, 1986 and Spechler, 1987); therefore, under natural conditions, a net upward hydraulic head difference of nearly 10 ft exists between the Floridan and the surficial aquifers at NAS-Jax. The upward hydraulic gradient combined with the low permeability confining layers minimizes the potential for downward migration of constituents from the SD beds to the Floridan aquifer.

GROUND-WATER CHARACTERIZATION

Hazardous Constituent Concentration Limits

Table 3 shows the proposed ground-water protection standard (264.94) for the chemical constituents detected in the water-quality samples from monitor wells at the SD beds together with the pertinent reference summaries. Standards set by the State of Florida are indicated in the table by the letter "A." Where Florida has not set a standard, the proposed concentration limits are based on criteria established by the U.S. Environmental Protection Agency (EPA). If no criteria exist, the background value based on Appendix IX analytical data from monitor well NAS4-9 is used. The objective of any proposed corrective action plan would be to achieve these water-quality guidelines.

Appendix IX Analytical Results

Fourteen Appendix IX constituents were detected in ground water sampled from the compliance monitor-well network at the SD beds. The constituents can be grouped into three categories: inorganic (seven), volatile organic (five), and acid-extractable (two) compounds. Barium was detected in each of the five monitor wells at levels ranging from 40 parts per billion (ppb) to 66 ppb in monitor wells NAS4-10 and NAS4-11, respectively. Chloroform (13 ppb) was detected in monitor well NAS4-4 only. The remaining 12 compounds, including cadmium (40 ppb), nickel (7,900 ppb), vanadium (180

Table 3. Proposed Concentration Limits for Constituents Reported in Ground Water

Constituent	Proposed Concentration Limit[1/] (ppm)	Reference Source
Barium	1.0	A
Cadmium	0.010	A
Chromium	0.05	A
Nickel	0.632	B
Vanadium	Background	C
Zinc	5.0	D
Sulfide	Background	C
Chloroform	0.100	E
Methylene chloride	0.350	F
Toluene	14.3	B
1,1,1-Trichloroethane	0.200	A
1,1-Dichloroethane	0.840	G
O-cresol	0.304	H
Phenol	3.5	B

[1/] = The proposed concentration limit in ppm (parts per million) may be adjusted in cases where background levels exceed these criteria.

A = Florida Primary Drinking-Water Standards (Chapter 17-22 Florida Administrative Code).

B = Federal Water-Quality Criteria: for water and fish ingestion; Clean Water Act. U.S. EPA Office of Water Regulations and Standards. EPA 440/5-86-001.

Table 3. Continued

C = As stipulated by hazardous-waste operating permit, Condition 45.

D = Florida Secondary Drinking-Water Standards (Chapter 17-22, Florida Administrative Code).

E = Florida Primary Drinking-Water Standards (Chapter 17-22, Florida Administrative Code). The sum of four trihalomethanes (chloroform, bromodichloromethane, dibromochloroethane, and bromoform) must be less than 100 ug/L.

F = Human Health Criteria from: U.S. EPA, Office of Water, Quality Criteria for Water, 1986 (May).

G = Calculated by G&M from the acceptable oral intake for chronic exposure (AIC) assuming ingestion of two liters of water per day, drinking water contributing 20 percent of the daily exposure. AIC from Health Effects Assessment for 1,1-Dichloroethane; U.S. EPA, 1986, Office of Environmental Criteria and Assessment Office. PB86-134384

H = Permissable ambient concentration suggested by U.S. EPA based on health effects. U.S. Environmental Protection Agency. EPA-600/7-77-136.

ppb), zinc (48 ppb), total sulfide (12,000 ppb), methylene chloride (1,250 ppb), toluene (11 ppb), 1,1,1-trichloroethane (14 ppb), 1,1-dichloroethane (43 ppb), O-cresol (50 ppb), and phenol (326 ppb) were detected in ground water from monitor well NAS4-5. Chromium (72 ppb) also was detected in a duplicate ground-water sample collected from monitor well NAS4-5. Table 4 lists all Appendix IX constituents detected in the monitor wells at the SD beds; complete analytical results are contained in Appendix F.

Quality Assurance/Quality Control samples consisted of: a duplicate sample collected from monitor well NAS4-5, a bailer rinsate sample, a field blank, and a trip blank. The bailer rinsate sample was obtained by decontaminating the Teflon bailer, filling the bailer with deionized water, and decanting the deionized water into the sample bottles. The duplicate and bailer rinsate samples were analyzed for the full Appendix IX parameter list. The field blank and trip blank were analyzed for VOCs only.

Table 4. Appendix IX Compounds Detected in Monitor Wells, Sludge Drying Beds, September 29 and 30, and October 1, 1987 (in parts per billion [ppb]),

Compound	Well Designation					
	Laboratory Detection Limit	NAS4-4	NAS4-5	NAS4-9	NAS4-10	NAS4-11
Inorganics						
Barium	20	50	50	50	40	66
Cadmium	40	BDL	40*	BDL	BDL	BDL
Chromium	70	BDL	BDL[1/]	BDL	BDL	BDL
Nickel	50	BDL	7900*	BDL	BDL	BDL
Sulfide	10,000	BDL	12000*	BDL	BDL	BDL
Vanadium	80	BDL	180*	BDL	BDL	BDL
Zinc	20	BDL	48	BDL	BDL	BDL
Volatile Organics						
Chloroform	5	13	BDL	BDL	BDL	BDL
Methylene Chloride	5	BDL	1250*	BDL	BDL	BDL
Toluene	5	BDL	11	BDL	BDL	BDL
1,1,1-Trichloroethane	5	BDL	14	BDL	BDL	BDL
1,1-Dichloroethane	5	BDL	43	BDL	BDL	BDL
Acid Extractables						
O-Cresol	10	BDL	50	BDL	BDL	BDL
Phenol	10	BDL	326	BDL	BDL	BDL

BDL Below Laboratory Detection Limits

1/ 72 ppb Chromium detected in duplicate sample collected from NAS4-5.

* Exceeded proposed concentration guidelines specified in Table 3.

SUMMARY OF FINDINGS

- Based on water-level measurements collected in September, October, and November 1987, ground-water flow is to the east at the site. An upward hydraulic gradient of nearly 10 ft exists between the Floridan aquifer and the surficial aquifer at NAS-JAX.

- Shallow ground-water flow is estimated to range from approximately 29 to 85 ft/yr at the site.

- Fourteen Appendix XI constituents were detected in ground water sampled from the monitor wells. Constituent categories included inorganics (7), volatile organics (5), and acid-extractables (2). The majority of constituents (12) were detected in ground water obtained from NAS4-5 only. Of the 14 constituents detected, only 6 exceeded proposed concentration limits as specified in Table 3: 5 inorganic compounds (cadmium, chromium, nickel, vanadim, and sulfide), and 1 VOC (methylene chloride).

RECOMMENDATIONS

Based on the data, it is recommended an additional eight shallow (i.e., uppermost aquifer) and four intermediate (screened below the clay layer) monitor wells be installed at the site (Figure 6). The wells would be sampled and analyzed for the Appendix IX constituents reported in this study. The analytical results would serve to better define the horizontal and vertical extent of these constituents between the compliance point and the downgradient facility boundary. Once the contaminant plume is delineated, a corrective action program (264.100) may be initiated to reduce the concentrations of these constituents to levels below their respective concentration guidelines. In addition to the corrective action program, a ground-water monitoring program will be established to demonstrate the effectiveness of the corrective action program.

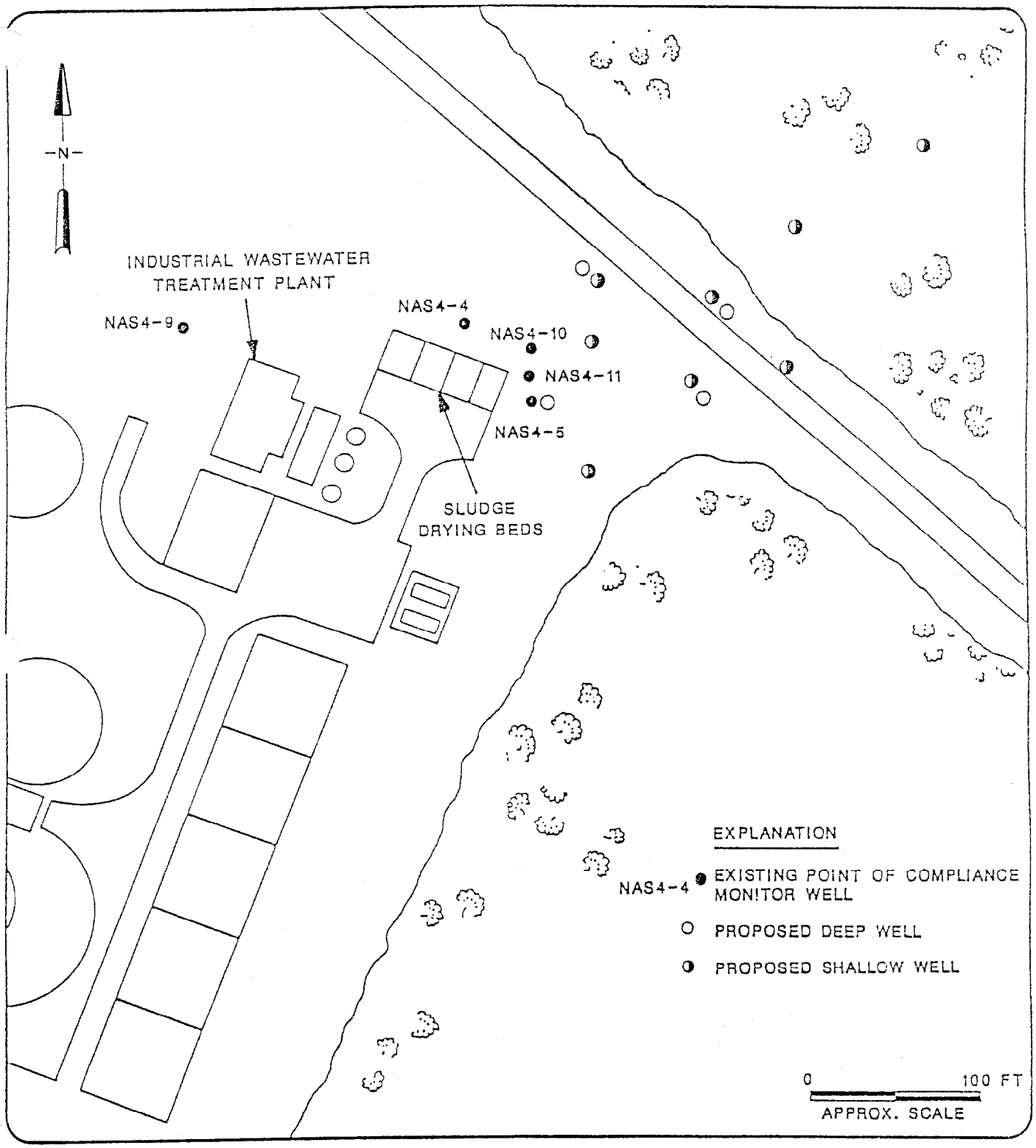

Figure 6. Proposed Monitor-Well Locations

CLIENT NAME:

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APPENDIX A

Operation Permit No. H016-119108

2

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ERNEST E. FREY
DISTRICT MANAGER
GARY L. SHAFFER
ASSISTANT DISTRICT MANAGER

June 15, 1987

CERTIFIED - RETURN RECEIPT

Captain W. J. Green, Jr.
Commanding Officer
U.S. Naval Air Station - Jacksonville
Box 5
Jacksonville, Florida 32212

Dear Captain Green:

U.S. Naval Air Station - Jacksonville
FL6 170 024 412
Operation Permit HO16-119108
Duval County - Hazardous Waste

Enclosed is Permit Number HO 16-119108, dated June 15, 1987, to operate the subject hazardous waste surface impoundment, issued pursuant to Chapter 403, Florida Statutes, and Florida Administrative Code Rule 17-30.260.

Acceptance of the permit constitutes notice and agreement that the Department may periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement actions for violation of the conditions and requirements thereof.

Any party to the Permit has the right to seek judicial review of the Permit pursuant to Section 120.68, F.S., by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of appeal must be filed within 30 days from the date the Final Permit is filed with the Clerk of the Department.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207
904/798-4200

BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ERNEST E. FREY
DISTRICT MANAGER
GARY L. SHAFFER
ASSISTANT DISTRICT MANAGER

PERMITTEE:
U.S. Naval Air Station - Jacksonville
U.S. Highway 17 and Yorktown Avenue
Jacksonville, Florida 32212

I.D. Number: FL6 170 024 412
Permit/Certification No. H016-119108
Date of Issue: June 15, 1987
Expiration Date: November 8, 1988
County: Duval
Latitude/Longitude: 30°13'30"N/81°41'00"W
Section/Township/Range: 23/3S/27E
Project: Operation of Hazardous Waste Surface Impoundment.

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-30. The above named permittee is hereby authorized to perform the work (or operate the facility shown on the application) and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

To operate the hazardous waste surface impoundment comprised of four sludge drying beds used to dewater wastewater treatment sludges from electroplating operations (F006 hazardous waste). Constructed in 1980, each drying bed is approximately 15 feet by 18 feet. The drying beds are enclosed with retaining walls constructed of 8 inch thick concrete reinforced with Number 5 reinforcing steel on 12 inch spacings. The bottom of the beds is unlined and consists of a 12 inch sand layer, with an underlying 10 inch gravel layer. The beds are underdrained, and the liquids are returned to the industrial wastewater treatment plant. Approximately 8250 gallons of dried sludges are excavated from the surface impoundment annually.

Operation of the facility will be in accordance with the application submitted on April 21, 1986 and with the supplemental information received November 7, 1986, November 13, 1986, December 1, 1986, and January 16, 1987. This permit does not cover all regulated units at this facility.

PERMITTEE:

J.S. Naval Air Station - Jacksonville

I.D. Number: FL6 170 024 412
Permit/Certification Number: H016-119108
Date of Issue: June 15, 1987
Expiration Date: November 8, 1988

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

   a. Having access to and copying any records that must be kept under the conditions of the permit;

   b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

   Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the Department with the following information:

   a. a description of and cause of non-compliance; and

   b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

   The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the Department, may be used by the Department as evidence in any enforcement case arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

    () Determination of Best Available Control Technology (BACT)
    () Determination of Prevention of Significant Deterioration (PSD)
    () Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)
    () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

    b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        - the date, exact place, and time of sampling or measurements;
        - the person responsible for performing the sampling or measurements;
        - the date(s) analyses were performed;
        - the person responsible for performing the analyses;
        - the analytical techniques or methods used; and
        - the results of such analyses.

15. When requested by the Department, the permittee shall, within a reasonable period of time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be submitted or corrected promptly.

16. In the case of a hazardous waste facility permit, the following permit conditions shall also apply.

a. The permittee will submit the following reports to the Department:

(1) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within 15 days after receiving the waste, the permittee shall immediately submit a letter report including a copy of the manifest to the Department.

(2) Unmanifested waste report: Permittee shall submit an unmanifested waste report to the Department within 15 days of receipt of unmanifested waste.

(3) Annual report: An annual report covering facility activities during the previous calendar year must be submitted in accordance with Florida Administrative Code Rule 17-30.

b. Notification of any noncompliance which may endanger health or the environment, including the release of any hazardous waste that may endanger public drinking water supplies, or the occurrence of a fire or explosion from the facility which could threaten the environment or human health outside the facility, shall be verbally submitted to the Department within 24 hours and a written submission provided within 5 days. The verbal submission within 24 hours shall contain the name, address, I.D. number and telephone number of the facility and owner or operator, the name and quantity of materials involved, the extent of injuries (if any), an assessment of actual or potential hazards, and the estimated quantity and disposition of recovered material. The written submission shall contain the following:

(1) a description of and cause of noncompliance; and

(2) If not corrected, the anticipated time the noncompliance is expected to continue and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

c. Reports of compliance or noncompliance with, or any progress reports on, requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

d. All reports or information required to be submitted to the Department by a hazardous waste permittee shall be signed by a person authorized to sign a permit application.

SPECIFIC CONDITIONS: - Part I - Operating Standards

17. The permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or constituents to air, soil, or surface water which could threaten human health or the environment.

18. This permit allows the permittee to treat only the F006 hazardous waste specified in Part IV, Section B.1 of the application at the facility. Prior to treatment of new hazardous wastes, the permittee shall submit to the Department, for approval, a waste analysis of the proposed new waste stream. This analysis must be incorported in the general waste analysis plan and retained on site. (40 CFR 264.13)

    If the Department approves additional waste streams to be treated in the surface impoundment, the permittee shall also submit an application for a major permit modification to make the appropriate changes.

19. The permittee shall not store hazardous waste generated off-site without prior approval from the Department.

20. The permittee shall follow the procedures described in the waste analysis plan, Part I, Section D.4 of the permit application. (40 CFR 264.13)

21. The permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c), as described in Part I, Section E.1 of the application.

22. The permitttee shall inspect the facility operating, emergency and safety equipment in accordance with the schedule approved in Part I, Section E.3 of the application. The permittee shall remedy any deterioration or malfunction discovered by an inspection in accordance with the requirements of 40 CFR 264.15(c). Changes, additions, or deletions to the schedule must be approved in writing by the Department. The schedule must be maintained as part of the operating record of the facility. (40 CFR 264.15)

23. Facility personnel must sucessfully complete the approved training program indicated in Part I, Section E.5 of the application within 6 months of employment or assignment to a facility or to a new position at the facility. Verification of this training must be kept with the personnel training records and maintained on-site. Personnel shall not work unsupervised until training has been completed. The training must be reviewed by facility personnel at least annually. (40 CFR 264.16)

24. The permittee shall comply with the following conditions concerning preparedness and prevention:

    a. At a minimum, the permittee shall equip the facility with the equipment described in the contingency plan, Part I, Section E.2, of the permit application, as required by 40 CFR 264.32.

    b. The permittee shall test and maintain the equipment specified in Condition 24.a as necessary to assure its proper operation in time of emergency as required by 40 CFR 264.33.

c. The permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34.

d. The permittee shall maintain arrangements with state and local authorities as required by 40 CFR 264.37. If state or local officials refuse to enter into preparedness and prevention arrangements with the permittee, the permittee must document this refusal in the operating record.

25. The permittee shall comply with the following conditions concerning the contingency plan:

a. The permittee shall immediately carry out the provisions of the contingency plan, Section E.2 of the permit application and follow the emergency procedures described by 40 CFR 264.56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment. The permittee shall give proper notification if an emergency situation arises and within 15 days must submit to the Department a written report which includes all information required in 40 CFR 264.56(j).

b. The permittee shall comply with the requirements of 40 CFR 264.53.

c. The permittee shall immediately amend the contingency plan and distribute the amended plan to the appropriate agencies if any criteria in 264.54 are met. Amendments to the plan must be approved in writing by the Department.

d. The permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

26. The permittee shall comply with the manifest requirements of 40 CFR 264.71(c).

27. The permittee shall maintain a written operating record at the facility which includes:

- the description and quantity of each hazardous waste received
- the location of each hazardous waste within the facility, and the quantity at each location
- the results of the waste analyses
- a summary report and details of incidents that require implementation of the contingency plan
- manifest numbers
- the results of inspections (for 3 years)
- annual certification of waste minimization
- the closure plan

These records must be maintained at the facility until completion and certification of closure. (40 CFR 264.73)

28. The permittee shall operate the surface impoundment in accordance with the procedures described in Part IV, Section B of the permit application.

29. The permittee shall operate and maintain the surface impoundment to prevent overtopping resulting from normal or abnormal operating conditions, in accordance with 40 CFR 264.221(f).

30. The permittee shall inspect the surface impoundment, concrete dikes, and other associated structural and monitoring equipment in accordance with Part IV, Section B.4 of the application and the requirements of 40 CFR 264.226(b).

31. If a sludge drying bed must be removed from service to comply with the requirements of 40 CFR 264.227(a), the permittee shall notify the Department in writing within 7 days after detection of the problem. The permittee shall not restore a sludge drying bed to service without the Department's written approval. If the sludge drying bed is not repaired to the Department's satisfaction, the permittee shall apply for a closure permit.

32. The permittee shall certify no less than annually that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economicallly practicable; and that the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment. [40 CFR 264.73(b)(9)]

SPECIFIC CONDITIONS: Part II - Closure Requirements

33. The permittee shall comply with the following conditions concerning closure:

    a. The permittee shall cease adding waste to the surface impoundment on or before November 8, 1988.

    b. The permittee shall close the facility as required by 40 CFR 264.111, and in accordance with the closure plan in Part IV, Section B.6 of the permit application.

    c. The permittee shall amend the closure plan in accordance with 40 CFR 264.112(b) whenever necessary.

    d. Pursuant to 17-30.260 FAC, the permittee shall notify the Department at least 180 days prior to the date he expects to begin closure and submit a complete closure permit application.

    e. Within 90 days after receiving the final volume of hazardous waste, the permittee shall remove from the site all hazardous waste in accordance with the schedule specified in Part IV, Section B.6.8 of the permit application.

    f. The permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114, and Part IV, Section B.6.5 of the permit application.

    g. The permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 40 CFR 264.115.

SPECIFIC CONDITIONS - Part III - Groundwater Monitoring/Corrective Action

34. In accordance with 40 CFR 264.95, the waste management area and point of compliance shall be as designated on Figure B.3-3.1 of the January 16, 1987 submittal. The point of compliance wells shall be designated as NAS4-4, NAS4-5, NAS4-10, NAS4-10A, and NAS4-9.

35. Within 30 days of the effective date of this permit, the permittee shall install an additional groundwater monitoring well, NAS4-10A, as specified below:

    a. The location shall be as close as possible to NAS4-10.

    b. The screened interval shall be from the base of the screen identified in well NAS4-10 to the top of the underlying clay unit identified in the lithologic logs of wells NAS4-4 and NAS4-5.

    c. The well shall conform with 40 CFR 264.97(c).

36. Within 15 days after the groundwater monitoring well specified in Condition 35 has been installed, the permittee shall submit to the Department the following information:

    a. Procedures and equipment, including a description of all drilling muds and/or fluids, used to install the well.

    b. Detailed as-built well construction diagrams for the well, including at a minimum: length of screened interval, screen size, size and material of sand pack, and type of material used to fill the annular space.

    c. Borehole log of the well.

    d. Well development procedures.

37. In accordance with 40 CFR 264.96 and 40 CFR 264.98, the permittee shall conduct semi-annual sampling for the duration of the compliance period for the following parameters from wells NAS4-4, NAS4-5, NAS4-10, NAS4-10A, and NAS4-9:

    a. Indicator parameters of pH, specific conductance, total organic carbon, total organic halogen. [40 CFR 264.98(a)(1)]

    b. Complexed cyanide, cadmium, hexavalent chromium, nickel. (40 CFR Part 261 Appendix VII)

    c. Arsenic, barium, chromium, lead, mercury, selenium, silver, Endrin, Lindane, Methoxychlor, Toxaphene, 2,4-D, 2,4,5-TP Silvex. (40 CFR 264.94 Table 1)

    d. Trichloroethylene, tetrachloroethylene, carbon tetrachloride, vinyl chloride, 1,1,1-trichloroethane, 1,2-dichloroethane, benzene. [FAC 17-4.245(b) and FAC 17.4.246]

38. Sampling methods shall conform to those specified in EPA Manuals EPA-600/4-83-040 and/or EPA-600/2-80-018, or Department approved equivalent sampling methods.

39. Analytical methods shall conform to those specified in EPA Manual SW-846, Test Methods for Evaluating Solid Waste, or Department approved equivalent analytical methods.

40. The groundwater surface elevation must be determined each time groundwater is sampled [40 CFR 264.97(f)]. This information shall be submitted to the Department within 30 days of the date of sampling, as required by FAC 17-30.180(4)(a).

41. The groundwater flow rate and direction shall be determined for the uppermost aquifer at least annually. [40 CFR 264.98(e)]

42. Analytical results and statistical analyses required by 40 CFR 264.97(h) shall be submitted to the Department within 30 days after receipt of the sampling data. The Cochran's Approximation to the Behrens-Fisher Student's T-Test shall be used for statistical analyses.

43. The concentrations of the constituents listed in condition 37 shall not exceed the background levels established in monitoring well NAS4-9. Background groundwater quality shall be the mean of the values obtained in the 4 most recent sampling events.

44. If the analytical results and statistical analyses conducted under Conditions 37, 42, and 43 indicate a statistically significant difference in parameter or constituent values between the background well and any point of compliance well, the permittee shall:

    a. Within 7 days notify the Department in accordance with 40 CFR 264.98(h)(1).

    b. Within 15 days of notification of the Department, sample the groundwater in all monitoring wells and determine the concentration of each 40 CFR Part 261 Appendix VIII constituent (or Department approved equivalent parameters) throughout the plume, or identify the maximum concentration of each Appendix VIII constituent in the plume. (DER Form 17-1.207(3) Part XIII A.4.b)

45. The groundwater protection standard (40 CFR 264.94) shall be as follows:

Parameters	Concentration Limit
a. 40 CFR Part 261 Appendix VII Parameters:	
Complexed Cyanide	Background*
Cadmium	Background*
Hexavalent Chromium	Background*
Nickel	Background*

45. Groundwater Protection Standard (continued)

Parameters	Concentration Limit
b. Drinking Water Supply Parameters (40 CFR 264.94 Table 1):	
Arsenic	0.05 mg/l
Barium	1.0 mg/l
Chromium	0.05 mg/l
Lead	0.05 mg/l
Mercury	0.002 mg/l
Selenium	0.01 mg/l
Silver	0.05 mg/l
Endrin	0.002 mg/l
Lindane	0.004 mg/l
Methoxychlor	0.1 mg/l
Toxaphene	0.005 mg/l
2,4-D	0.1 mg/l
2,4,5-TP Silvex	0.01 mg/l
c. FAC Chapters 17-4.245(b) and 17-4.246 Parameters:	
Trichloroethylene	Background*
Tetrachloroethylene	Background*
Carbon Tetrachloride	Background*
Vinyl Chloride	Background*
1,1,1-trichloroethane	Background*
1,2-dichloroethane	Background*
Benzene	Background*

46. Should hazardous constituents be measured in the groundwater at the point of compliance in excess of those concentration limits established under Condition 45, "Groundwater Protection Standard," the permittee shall, within 45 days of receipt of data, submit sufficient information, data, and analyses to establish a corrective action plan which meets the requirements of 40 CFR 264.100 and DER Form 17-1.207(3) Part XIII A.8. This plan shall include:

a. A characterization of the contaminated groundwater, including the concentrations of all hazardous constituents identified. Their vertical and horizontal extent shall be depicted on a topographic map and cross sections, as required in DER Form 17-1.207(3) Part I.B.3.

b. The concentration limits for each hazardous constituent found in the groundwater, as set forth in 40 CFR 264.94, including a justification for establishing any alternate concentration limits under 40 CFR 264.94(b).

c. Detailed plans and an engineering report describing the corrective action to be taken.

* As established under Condition 42.

d. A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action. [40 CFR 264.100(d)]

SPECIFIC CONDITIONS: Part IV - Permit Modification

47. Upon submission of the corrective action plan required under Condition 46, the permittee shall also sumbit an application for permit modification to make any appropriate changes to the program which will satisfy the requirements of 40 CFR 264.100. The Department may then modify this permit to address the corrective action requirements under 40 CFR 264.100 and FAC 17-1.207(3) Part XIII.

48. The Department may modify the conditions of this permit in accordance with the provisions of 17-30.290(1), FAC.

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Ernest E. Frey
District Manager

Northeast District
3426 Bills Road
Jacksonville, Florida 32207

APPENDIX B

Wastes Generated at Plating Shop and Metal Treating Shop

Table B-1 Hazardous Materials Routinely Discharged in Rinse Waters in Plating Shop (96225) Operations (Hart & Associates, 1983).

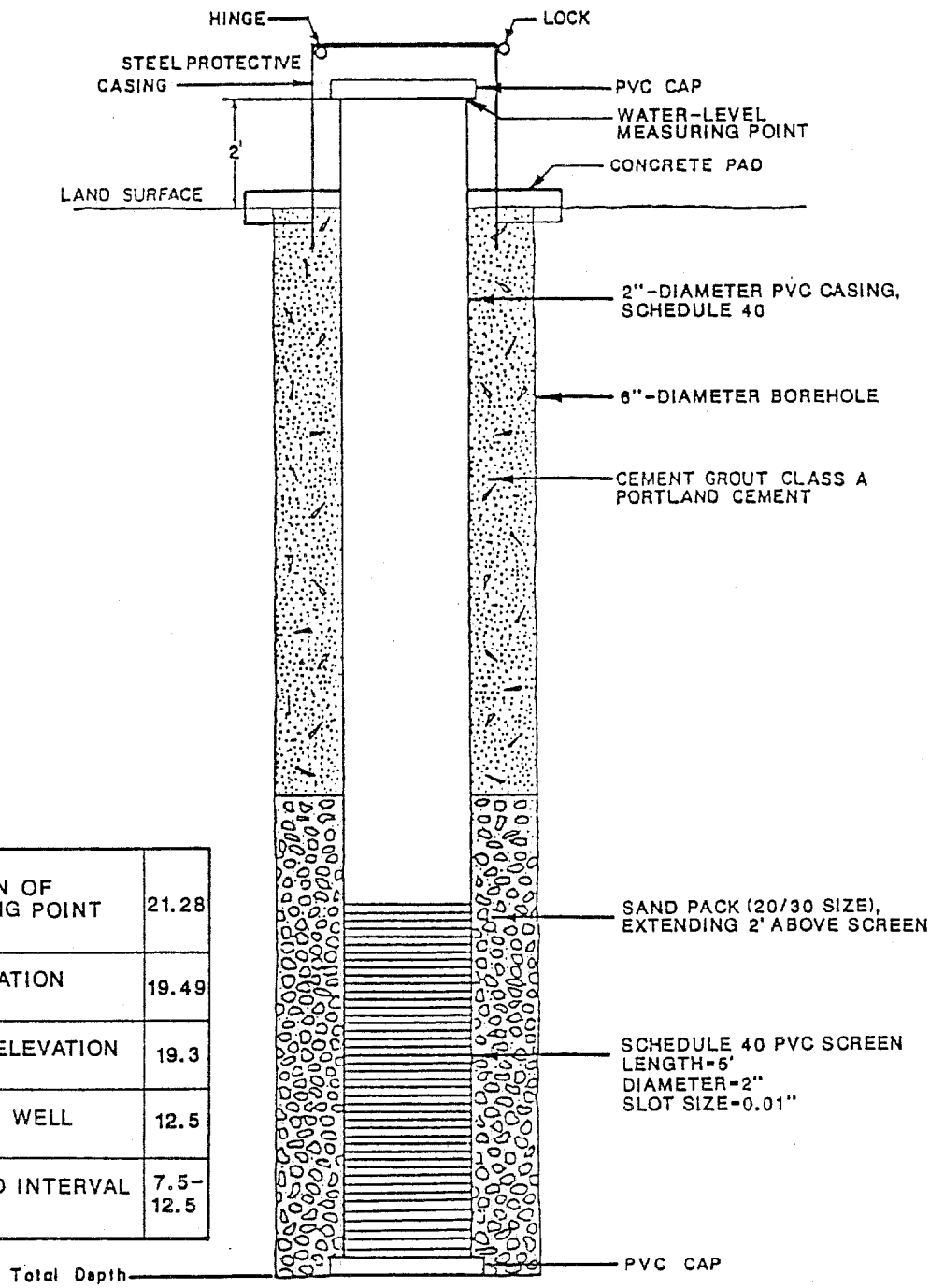
Chemical	Events/Day	Amount/Event (Oz.)
Chromic acid	1-1/3	160
Nickel sulfamate	2	66
Cadmium oxide	2 days/wk, every 30 minutes	1.5
Silver cyanide	14	1.6
Potassium cyanide	14	0.2
Sodium cyanide (with copper or cadmium plating bath)	20	5.1
Copper cyanide	14	0.5
Nickel chloride/sulfate	4	2
Lead/tin fluoborate	14	6.3

Table B-2. Metal Treating Shop Wastes (Hart & Associates, 1983)

Waste Type	Waste Quantity	Present Disposal Practice	Past Disposal Practice
Chromic acid (1 lb/100 gal)	6.7 lb/yr.	(not used) since 1973	until 1973
Excelgold 1200	1050 gal (total)	*	all in 1980
Alodine	80 oz./yr	*	(disposed twice in 14 yrs.)
Chromate	1140 gal/yr. (3 tanks, total capacity 3450 gal)	IWWTP	IWWTP
Sodium Dichromate	730 gal capacity	IWWTP	IWWTP
Parcolube	360 gal/yr.	*	*
Parcolube sealer	760 gal/yr.	*	*
Sulfuric Acid	av. 80 gal/yr.	*	*
Hydrochloric Acid	av. 50 gal/yr. (300 gal capacity)	*	*
Metralux	(315 gal capacity)	(not used since 1977)	*
Phosphoric Acid	315 gal every 4 yrs.	*	*
Trichloroethylene	100 gal total	(Not used)	until 1977
1,1,1,-Trichloroethane		(100 gal on hand)	*
Sodium hydroxide	460 gal every 1.5 yr.	IWWTP	Drain
Nickel Acetate sealer	av. 20 gal/yr (100 gal every 5 yrs.)	*	*
Black Dye	av. 20 gal/yr. (100 gal every 5 yrs.)	*	*
Potassium Bifluoride	av. 76 gal/yr. (380 gal capacity)	IWWTP	IWWTP
Black Oxide for stainless	220 gal/yr.	*	*

APPENDIX C

Monitor-Well Construction Details and Lithologic Logs



NAS4-4

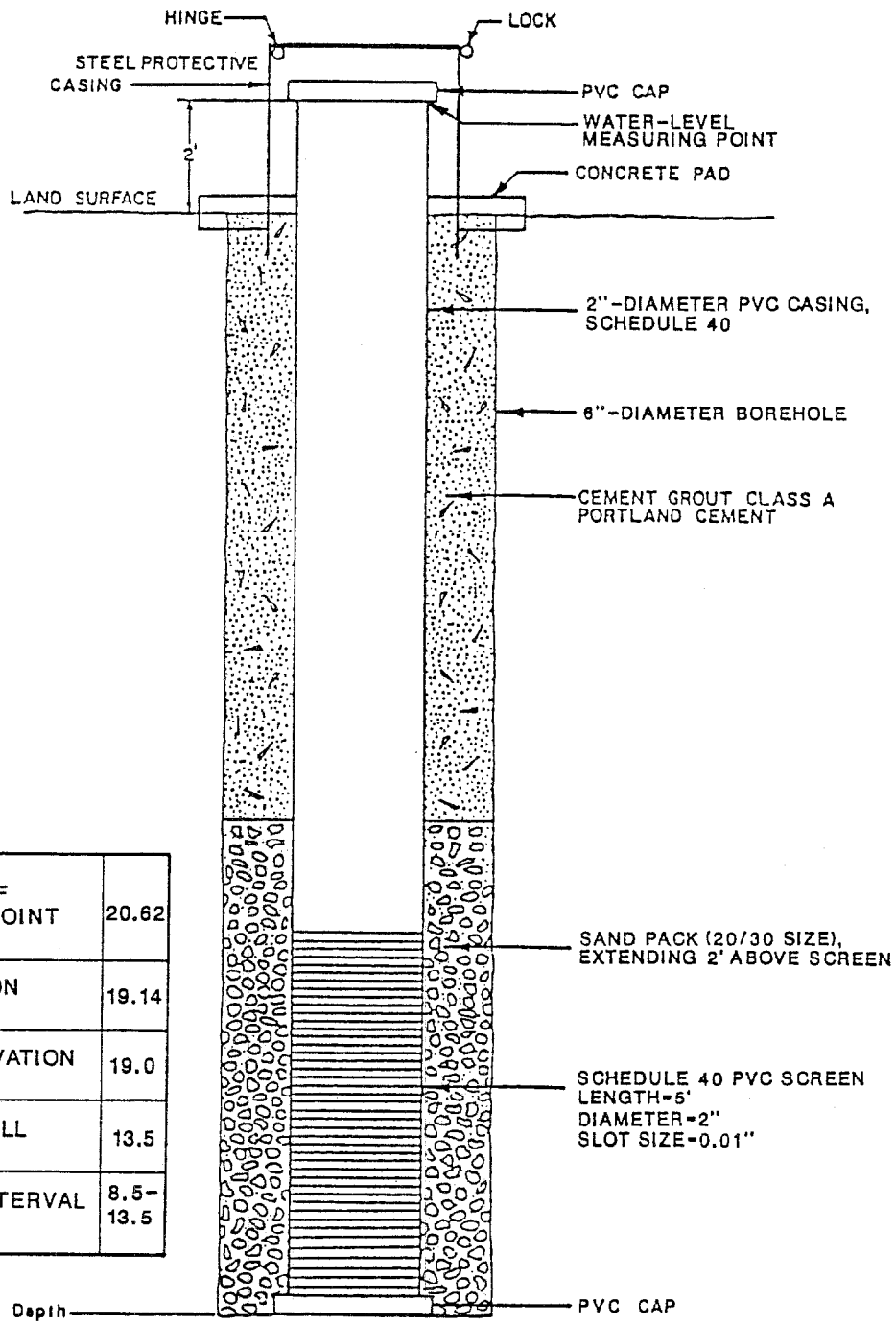
ELEVATION OF MEASURING POINT (FT MSL)	21.28
PAD ELEVATION (FT MSL)	19.49
GROUND ELEVATION (FT MSL)	19.3
DEPTH OF WELL (FT BLS)	12.5
SCREENED INTERVAL (FT BLS)	7.5-12.5

NOT TO SCALE

Monitor Well NAS4-4
Construction Diagram

CLIENT NAME:

U.S. Navy



NAS4-5

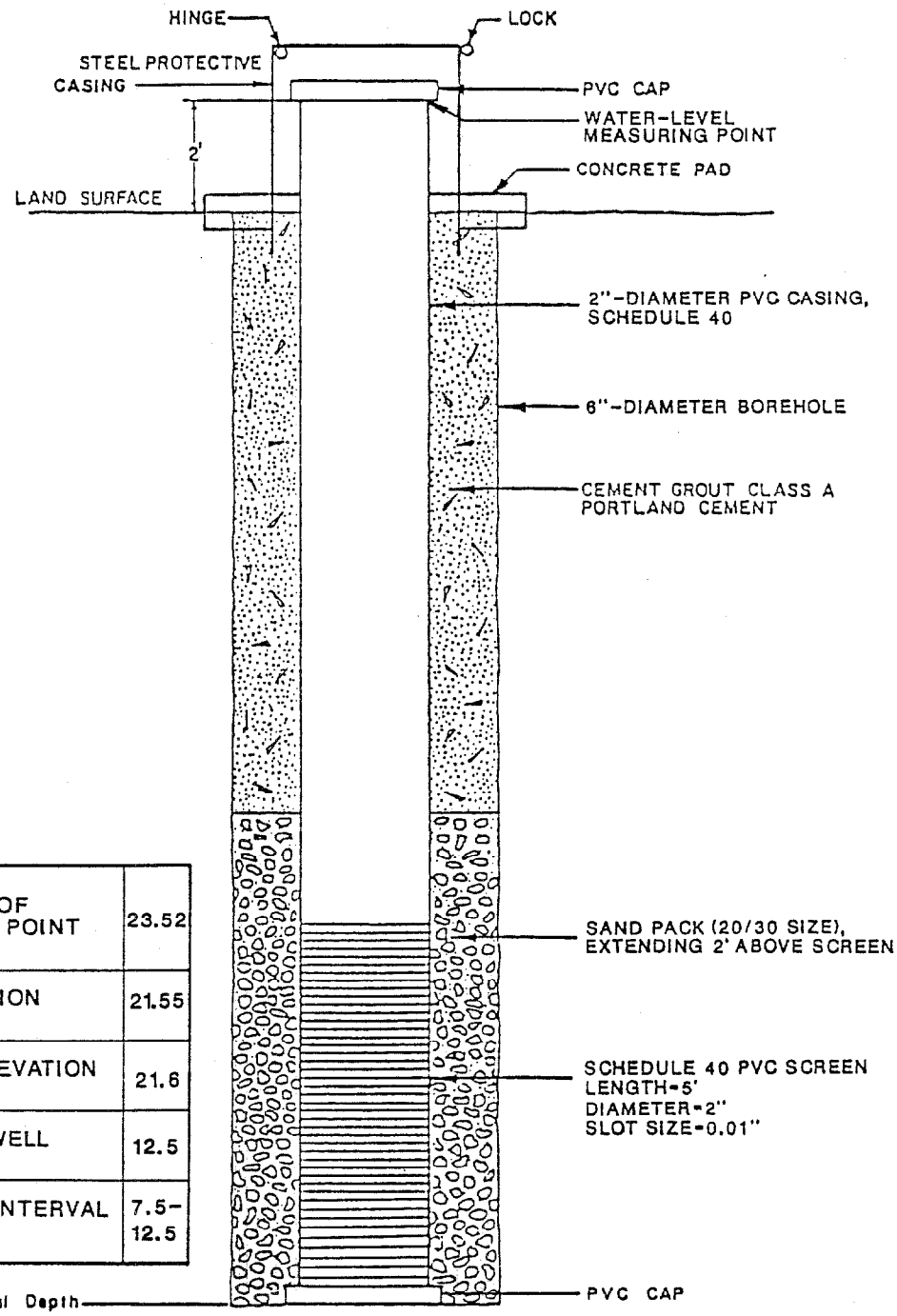
ELEVATION OF MEASURING POINT (FT MSL)	20.62
PAD ELEVATION (FT MSL)	19.14
GROUND ELEVATION (FT MSL)	19.0
DEPTH OF WELL (FT BLS)	13.5
SCREENED INTERVAL (FT BLS)	8.5-13.5

NOT TO SCALE

Monitor Well NAS4-5
Construction Diagram

CLIENT NAME:

U. S. Navy



NAS4-9

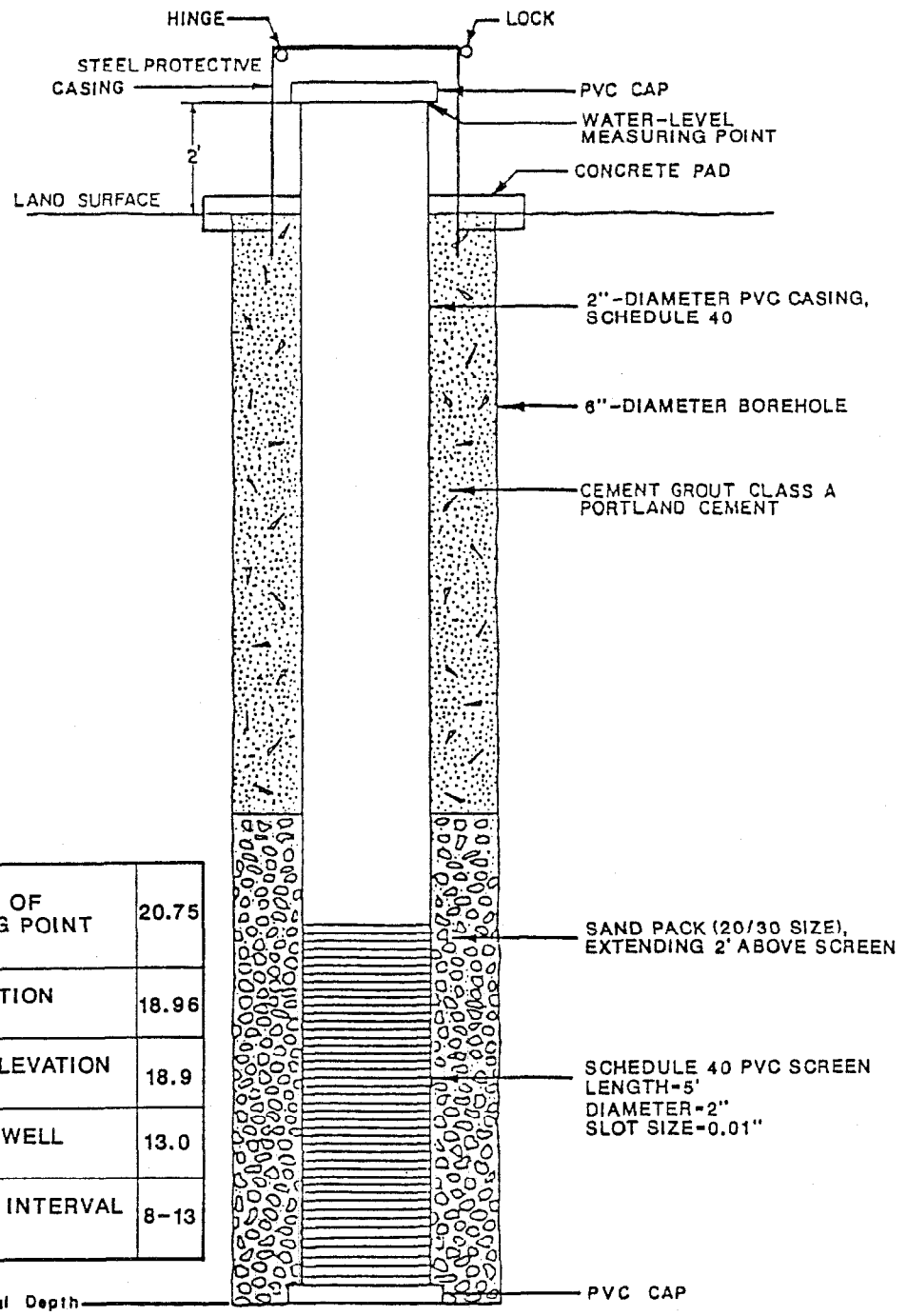
ELEVATION OF MEASURING POINT (FT MSL)	23.52
PAD ELEVATION (FT MSL)	21.55
GROUND ELEVATION (FT MSL)	21.6
DEPTH OF WELL (FT BLS)	12.5
SCREENED INTERVAL (FT BLS)	7.5-12.5

NOT TO SCALE

Monitor Well NAS4-9
Construction Diagram

CLIENT NAME:

U. S. Navy



NAS4-10

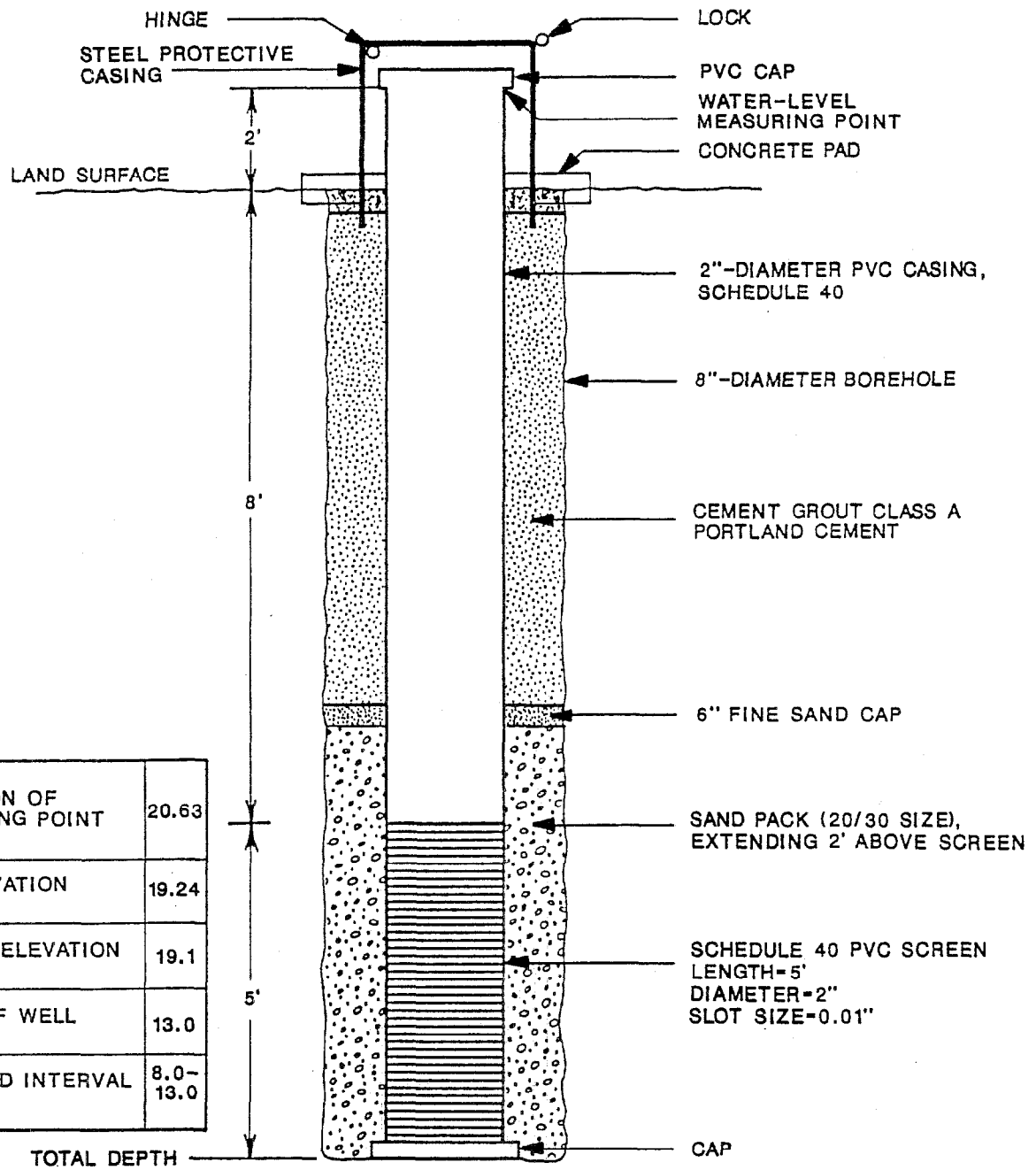
ELEVATION OF MEASURING POINT (FT MSL)	20.75
PAD ELEVATION (FT MSL)	18.96
GROUND ELEVATION (FT MSL)	18.9
DEPTH OF WELL (FT BLS)	13.0
SCREENED INTERVAL (FT BLS)	8-13

NOT TO SCALE

Monitor Well NAS4-10
Construction Diagram

CLIENT NAME:

U. S. Navy



NOT TO SCALE

NAS4-11

ELEVATION OF MEASURING POINT (FT MSL)	20.63
PAD ELEVATION (FT MSL)	19.24
GROUND ELEVATION (FT MSL)	19.1
DEPTH OF WELL (FT BLS)	13.0
SCREENED INTERVAL (FT BLS)	8.0-13.0

Monitor Well NAS4-11
Construction Diagram

CLIENT NAME:

U. S. Navy

590/30

LITHOLOGIC LOG OF MONITOR WELL NAS4-4

Description	Depth (ft)	Thickness (ft)
Sand, fine, dark brown to brown.....	0 - 2	2
Sand, fine, gray.....	2 - 5	3
Sand, silty, fine, gray to white.....	5 - 10	5
Sand, clayey, fine, gray.....	10 - 11	1
Clay, sandy, gray.....	11 - 14	3

LITHOLOGIC LOG OF MONITOR WELL NAS4-5

Description	Depth (ft)	Thickness (ft)
Sand, fine, brown to tan.....	0 - 5.5	5.5
Sand, silty, fine, gray.....	5.5 - 10.5	5
Sand, clayey, fine, gray with stringers of sandy clay.....	10.5 - 12	1.5
Clay, sandy, gray.....	12 - 14	2

LITHOLOGIC LOG OF MONITOR WELL NAS4-9

Description	Depth (ft)	Thickness (ft)
Sand, fine, dark brown to gray mixed with organics.....	0 - 5	5
Sand, silty, fine brown with stringers of sandy clay.....	5 - 6	1
Sand, silty, fine, gray to white.....	6 - 8	2
Sand, clayey, gray.....	8 - 9	1
Sand, silty, fine, white to gray.....	9 - 13	4
Sand, clayey, gray.....	13 - 14	1

LITHLOGIC LOG OF MONITOR WELL NAS4-10

Description	Depth (ft)	Thickness (ft)
Sand, fine, tan to cream, mixed with organics.....	0 - 5.5	5.5
Sand, silty, fine, tan to cream.....	5.5 - 13.5	8.0
Sand, clayey, fine, gray.....	13.5 - 14.0	0.5

LITHOLOGIC LOG OF MONITOR-WELL NAS4-11

Description	Depth (ft)	Thickness (ft)
Sand, fine, dry, yellowish-gray to olive gray with gravel and small cobbles to 0.5 ft.....	0.0 - 6.5	6.5
Sand, clayey, fine, wet, light gray to light olive gray.....	6.5 - 11.0	4.5
Clay, sandy, wet, light gray to light olive gray.....	11.0 - 13.0	2.0

APPENDIX D

Sieve Analysis Data
Monitor Well NAS4-11

Professional Service Industries, Inc.
Pittsburgh Testing Laboratory Division

October 28, 1987

Geraghty & Miller, Inc.
3820 Northdale Blvd.
PO Box 273630
Tampa, Florida 33688-3630

Attention: Mr. Mike O'Hagan

RE: Grain Size Analysis
Project Number T0290-6W8
Jacksonville, Florida
PSI NO.: 376-76002-1

Dear Mr. O'Hagan:

Attached are the results of the Grain Size Analysis (performed in accordance with ASTM D 1140) for the above-referenced project. The sample was obtained and delivered by your company representative.

If you should have any questions, or if we may be of further assitance, please do not hesitate to contact us.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Richard Hite
Geotechnical Engineer

Joseph F. Whittle, Jr., P.E.
Division Manager

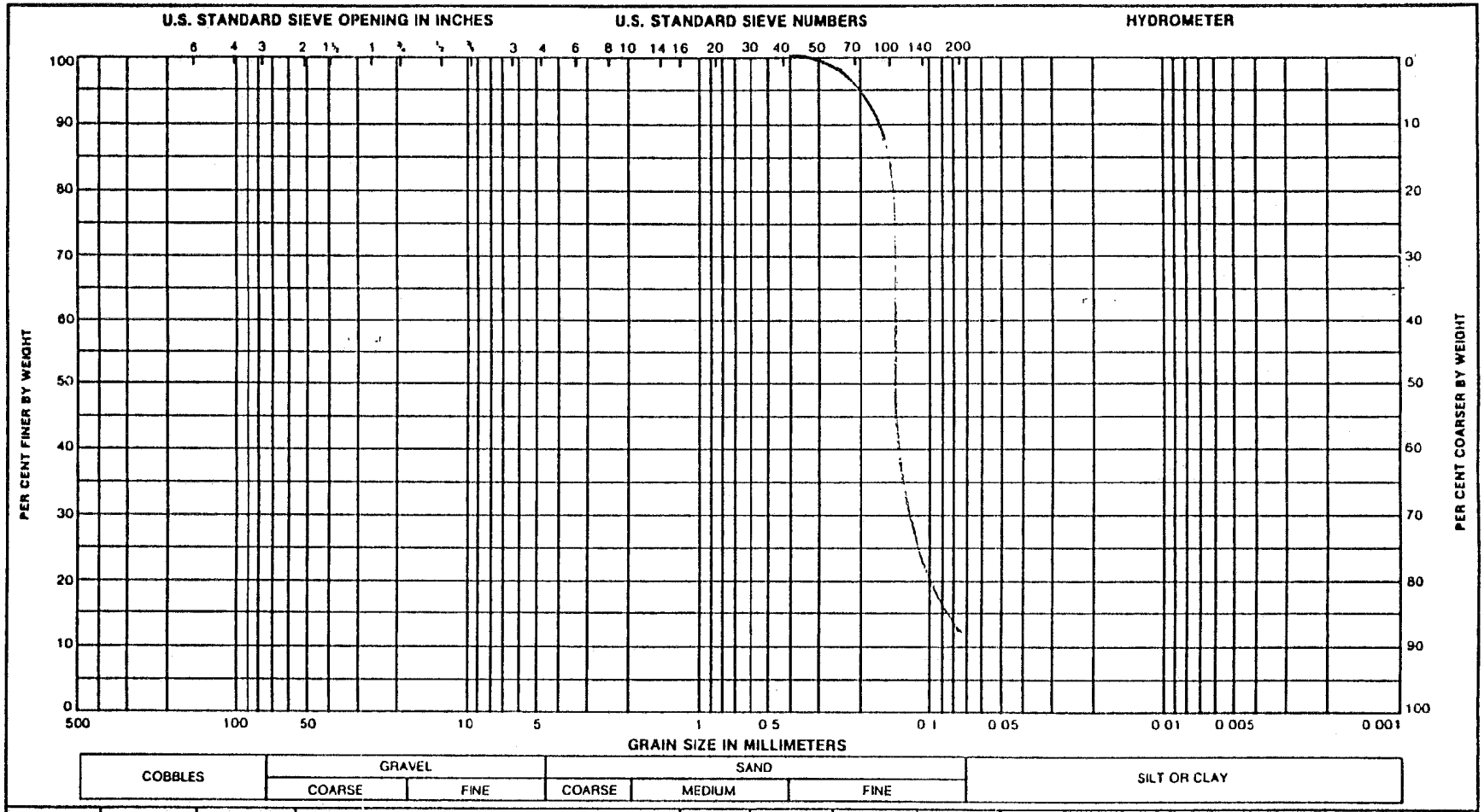
RH:JFW/bdr
Attachments

cc: (2) Geraghty & Miller, Inc.

Geraght ' Miller, Inc.

PROFESSIONAL SERVICE INDUSTRIES, INC.
PITTSBURGH TF ING DIVISION

october 28, 1987



Boring No.	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI	Project
NASU-1		6-8	Light gray silty fine sand					T0290 6W8
								Jacksonville, FL

REPORT OF SOIL ANALYSIS

File No. 376-76002-1

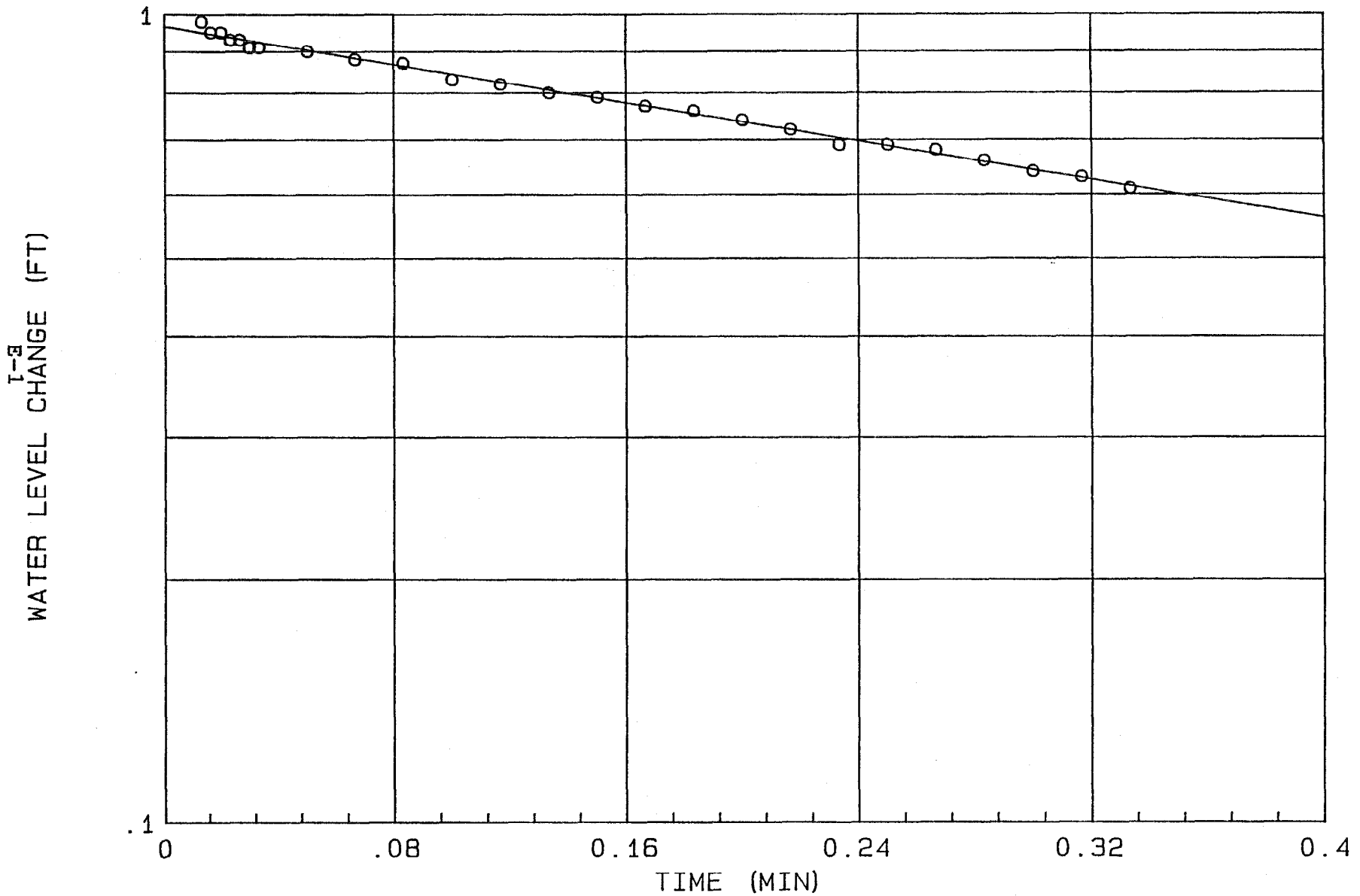
D-2

PSI A-100-7

APPENDIX E

Slug-Test Data

NAVY/#T0290GW08
SLUG TEST DATA/NAS4-4



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Data File: A:NAS4-4.NUM
Titles: NAVY/#T0290GW08
SLUG TEST DATA/NAS4-4

Number of Data Points = 25

Input data:

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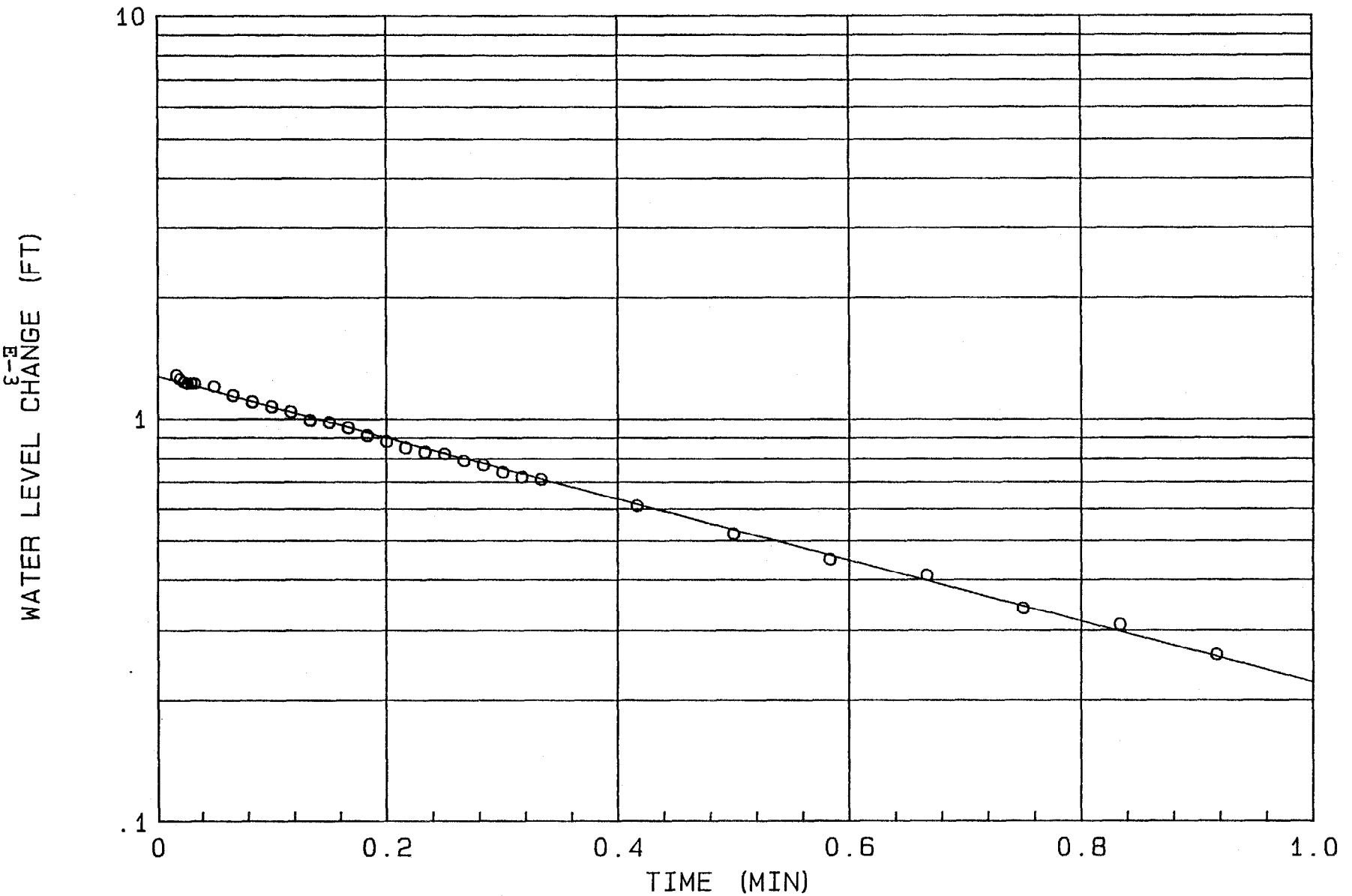
2	0.016600	0.950000	6
3	0.020000	0.950000	6
4	0.023300	0.930000	6
5	0.026600	0.930000	6
6	0.030000	0.910000	6
7	0.033300	0.910000	6
8	0.050000	0.900000	6
9	0.066600	0.880000	6
10	0.083300	0.870000	6
11	0.100000	0.830000	6
12	0.116600	0.820000	6
13	0.133300	0.800000	6
14	0.150000	0.790000	6
15	0.166600	0.770000	6
16	0.183300	0.760000	6
17	0.200000	0.740000	6
18	0.216600	0.720000	6
19	0.233300	0.690000	6
20	0.250000	0.690000	6
21	0.266600	0.680000	6
22	0.283300	0.660000	6
23	0.300000	0.640000	6
24	0.316600	0.630000	6
25	0.333300	0.610000	6

NAVY/#T0290GW08

SLUG TEST DATA/NAS4-5



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Data File: A:NAS4-5.NUM
Titles: NAVY/#T0290GW08
SLUG TEST DATA/NAS4-5

Number of Data Points = 31

Input data:

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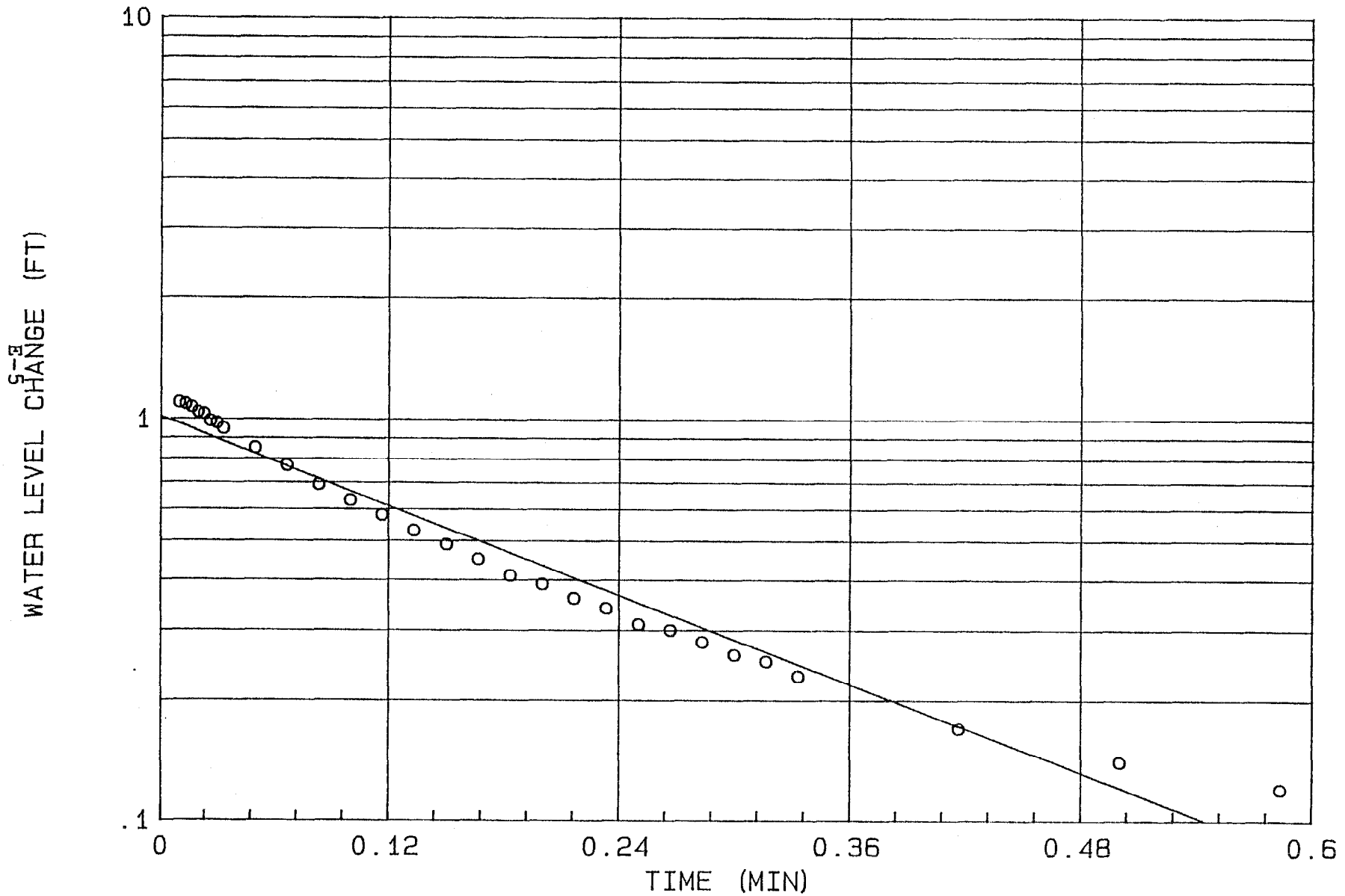
1	0.016600	1.280000	6
2	0.020000	1.250000	6
3	0.023300	1.230000	6
4	0.026600	1.220000	6
5	0.030000	1.220000	6
6	0.033300	1.220000	6
7	0.050000	1.200000	6
8	0.066600	1.140000	6
9	0.083300	1.100000	6
10	0.100000	1.070000	6
11	0.116600	1.040000	6
12	0.133300	0.990000	6
13	0.150000	0.980000	6
14	0.166600	0.950000	6
15	0.183300	0.910000	6
16	0.200000	0.880000	6
17	0.216600	0.850000	6
18	0.233300	0.830000	6
19	0.250000	0.820000	6
20	0.266600	0.790000	6
21	0.283300	0.770000	6
22	0.300000	0.740000	6
23	0.316600	0.720000	6
24	0.333300	0.710000	6
25	0.416700	0.610000	6
26	0.500000	0.520000	6
27	0.583300	0.450000	6
28	0.666700	0.410000	6
29	0.750000	0.340000	6
30	0.833300	0.310000	6
31	0.916700	0.260000	6

NAVY/#T0290GW08
SLUG TEST DATA/NAS4-9



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Data File: A:NAS4-9.NUM
Titles: NAVY/#T0290GW08
SLUG TEST DATA/NAS4-9

Number of Data Points = 29

Input data:

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3	0.016600	1.070000	6
4	0.020000	1.040000	6
5	0.023300	1.030000	6
6	0.026600	0.990000	6
7	0.030000	0.980000	6
8	0.033300	0.950000	6
9	0.050000	0.850000	6
10	0.066600	0.770000	6
11	0.083300	0.690000	6
12	0.100000	0.630000	6
13	0.116600	0.580000	6
14	0.133300	0.530000	6
15	0.150000	0.490000	6
16	0.166600	0.450000	6
17	0.183300	0.410000	6
18	0.200000	0.390000	6
19	0.216600	0.360000	6
20	0.233300	0.340000	6
21	0.250000	0.310000	6
22	0.266600	0.300000	6
23	0.283300	0.280000	6
24	0.300000	0.260000	6
25	0.316600	0.250000	6
26	0.333300	0.230000	6
27	0.416700	0.170000	6
28	0.500000	0.140000	6
29	0.583300	0.120000	6

APPENDIX F

Analytical Data

Pioneer
PLI LABORATORY, INC.

W. F. BOWERS
PRESIDENT/MANAGER
PAUL CANEVARO
LABORATORY MANAGER
R. W. (BOB) WOLFE
Q. A. OFFICER

Geraghty and Miller, Inc.
NAS Jacksonville Project
Project ID No. T0290GW8

Data Report

Lab ID No. 87-3126
November 11, 1987

Pioneer
PL LABORATORY, INC.
11 EAST OLIVE ROAD PENSACOLA, FLORIDA 32514
PHONE (904) 474-1001

Client: GERAGHTY & MILLER
07001 3820 NORTHDALE BLVD.
SUITE 200
TAMPA FL 33624-0000

Lab I.D.#: 87-3126
Order Number: P08690
Order Date: 10/08/87
Sampled By: LOU REYNOLDS
Sample Date: 10/1/87
Sample Time: N/S

Project Number: T0290GW8
Project Name: GERAGHTY & MILLER
Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

N/S = Not Submitted

R E S U L T S

reported on the following page(s)

mme : PPB = parts per billion. BDL = Below Detection Limit
eference: Federal Register, 40 CFR, Parts 136, Vol. 49, No. 209, Oct. 1984
and Parts 264 and 270, Vol. 52, No. 131, July 1987.

Approved By : W. F. Bowers

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	50	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	BDL	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	BDL	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	BDL	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	BDL	80
ZINC,TOTAL	METHOD 6010	PPB	BDL	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	50	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	40	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	7900	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	12000	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	180	80
ZINC,TOTAL	METHOD 6010	PPB	48	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	50	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	BDL	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	BDL	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	BDL	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	BDL	80
ZINC,TOTAL	METHOD 6010	PPB	BDL	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	40	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	BDL	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	BDL	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	BDL	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	BDL	80
ZINC,TOTAL	METHOD 6010	PPB	BDL	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	66	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	BDL	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	BDL	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	BDL	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	BDL	80
ZINC,TOTAL	METHOD 6010	PPB	BDL	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	BDL	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	BDL	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	BDL	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	BDL	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	BDL	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	BDL	80
ZINC,TOTAL	METHOD 6010	PPB	BDL	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

APP9/INORGANICS APPENDIX IX-INORGANIC PARAMETERS

Parameter		Units	Result	Detection Limit
SILVER,TOTAL	METHOD 6010	PPB	BDL	70
ARSENIC,TOTAL	METHOD 7061	PPB	BDL	20
BARIUM,TOTAL	METHOD 6010	PPB	50	20
BERYLLIUM,TOTAL	METHOD 6010	PPB	BDL	3
CADMIUM,TOTAL	METHOD 6010	PPB	50	40
COBALT,TOTAL	METHOD 6010	PPB	BDL	70
CHROMIUM,TOTAL	METHOD 6010	PPB	72	70
COPPER,TOTAL	METHOD 6010	PPB	BDL	60
CYANIDE,TOTAL	METHOD 9010	PPB	BDL	40
MERCURY,TOTAL	METHOD 7470	PPB	BDL	2
NICKEL,TOTAL	METHOD 6010	PPB	8400	50
LEAD,TOTAL	METHOD 7421	PPB	BDL	10
ANTIMONY,TOTAL	METHOD 6010	PPB	BDL	300
SELENIUM,TOTAL	METHOD 7741	PPB	BDL	20
TIN,TOTAL	METHOD 7870	PPB	BDL	8000
SULFIDE	METHOD 9030	PPB	11000	10000
THALLIUM,TOTAL	METHOD 6010	PPB	BDL	400
VANADIUM,TOTAL	METHOD 6010	PPB	180	80
ZINC,TOTAL	METHOD 6010	PPB	57	20

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

APP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.05
ALDRIN	PPB	BDL	0.05
BETA-BHC	PPB	BDL	0.05
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	0.10
DIELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.05
HEPTACHLOR	PPB	BDL	0.05
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

PP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.50
ALDRIN	PPB	BDL	0.50
BETA-BHC	PPB	BDL	0.50
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	1.0
DIELDRIN	PPB	BDL	0.05
D ILFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.50
HEPTACHLOR	PPB	BDL	0.50
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140
ELEVATED DETECTION LIMITS DUE TO DILUTION OF SAMPLE CAUSED BY MATRIX INTERFERENCE.

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

APP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.05
ALDRIN	PPB	BDL	0.05
BETA-BHC	PPB	BDL	0.05
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	0.10
DIELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.05
HEPTACHLOR	PPB	BDL	0.05
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

APP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.05
ALDRIN	PPB	BDL	0.05
BETA-BHC	PPB	BDL	0.05
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	0.10
DIELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.05
HEPTACHLOR	PPB	BDL	0.05
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

`PP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.05
ALDRIN	PPB	BDL	0.05
BETA-BHC	PPB	BDL	0.05
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	0.10
DIELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.05
HEPTACHLOR	PPB	BDL	0.05
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

APP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.05
ALDRIN	PPB	BDL	0.05
BETA-BHC	PPB	BDL	0.05
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	0.10
DIELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.05
HEPTACHLOR	PPB	BDL	0.05
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

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^PP9/8080PEST APPENDIX IX-METHOD 8080 PESTICIDES

Parameter	Units	Result	Detection Limit
ALPHA-BHC	PPB	BDL	0.50
ALDRIN	PPB	BDL	0.50
BETA-BHC	PPB	BDL	0.50
CHLORDANE	PPB	BDL	0.10
DELTA-BHC	PPB	BDL	1.0
ELDRIN	PPB	BDL	0.05
DISULFOTON *	PPB	BDL	2
ENDOSULFAN I	PPB	BDL	0.10
ENDOSULFAN II	PPB	BDL	0.05
ENDOSULFAN SULFATE	PPB	BDL	0.50
ENDRIN	PPB	BDL	0.10
ENDRIN ALDEHYDE	PPB	BDL	0.20
GAMMA-BHC; LINDANE	PPB	BDL	0.50
HEPTACHLOR	PPB	BDL	0.50
HEPTACHLOR EPOXIDE	PPB	BDL	1
METHOXYCHLOR	PPB	BDL	2
METHYL PARATHION *	PPB	BDL	0.5
POLYCHLORINATED BIPHENYLS	PPB	BDL	50
PHORATE *	PPB	BDL	2
TOXAPHENE	PPB	BDL	2
4,4'DDD	PPB	BDL	0.10
4,4'DDE	PPB	BDL	0.05
4,4'DDT	PPB	BDL	0.10
ARAMITE *	PPB	BDL	2
DIALLATE *	PPB	BDL	2
DIMETHOATE *	PPB	BDL	2
FAMPHUR *	PPB	BDL	2
ISODRIN *	PPB	BDL	2
KEPONE *	PPB	BDL	2
METHYL METHANESULFONATE *	PPB	BDL	2
PARATHION *	PPB	BDL	2

* NOTE: EPA METHOD 8140

ELEVATED DETECTION LIMITS DUE TO DILUTION OF SAMPL
INTERFERENCE.

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

APP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

`PP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

APP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

\PP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

`PP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

.PP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

\PP9/8150HERB APPENDIX IX-METHOD 8150 HERBICIDES

Parameter	Units	Result	Detection Limit
DINOSEB	PPB	BDL	1
2,4,5-TRICHLOROPHENOXYACETIC ACID	PPB	BDL	2
2,4,5-TP; SILVEX	PPB	BDL	2
2,4-DICHLOROPHENOXYACETIC ACID	PPB	BDL	10

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

APP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	13	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PROPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
LENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

APP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	1250	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PROPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	11	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

APP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
YLENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	14	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	43	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
OMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
OPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
LENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

APP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PROPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
LENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

APP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PROPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
LENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

\PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
ROMODICHLOROMETHANE	PPB	BDL	5
ROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
OPANENITRILE	PPB	BDL	5
YRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
LENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	1083	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PROPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	7	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
XYLENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	11	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	40	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: FIELD BLANK Lab ID. 87-3126-08

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
OMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
OPANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: FIELD BLANK

Lab ID. 87-3126-08

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
XYLENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: TRIP BLANK Lab ID. 87-3126-09

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
ACETONE	PPB	BDL	100
ACROLEIN	PPB	BDL	5
ACRYLONITRILE	PPB	BDL	5
ALLYL CHLORIDE	PPB	BDL	100
BENZENE	PPB	BDL	5
BROMODICHLOROMETHANE	PPB	BDL	5
BROMOFORM	PPB	BDL	5
BROMOMETHANE	PPB	BDL	10
CARBON DISULFIDE	PPB	BDL	5
CARBON TETRACHLORIDE	PPB	BDL	5
CHLOROBENZENE	PPB	BDL	5
CHLOROETHANE	PPB	BDL	5
CHLOROFORM	PPB	BDL	5
CHLOROMETHANE	PPB	BDL	10
CHLOROPRENE	PPB	BDL	5
CIS-1,3-DICHLOROPROPENE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
DICHLORODIFLUOROMETHANE	PPB	BDL	5
ETHYLBENZENE	PPB	BDL	5
ETHYLENE DIBROMIDE	PPB	BDL	5
ISOBUTYL ALCOHOL	PPB	BDL	50
METHACRYLONITRILE	PPB	BDL	5
METHYL BROMIDE	PPB	BDL	5
METHYL CHLORIDE	PPB	BDL	5
METHYLENE BROMIDE	PPB	BDL	5
METHYLENE CHLORIDE	PPB	BDL	5
METHYL ETHYL KETONE	PPB	BDL	100
METHYL IODIDE	PPB	BDL	5
METHYL METHACRYLATE	PPB	BDL	5
4-METHYL-2-PENTANONE	PPB	BDL	50
PANENITRILE	PPB	BDL	5
STYRENE	PPB	BDL	5
TETRACHLOROETHENE	PPB	BDL	5
TOLUENE	PPB	BDL	5
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: TRIP BLANK

Lab ID. 87-3126-09

PP9/8240VOL APPENDIX IX/8240-VOLATILES

Parameter	Units	Result	Detection Limit
TRANS-1,4-DICHLORO-2-BUTENE	PPB	BDL	5
TRICHLOROETHENE	PPB	BDL	5
TRICHLOROFLUOROMETHANE	PPB	BDL	5
VINYL ACETATE	PPB	BDL	5
VINYL CHLORIDE	PPB	BDL	10
XYLENES-TOTAL	PPB	BDL	5
1,1,1,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	5
1,1,2-TRICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	5
1,1-DICHLOROETHENE	PPB	BDL	5
1,2,3-TRICHLOROPROPANE	PPB	BDL	5
1,2-DICHLOROETHANE	PPB	BDL	5
1,2-DICHLOROETHENE	PPB	BDL	5
1,2-DICHLOROPROPANE	PPB	BDL	5
1,4-DIOXANE	PPB	BDL	150
2-HEXANONE	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

?P9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	BDL	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
P CRESOL	PPB	BDL	10
NOL	PPB	BDL	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

APP9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	50	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
P-CRESOL	PPB	BDL	10
ENOL	PPB	326	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9

Lab ID. 87-3126-03

PP9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	BDL	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
[illegible] CRESOL	PPB	BDL	10
[illegible] ENOL	PPB	BDL	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10

Lab ID. 87-3126-04

APP9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	BDL	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
P-CRESOL	PPB	BDL	10
PHENOL	PPB	BDL	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

PP9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	BDL	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
CRESOL	PPB	BDL	10
ENOL	PPB	BDL	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

APP9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	BDL	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
P-CRESOL	PPB	BDL	10
PHENOL	PPB	24	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1

Lab ID. 87-3126-07

'P9/8270ACID APPENDIX IX-METHOD 8270 ACIDS

Parameter	Units	Result	Detection Limit
M-CRESOL	PPB	BDL	10
O-CRESOL	PPB	60	10
P-CHLORO-M-CRESOL	PPB	BDL	20
PENTACHLOROPHENOL	PPB	BDL	50
P CRESOL	PPB	BDL	10
PHENOL	PPB	340	10
2,3,4,6-TETRACHLOROPHENOL	PPB	BDL	10
2,4,5-TRICHLOROPHENOL	PPB	BDL	10
2,4,6-TRICHLOROPHENOL	PPB	BDL	5
2,4DICHLOROPHENOL	PPB	BDL	5
2,4-DIMETHYLPHENOL	PPB	BDL	10
2,4-DINITROPHENOL	PPB	BDL	50
2,6-DICHLOROPHENOL	PPB	BDL	10
2-CHLOROPHENOL	PPB	BDL	10
O-NITROPHENOL	PPB	BDL	10
4,6-DINITRO-O-CRESOL	PPB	BDL	50
P-NITROPHENOL	PPB	BDL	50

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

..PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
ANILINE	PPB	BDL	10
ANTHRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
HEXACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

Sample ID.: NAS4-4 (continued)

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4

Lab ID. 87-3126-01

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
ISOPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-4 Lab ID. 87-3126-01

APP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
SAFROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	20
3-METHYLCHOLANTHRENE	PPB	BDL	10
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
5-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5

Lab ID. 87-3126-02

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
[illegible]ILINE	PPB	BDL	10
[illegible]THRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHOATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
F[illegible]ORENE	PPB	BDL	10
[illegible]ACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

Sample ID.: NAS4-5

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5 Lab ID. 87-3126-02

APP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
OPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-5

Lab ID. 87-3126-02

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
SAFROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	10
3-METHYLCHOLANTHRENE	PPB	BDL	20
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
5-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9

Lab ID. 87-3126-03

P9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
A LINE	PPB	BDL	10
A HRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
H ACHLOROBENZENE	PPB	BDL	10
H ACHLOROBUTADIENE	PPB	BDL	10
	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9

Lab ID. 87-3126-03

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
ISOPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-9 Lab ID. 87-3126-03

APP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
SAFROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	20
3-METHYLCHOLANTHRENE	PPB	BDL	10
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
4-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Client: GERAGHTY & MILLER
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Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10

Lab ID. 87-3126-04

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
ANILINE	PPB	BDL	10
ANTHRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHOATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
HEXACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

Sample ID.: NAS4-10

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

APP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
ISOPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-10 Lab ID. 87-3126-04

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
SAFROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	20
3-METHYLCHOLANTHRENE	PPB	BDL	10
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
4-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
ANILINE	PPB	BDL	10
ANTHRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
HEXACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

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Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11

Lab ID. 87-3126-05

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
DENO(1,2,3-CD)PYRENE	PPB	BDL	10
OPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
PARATHION	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
NACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

Sample ID.: NAS4-11

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: NAS4-11 Lab ID. 87-3126-05

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
PYROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	10
3-METHYLCHOLANTHRENE	PPB	BDL	20
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
4-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

.PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
ANILINE	PPB	BDL	10
ANTHRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
HEXACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

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Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
ISOPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

continued ...

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: RINSATE 1 Lab ID. 87-3126-06

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
.FROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	10
3-METHYLCHOLANTHRENE	PPB	BDL	20
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

APP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE	PPB	BDL	10
ACENAPHTHENE	PPB	BDL	10
ACENAPHTHYLENE	PPB	BDL	10
ACETOPHENONE	PPB	BDL	10
ANILINE	PPB	BDL	10
ANTHRACENE	PPB	BDL	10
BENZO(A)ANTHRACENE	PPB	BDL	10
BENZO(A)PYRENE	PPB	BDL	10
BENZO(B)FLUORANTHANE	PPB	BDL	10
BENZO(GHI)PERYLENE	PPB	BDL	10
BENZO(K)FLUORANTHANE	PPB	BDL	10
BENZYL ALCOHOL	PPB	BDL	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	PPB	BDL	10
BIS(2-CHLOROETHOXY) METHANE	PPB	BDL	10
BIS(2-CHLOROETHYL)ETHER	PPB	BDL	10
BIS(2-ETHYLHEXYL)PHTHALATE	PPB	BDL	10
BUYTLBENZYL PHTHALATE	PPB	BDL	10
CHLOROBENZILATE	PPB	BDL	10
CHRYSENE	PPB	BDL	10
DIBENZO(A,H)ANTHRACENE	PPB	BDL	10
DIBENZOFURAN	PPB	BDL	10
DIETHYL PHTHALATE	PPB	BDL	10
DIMETHYL PHTHALATE	PPB	BDL	10
DI-N-BUTYL PHTHALATE	PPB	BDL	10
DI-N-OCTYL PHTHALATE	PPB	BDL	10
DIPHENYLAMINE	PPB	BDL	10
ETHYL METHANESULFANATE	PPB	BDL	10
FLUORANTHENE	PPB	BDL	10
FLUORENE	PPB	BDL	10
HEXACHLOROBENZENE	PPB	BDL	10
HEXACHLOROBUTADIENE	PPB	BDL	10

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Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
HEXACHLOROCYCLOPENTADIENE	PPB	BDL	10
HEXACHLOROETHANE	PPB	BDL	10
HEXACHLOROPHENE	PPB	BDL	10
HEXACHLOROPROPANE	PPB	BDL	10
INDENO(1,2,3-CD)PYRENE	PPB	BDL	10
ISOPHORONE	PPB	BDL	10
ISOSAFROLE	PPB	BDL	10
M-DINITROBENZENE	PPB	BDL	10
METHAPYRILENE	PPB	BDL	10
M-NITROANILINE	PPB	BDL	10
NAPHTHALENE	PPB	BDL	10
NITROBENZENE	PPB	BDL	10
N-NITROSODIETHYLAMINE	PPB	BDL	10
N-NITROSODIMETHYLAMINE	PPB	BDL	10
N-NITROSODI-N-BUTYLAMINE	PPB	BDL	10
N-NITROSODIPROPYLAMINE	PPB	BDL	10
N-NITROSODIPHENYLAMINE	PPB	BDL	10
N-NITROSOMETHYLETHYLAMINE	PPB	BDL	10
N-NITROSOMORPHOLINE	PPB	BDL	10
N-NITROSOPIPENDINE	PPB	BDL	10
N-NITROSOPYRROLIDINE	PPB	BDL	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	PPB	BDL	10
O-NITROANILINE	PPB	BDL	10
O-TOLUIDINE	PPB	BDL	10
P-(DIMETHYLAMINO)AZOBENZENE	PPB	BDL	10
P-CHLOROANILINE	PPB	BDL	10
PENTACHLOROBENZENE	PPB	BDL	10
PENTACHLOROETHANE	PPB	BDL	10
PENTACHLORONITROBENZENE	PPB	BDL	10
PHENACETIN	PPB	BDL	10
PHENANTHRENE	PPB	BDL	10

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Client: GERAGHTY & MILLER
07001

Sample Site: NAS JACKSONVILLE
Sample Type: GROUNDWATER

Sample ID.: DUPLICATE 1 Lab ID. 87-3126-07

.PP9/8270B/N APPENDIX IX-METHOD 8270 BASE/N

Parameter	Units	Result	Detection Limit
P-NITROANILINE	PPB	BDL	10
P-PHENYLENEDIAMINE	PPB	BDL	10
PROPENAMIDE	PPB	BDL	10
PYRENE	PPB	BDL	10
PYRIDINE	PPB	BDL	10
SAFROLE	PPB	BDL	10
SULFOTEPP	PPB	BDL	10
SYM-TRINITROBENZENE	PPB	BDL	10
THIONAZIN	PPB	BDL	10
1,2,4,5-TETRACHLOROBENZENE	PPB	BDL	10
1,2,4-TRICHLOROBENZENE	PPB	BDL	10
1,2-DIBROMO-3-CHLOROPROPANE	PPB	BDL	10
O-DICHLOROBENZENE	PPB	BDL	10
M-DICHLOROBENZENE	PPB	BDL	10
P-DICHLOROBENZENE	PPB	BDL	10
1,4-NAPHTHOQUINONE	PPB	BDL	10
1-NAPHTHYLAMINE	PPB	BDL	10
2,4-DINITROTOLUENE	PPB	BDL	10
2,6-DINITROTOLUENE	PPB	BDL	10
2-ACETYLAMINOFLUORENE	PPB	BDL	10
2-CHLORONAPHTHALENE	PPB	BDL	10
2-METHYLNAPHTHALENE	PPB	BDL	10
2-NAPHTHYLAMINE	PPB	BDL	10
2-PICOLINE	PPB	BDL	10
3,3'-DIMETHYLBENZIDINE	PPB	BDL	10
3,3'-DICHLOROBENZIDINE	PPB	BDL	20
3-METHYLCHOLANTHRENE	PPB	BDL	10
4-AMINOBIPHENYL	PPB	BDL	10
4-BROMOPHENYL PHENYL ETHER	PPB	BDL	10
4-CHLOROPHENYL PHENYL ETHER	PPB	BDL	10
5-NITROQUINOLIN,1-OXIDE	PPB	BDL	10
5-NITRO-O-TOLUIDINE	PPB	BDL	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	PPB	BDL	10

Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page _____

Project Nur. TG 290 GW8

Project Location: NAS JAX

Laboratory Pinnacle

Sampler(s) Lou Reynolds, Tim Zebulske

SAMPLE IDENTITY	Date Sampled	TOX 500 ml glass on ice	Appendix 9 - PCB + Dioxin 1 gal glass on ice	pH + Spec Cond 1 gal plastic on ice	Appix 9 - CN 500 ml plastic + NaOH on ice	Appix 9 - H2S 500 ml plastic ZnAc + NaOH on ice						TOTAL
NAS4-10	10/1/87	4	3	4	1	1						11
Duplicate-1	10/1/87				1	1						2

Total No. of Bottles/ Containers: 13

274

Relinquished by: Lou Reynolds	Organization: Geraghty & Miller Inc	Date 10/2/87	Time 1200	Seal Intact? Yes No N/A
Received by: Georgia Shirley	Organization: Pioneer Lab	Date 10/3/87	Time 9:30 AM	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks: TOX CN for Duplicate-1 was screened in field for sulfide; the test positive for sulfide. The sample bottles were preserved and not enough sample bottles were included for the process of filtering, treating precipitation, removal of sulfides and reconstitution of sample. The CN for Duplicate-1, preserved with NaOH, is included and sulfide will be removed in the laboratory as per Tim Bowers Telephone conversation w/ Lou Reynolds 10/1/87

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

F-69

Ground-Water Consultants

Project Number: To 290GW8

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebulske

87-3125

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	Appdx 9 - Pesticides 1 g amber glass on Ice	Appdx 9 - Herbicides 1 g amber glass on Ice	Appdx 9 - Acid Extractables 1 g amber glass on Ice	Appdx 9 - Base Neutrals 1 g amber glass on Ice	Appdx 9 - H2S 1 g plastic + NaOH + ZnAc on Ice	Appdx 9 - All Total Metals 1/2 gal plastic + HNO3 on Ice	Appdx 9 - Misc Inorganics 1/2 gal plastic on Ice	Appdx 9 - Total CN 1 g plastic + NaOH on Ice	TOC	Hone VOA vial + H2SO4 on Ice	TOTAL
NAS4-10	10/1/87	1	1	1	1	1	1	1	1	4		12

Total No. of Bottles/Containers: 12

273

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller — Date 10/2/87 Time 1200

Received by: Dwayne Smalz — Organization: Pioneer Lab — Date 10/3/87 Time 9:30 AM

Seal Intact? Yes No N/A

Relinquished by: ____ Organization: ____ Date ___/___/___ Time ____

Received by: ____ Organization: ____ Date ___/___/___ Time ____

Seal Intact? Yes No N/A

Special Instructions/Remarks: Total CN screened for sulfides & oxidizers & both negative

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

F-70

Project Number: TO 290 Gulf

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, TIM ZEBULSKI

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	RCRA VOC - Appendix 9 VOC - All VOC	Hexane VOA vials on ice Appix 9 - Dioxin PCB	1 Gallon Glass on ice								TOTAL
NAS4-5	10/1/87	4	3									7
NAS4-4	10/1/87	4										4
NAS4-10	10/1/87	4										4
NAS4-11	10/1/87	4										4
Duplicate-1	10/1/87	4										4
Rinsate-1	10/1/87	4										4
Field Blank-1	10/1/87	4										4
TRIP Blank-1	—	4										4

Total No. of Bottles/Containers: 35

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller Inc — Date 10/2/87 Time 1200

Received by: Georgia Shuntz — Organization: Pioneer Lab — Date 10/3/87 Time 9:30 AM

Seal Intact? Yes No N/A

Relinquished by: ____ Organization: ____ Date / / Time ____

Received by: ____ Organization: ____ Date / / Time ____

Seal Intact? Yes No N/A

Special Instructions/Remarks: Unpreserved VOC must be analyzed within 7 days of collection.

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

282

F-71

Project Number: T0290 GW8

Project Location: Nts JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Rebulska

17-3126

SAMPLE IDENTITY	Date Sampled	pH & spec conductivity 500ml plastic on ice	TOX 500ml glass on ice	TOC 40ml VOA vial + HCl on ice	Approx 9 - Total Metals - All 1/2 gal plastic + HNO3 on ice	Approx 9 - Misc Inorganics 1/2 gal plastic on ice	Approx 9 Acid Extractables 1 Amber glass on ice	Approx 9 Base Neutrals 1 Amber glass on ice	Approx 9 - Dioxin PCB 1 Amber glass on ice			TOTAL
7 Duplicate-1	10/1/87	4	4	4	1	1	1	1	3			19

275

Total No. of Bottles/Containers: 19

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller Inc — Date 10/2/87 Time 1200
Received by: Georgia Shuey — Organization: Pioneer Lab — Date 10/3/87 Time 9:30 AM — Seal Intact? (Yes) No N/A

Relinquished by: — Organization: — Date / / Time
Received by: — Organization: — Date / / Time — Seal Intact? Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

F-72

Ground-Water Consultants

Project Number: TO 290 GWB

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebolsky

87-3126

	SAMPLE IDENTITY	Date Sampled	pH & spec cond 1 gl plastic on ice	TOX 500ml glass on ice	Approx 9 - PCB Dioxin 1 gl amber glass on ice								TOTAL
1	NAS4-4	10/1/87			3								3
1	NAS4-4	9/30/87	4	4									8

Total No. of Bottles/Containers: 11

277

Relinquished by: Lou Reynolds	Organization: GERAGHTY & MILLER INC	Date 10/1/87	Time 1200	Seal Intact? Yes · No N/A
Received by: Georgia Shuey	Organization: Pioneer Lab	Date 10/3/87	Time 9:30 AM	
Relinquished by:	Organization:	Date / /	Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / /	Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

F-73

Ground-Water Consultants

Project Number: T0240 GWS

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebulske

87 - 3126

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Date Sampled	Approx 4 - All Total Metals 1/2 gal plastic + HNO3 on ice	Approx 9 - Mix Inorganics 1/2 gal plastic on ice	Approx 9 - H2S 1 gal plastic + 2mL Acetate NaOH on ice	Approx 9 - Pesticides 1 gal amber glass on ice	Approx 9 - Herbicides 1 gal amber glass on ice	Approx 9 - Acid Extractables 1 gal amber glass on ice	Approx 9 - Base Neutrals 1 gal amber glass on ice	Approx 9 - Total CN 1 gal plastic + NaOH on ice	TOC 40mL vial + H3PO4 on ice		TOTAL
1	NAS4-4	10/1/87	1	1	1	1	1	1	1	1	[redacted]		[redacted] 8
[redacted]	NAS4-4	9/2/87									4		4

Total No. of Bottles/Containers: 12

Relinquished by: [signature] Organization: Geraghty & Miller Inc Date 10/2/87 Time 1200

Received by: [signature] Organization: Pioneer Lab Date 10/3/87 Time 9:30

Seal Intact? Yes No N/A

Relinquished by: Organization: Date / / Time

Received by: Organization: Date / / Time

Seal Intact? Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

276

F-14

Project Number: TO290GW8

Project Location: NAS Jax

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebilske

87-3126

	SAMPLE IDENTITY	Date Sampled	Appendix 9 - RCRA VOC 40 ml VOA vial on ice	TOC 40 ml VOA vial + H_2SO_4 on ice	TOX 500 ml glass on ice	pH spec cond 1 g plastic on ice	Total CN 1 g plastic + NaOH on ice	H_2S - Appendix 9 1 g plastic + NaOH on ice + ZnAc	Appendix 9 All Total Metals 1 g plastic + HNO_3 on ice				TOTAL
-3	NAS4-9	10-1-87	4				1	1	1				7
-3	NAS4-9	9-29-87		4	4	4	1	1	1				12
9	TRIP Blank		4										4

Total No. of Bottles/Containers: 23

270

Relinquished by: Lou Reynolds	Organization: Geraghty & Miller, Inc	Date 10/2/87 Time 1200	Seal Intact? Yes No N/A
Received by: Georgia Shuey	Organization: Pioneer Lab	Date 10/3/87 Time 9:30 AM	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks: Bubble in TRIP Blank. Total CN Field screen for Sulfides + Oxidizers - negative.

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

Ground-Water Consultants

Project Number: T0290 6W8

Project Location: NAS Jax

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebulske

47 - 3126

SAMPLE IDENTITY	Date Sampled	Acid Extractables - Appx 9 1 amber glass on ice	Base Neutrals - Appx 9 1 amber glass on ice	Pesticides - Appx 9 1 amber glass on ice	Herbicides - Appx 9 1 amber glass on ice	PCB, Dioxin - Appx 9 1 amber glass on ice	Appx 9 - Misc. Inorganics 1/2 gal plastic on ice	Appx 9 - H2S 1 plastic + ZnAc + NaOH on ice				TOTAL
NAS4-9	10-1-87	1	1	1	1	3	1					8
NAS4-5	10-1-87			1	1		1	1				4

Total No. of Bottles/Containers: 12

271

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller Inc — Date 10/2/87 Time 1200

Received by: [illegible] — Organization: Pioneer Lab — Date 10/3/87 Time 9:30 AM

Seal Intact? Yes No N/A

Relinquished by: ____ Organization: ____ Date / / Time ____

Received by: ____ Organization: ____ Date / / Time ____

Seal Intact? Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

F-76

Ground-water Consultants

Project Nur 70290 GW8

Project Location: NAS JAX

Laboratory Pioneer

Sampler(s) Lou Reynolds
TIM ZEBULSKE

87 - 3126

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	pH + Spec cond 1 gl plastic on ice	Approx 4 All Total Metals ½ gal plastic + HNO_3 on ice	Approx 4 - Total CN 1 gl plastic + NaOH on ice	TOX 500 ml glass on ice	TOC 40 ml VOA vial on ice + H_3PO_4	Base Neutrals - Approx 4 1 gl amber glass on ice	Acid Extractables - Approx 4 1 gl amber glass on ice	Pesticides - Approx 4 1 gl amber glass on ice	Herbicides - Approx 4 1 gl amber glass on ice		TOTAL
NAS4-5	10-1-87	4	1	1	4	4	1	1	[redacted]	[redacted]		16
Duplicate-1	10-1-87								1	1		2

Total No. of Bottles/ Containers 18

272

Relinquished by: Lou Reynolds	Organization: Geraghty & Miller Inc	Date 10/2/87	Time 1200	Seal Intact?
Received by: Georgia Schuey	Organization: Pioneer Lab	Date 10/3/87	Time 9:30 AM	(Yes) No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?
Received by:	Organization:	Date / /	Time	Yes No N/A

Special Instructions/Remarks: Total CN for NAS4-5 was screened in field for Sulfide. The test was positive for Sulfide. The sample bottles were pre-preserved and not enough sample bottles were included for the process of filtering, treatment, precipitation, removal of sulfide and reconstitution of sample. The CN sample for NAS4-5 was included, preserved with NaOH, and sulfide will be removed in the laboratory as per Fax Powers (Telephone conversation with Lou Reynolds 10/1/87)

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

E-77

Ground-Water Consultants

Project Number: TO290 GW8

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebulske

87-3126

SAMPLE IDENTITY	Date Sampled	TOX 2 one glass vials	Approx 9 - PCB + Dioxin 1 gl amber glass vials	pH + Spec cond 1 gl plastic vials								TOTAL
5 NAS4-11	10/1/87	4	3	4								11

Total No. of Bottles/Containers: 11

281

Relinquished by: Lou Reynolds	Organization: Geraghty + Miller Inc	Date 10/2/87 Time 1200	Seal Intact? Yes No N/A
Received by: Georgia Shirey	Organization: Pioneer Lab	Date 10/3/87 Time 9:00 AM	
Relinquished by:	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

F-78

Ground-Water Consu...

Project Number: TO290 GW8

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, Tim Zebolske

87-3126

SAMPLE IDENTITY	Date Sampled	Approx 9 - Base Neutrals 1L amber glass on ice	Approx 9 - Acid Extractables 1L amber glass on ice	Approx 9 - Pesticides 1L amber glass on ice	Approx 9 - Herbicides 1L amber glass on ice	Approx 9 - H_2S 1L plastic + NaOH + Zn Ac on ice	Approx 9 - CN 1L plastic + NaOH on ice	Approx 9 - All Total Metals 1/2 gal plastic + HNO_3 on ice	Approx 9 - Mix Inorganics 1/2 gal plastic on ice	TOC	Hold VOA vial + H_3PO_4 on ice		TOTAL
NAS4-11	10/1/87	1	1	1	1	1	1	1	1	4			12

Total No. of Bottles/Containers: 12

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller Inc — Date 10/2/87 Time 1200

Received by: Georgia Shuey — Organization: Pioneer Lab — Date 10/3/87 Time 7:30 AM

Seal Intact? Yes No N/A

Relinquished by: ____ Organization: ____ Date / / Time ____

Received by: ____ Organization: ____ Date / / Time ____

Seal Intact? Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

280

F-79

Project Number: B290GW8

Project Location: NAS JAX

Laboratory: Pioneer

Sampler(s): Lou Reynolds, TIM ZEBULSKE

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	TOC 40 ml VOA vials w/ ice	TCX 40 ml glass w/ ice + HCl	pH + spec cond. 1 qt plastic w/ ice	H2S - Appendix 9 1 qt plastic + ZnAc + NaOH w/ ice	CN - Appendix 9 1 qt plastic + NaOH w/ ice	Appendix 9 pesticides 1 qt amber glass w/ ice	Appendix 9 Herbicides 1 qt amber glass w/ ice				TOTAL
Reisert 1	10/1/87	4	4	4	1	1	1	1				16

Total No. of Bottles/ Containers: 16

278

Relinquished by: Lou Reynolds — Organization: Geraghty & Miller — Date 10/2/87 Time 1200

Received by: Georgia Shuff — Organization: Pioneer Lab — Date 10/3/87 Time 9:30 AM

Seal Intact? Yes No N/A

Relinquished by: ____ Organization: ____ Date __/__/__ Time ____

Received by: ____ Organization: ____ Date __/__/__ Time ____

Seal Intact? Yes No N/A

Special Instructions/Remarks: ____

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other ____ (SPECIFY)

F-80

Ground-Water Consultants

Project Nur T0290608

Project Location: NAS JAX

Laboratory Pioneer

Sampler(s) Lou Reynolds
TIM ZEBULSKE

87-3126

SAMPLE IDENTITY	Date Sampled	Approx 9 - All Total Metals 1 gal Plastic + HNO3 on Ice	Approx 9 - Nitrs Inorganics 1 gal plastic + [redacted] on Ice	Approx 9 - All Petroleum Fuels 1 gl amber glass on Ice	Approx 9 - Base Neutrals 1 gl amber glass on Ice	Approx 9 - PCB Dioxin 1 gl amber glass on Ice						TOTAL
Reinsate -1	10/1/87	1	1	1	1	3						7

Total No. of Bottles/ Containers: 7

279

Relinquished by: Lou Reynolds	Organization: Geraghty & Miller Inc	Date 10/2/87 Time [redacted] 1200	Seal Intact?
Received by: Georgia Shuff	Organization: Pioneer Lab	Date 10/3/87 Time 9:30 AM	(Yes) No N/A
Relinquished by:	Organization:	Date / / Time	Seal Intact?
Received by:	Organization:	Date / / Time	Yes No N/A

Special Instructions/Remarks:

Delivery Method: ☐ In Person ☒ Common Carrier FED EX (SPECIFY) ☐ Lab Courier ☐ Other (SPECIFY)

F-81

590/9

DIBENZO DIOXINS/FURANS DATA

Sample Numbers

Sample No.	Pioneer No.	ETC No.
NAS4-4	3216-1	BC2331
NAS4-5	3126-2	BC2332
NAS4-9	3126-3	BC2429
NAS4-10	3126-4	BC2333
NAS4-11	3126-5	BC2334
Rinsate 1	3126-6	BC2335
Duplicate 1	3126-7	Not available

ETC ENVIRONMENTAL TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2331	PIONEER LABORATORIES	PIONEER	3126-1	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	.69	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	.69[a]	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	3.6	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	2.4	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	.76	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	5.8	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	.67	ND	ND	ND	10.0	118	ND	12.0	102

Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

ET ENVIRONMENTAL TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2332	PIONEER LABORATORIES	PIONEER	3126-2	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	.85	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	.85a	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	3.4	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	3.7	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	.70	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	6.3	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	2.5	ND	ND	ND	10.0	118	ND	12.0	102

Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2429	PIONEER LABORATORIES	PIONEER	3126-3	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen, ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	.84	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	.84[a]	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	2.3	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	1.9	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	.63	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	5.0	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	.59	ND	ND	ND	10.0	118	ND	12.0	102

[a] Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

ENVIRONMENTAL
TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2333	PIONEER LABORATORIES	PIONEER	3126-4	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	1.1	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	1.1 [a]	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	7.2	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	2.6	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	.89	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	10.5	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	.81	ND	ND	ND	10.0	118	ND	12.0	102

[a] Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

ENVIRONMENTAL
TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2334	PIONEER LABORATORIES	PIONEER	3126-5	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov.	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	1.5	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	1.5 [a]	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	2.1	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	3.4	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	.92	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	8.8	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	1.1	ND	ND	ND	10.0	118	ND	12.0	102

[a] Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

NOV 16, 1987

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Total Polychlorinated Dibenzo Dioxins/Furans GC/MS Analysis Data (QR61)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BC2335	PIONEER LABORATORIES	PIONEER	3126-6	871007		

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. ppt	MDL ppt	First ppt	Second ppt	Blank Data ppt	Concen. Added ppt	% Recov	Unspiked Sample ppt	Concen. Added ppt	% Recov
2,3,7,8-TCDD	ND	1.8	ND	ND	ND	10.0	116	ND	12.0	95
TCDD	ND	1.8 [A]	ND	ND	ND	10.0	116	ND	12.0	95
PCDD	ND	6.1	ND	ND	ND	10.0	111	ND	12.0	108
HxCDD	ND	4.6	ND	ND	ND	10.0	101	ND	12.0	100
TCDF	ND	1.1	ND	ND	ND	10.0	105	ND	12.0	85
PCDF	ND	9.1	ND	ND	ND	10.0	91	ND	12.0	84
HxCDF	ND	1.3	ND	ND	ND	10.0	118	ND	12.0	102

A Method Detection Limit for TCDD (total) is based on 2,3,7,8-TCDD specific isomer.

Table 1. Geochemical Parameters Measured in the Field

Monitor-Well Designation	Temperature (Degrees Celsius)	pH (standard units)	Specific Conductivity (micromhos per centimeter)
NAS4-4	25.0	4.55	170
NAS4-5	24.9	6.48	140
NAS4-9	24.5	5.47	220
NAS4-10	25.0	5.05	68
NAS4-11	24.7	4.09	80