

24E

# **GROUNDWATER MONITORING NETWORK**

*July 1992*

Fort Richardson, Alaska

CENPA-EN-G-M (200-1c)

16 July 1992

## MEMORANDUM FOR CENPA-EN-EE-AI

SUBJECT: Geotechnical Report for Groundwater Monitoring Network, Ft. Richardson, Alaska

## 1. References:

a. Memorandum, CENPA-EN-G-M, dated 27 February 1990, Sampling and Analysis, & QA/QC Plan for Groundwater Monitoring at Fort Richardson, Alaska.

b. Memorandum, CENPA-EN-G-M, dated 25 April 91, subject: Basewide Groundwater Study, Sample Collection by E & E, Inc., Ft. Richardson, AK

c. Memorandum for Record, CENPA-EN-G-M dated 28 June 1991, subject: Geotechnical Report for Groundwater Monitoring Network, Ft. Richardson, Alaska.

## 2. Enclosed is the subject groundwater report.

3. Seventeen wells were identified to be sampled semiannually since the spring of 1990, but five of the wells were not sampled consistently. An additional six wells were installed in January 1991. Four of these wells were identified to be sampled for the spring of 1991 and not for the fall of 1991. A history of the wells sampled is as follows: Twelve wells (ADFG C, ADFG E, ADFG K, AK-2127, A-6, FR-1, FR-3, OTTER, TW-1, WELL-1, WELL-3, and W-B) were sampled for the spring 1990, fall 1990, spring 1991, and fall 1991 sampling events. Three wells (SUMP A, ADFG 9, and WELL-2) were sampled for spring and fall 1990 sampling event and not repeated for 1991. Four wells (AP-3010, AP-3013, AP-3014, AP-3015) (landfill investigation) were sampled for the spring 1991 sampling event and not repeated for the fall of 1991. A-1 was sampled for the spring 1990, fall 1990 and spring 1991 sampling events. FR-2 was sampled for the spring 1990, fall 1990 and fall 1991 sampling events.

4. The April-May 1991 sampling event was incomplete. There was no trip report submitted. Four wells (FR-2, WELL-2, SUMP A, ADFG 9) were not sampled. According to the E & E field log book well FR-2 had a broken well pipe and well casing and WELL-2 had no water (pump not working). There was no note of why SUMP A and ADFG 9 were not sampled. The field data collected were also incomplete. There were no conductivity nor oxidation/reduction potential readings taken from any wells. There were no temperature nor pH readings taken from six wells. Incomplete depth to water was reported.

A minimum of two blind duplicate (QA) and two blind duplicate (QC) samples were required per test to satisfy the quality assurance requirements. No QC samples were collected. One out of two QA samples was collected for volatile, semivolatile organics and pesticides/PCBs.

CENPA-EN-G

SUBJECT: Geotechnical Report for Groundwater Monitoring Network, Ft.  
Richardson, Alaska

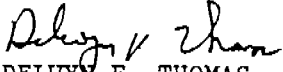
The data were evaluated based on the limited QA samples and the project laboratories' internal QC data. All data were acceptable, except for the presence of methylene chloride and chloromethane.

5. Two wells (WELL-2 and A-1) were not sampled during the November sampling event. The trip report from American North states that WELL-2 was not sampled because the pump was not working and well A-1 could not be located. There were no pH nor oxidation/reduction potential readings recorded for three wells. No other deviations from the sampling plan are apparent. Again incomplete depth to water was reported.

6. Due to incomplete data, no new groundwater contour maps for the 1991 period are provided.

7. Questions concerning chemical data should be addressed to Thomas Reed, x-1302. Questions concerning maps and geological data should be addressed to Chuck Wilson, x-1287.

encl

  
DELWYN F. THOMAS  
Chief, Geotechnical Branch

GEOTECHNICAL REPORT  
for  
GROUNDWATER MONITORING NETWORK

Fort Richardson, Alaska

## 1.0 INTRODUCTION

The Fort Richardson basewide groundwater monitoring program was started in 1990. Many substances that have been used on base are capable of causing groundwater contamination if spilled or disposed of improperly. This monitoring program is limited to the vicinity of the central complex of Fort Richardson where most of the contamination is suspected.

Groundwater samples are collected and tested twice a year. Hydrogeological data are collected to characterize groundwater flow and fluctuation. Data from the 1990 sampling event were compiled in an earlier report (Ref. 7.10). Six additional wells were installed November 1990 - January 1991 (AP-3010 through AP-3015). These six wells were not reported in the 1990 report, but their locations were included in the well location map. This report summarizes the 1991 data for the Fort Richardson groundwater monitoring network.

## 2.0 GROUNDWATER MAPPING

The well locations are found in enclosure 4. See the 1990 groundwater report for the contour maps (Reference 7.10).

## 3.0 CHEMICAL ANALYSIS

The samples procured from the selected wells were analyzed for specific pollutants. Data from the chemical analyses are reported in Tables I through XVIII. Field data for the water samples are provided in Tables B & C. Each table summarizes the chemical data from one chemical method for water samples from all wells for each sampling event. Data tables corresponding to each chemical analysis are indicated in the following list. In the tables, parts per million (ppm) are expressed as milligrams per liter (mg/L) for water samples. Parts per billion (ppb) are expressed as micrograms per liter (ug/L). One ppm is equal to 1000 ppb. The analytical methods employed are reported in the tables and are published in the Environmental Protection Agency (EPA) manuals Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW 846) and Methods for Chemical Analysis of Water and Wastes. Water samples were analyzed by some or all of the following methods:

Method 8240	Volatile Organic Compounds	Tables I & XI
Method 8270	Semivolatile Organic Compounds	Tables II & XII
Method 8140	Organophosphorus Pesticides	Tables III & XIII
Method 8080	Pesticides and PCB	Tables IV & XIV
Method 8015 (mod)	Hydrocarbon Scan	Tables V & XV
Methods 6000s-7000s	Dissolved Metals	Tables VI & XVI
Methods 6000s-7000s	Total Metals	Tables VII & XVII

Method 415.1	Total Organic Carbon	Table IX
Method 180.1	Turbidity	Tables VIII & XVIII
Method 350.3	Ammonia Nitrogen	Table IX
Method 352.1	Nitrate Nitrogen	Table IX
Method 351.4	Total Kjeldahl Nitrogen	Table IX
Method 310.1	Bicarbonate (alkalinity)	Tables VIII & XVIII
Method 325.1	Chloride	Tables VIII & XVIII
Method 375.4	Sulfate	Tables VIII & XVIII
Method 160.1	Total Dissolved Solids	Tables VIII & XVIII
Method 9010	Cyanide	Table IX
Method 150.1	pH	Tables VIII & XVIII
Coliform count	Microbiological Analysis	Table X

### 3.1 Quality Assurance and Quality Control:

3.1.1 Data Quality Review: The complete chemical data package, including the laboratories' internal quality control reports, is on file at CENPA-EN-G-MI. The data and associated materials were reviewed by chemists at the Corps of Engineers North Pacific Division Laboratory (CENPD-PE-GT-L).

CENPD-PE-GT-L chemists performed an extensive set of procedures to assess the quality of the data. The initial inspection of the data screened for errors and inconsistencies. The CENPD chemist checked the instrument and analysis identification, sample description and identification, time and date of analysis, weight or volume of sample, units employed, dilutions, sample clean-up, and detection limits. The chemist then verified that the data were checked by the laboratory manager or quality assurance officer. Sample holding times, preservation, and storage were checked and noted.

The second step of the data verification process was an assessment of the laboratory's instrumentation procedures. The precise process varied depending on the method of analysis, but may have included inspection of instrument tuning, initial and continuing calibration procedures, example calculations, standard solution preparation methods, and identification criteria including quantification and confirmation of ions. Surrogate recoveries were scrutinized to ensure they fell within an acceptable range. Adequate surrogate recoveries indicate that sample extraction procedures were effective, and that overall instrument procedures were acceptable.

The next phase of data quality assessment was a involved examination of the actual data. This phase of the data quality assessment is by far the most time-intensive, requiring the chemist to examine all the data produced by the laboratory. By examining data from laboratory duplicates, blind duplicates, trip blanks, laboratory blanks, matrix spike and matrix spike duplicate samples, and field samples, the chemist can determine whether the data are of high quality.

The precision of the data was quantified by the relative percent difference (RPD) between two results obtained for the same sample. Laboratory duplicates and matrix spike duplicates were assessed by their RPD values. High RPD values indicate a lack of reproducibility, and such data will be rejected. Any such results were reported in the assessment of data quality.

Data from blank samples were examined to determine if sample contamination occurred after the sample was collected in the field. Method blanks are blank samples prepared in the laboratory and analyzed along with project samples. If analytes are detected in a method blank, it is a strong indication of laboratory contamination. This would raise the possibility that project samples were contaminated in the laboratory as well. Trip blanks are samples of pure water that accompanied the project samples from the field to the laboratory. Trip blanks accompany each shipment of water samples to be analyzed for volatile organic compounds. Analysis of the trip blanks indicated whether sample contamination occurred during shipment or storage. Rinsate blanks were collected from pure water poured over decontaminated equipment, such as bailers used to collect water samples. If proper decontamination procedures are used, rinsate blanks will contain no contaminants. Inspection of the rinsate blank data revealed whether equipment was properly decontaminated.

The accuracy of the data was monitored by analysis of matrix spike and matrix spike duplicate sample analyses. A matrix spike sample is prepared by adding a known quantity of a certain analyte to an actual sample. The matrix spike duplicate is prepared in an identical manner. Matrix spike and matrix spike duplicates must be run at least once per every ten samples. Recovery of the matrix spike indicates the level of accuracy of the data. Comparison of the matrix spike and matrix spike duplicate results provides another indication of data precision. Chemists at NPD examined all matrix spike and matrix spike duplicate data. Low or high spike recoveries or a high RPD for duplicates are evidence of poor accuracy or low precision; all such results are reported in the quality assurance assessment.

Laboratory data quality is summarized in the quality assurance reports (QARs; Refs. 7.6 and 7.7; attached as Enclosure 5). For the April-May sampling event an insufficient number or no QA and blind duplicate samples were submitted. The project data were evaluated based on the project laboratory's internal QC data. Based on the internal QC data the data are acceptable except when noted in the discussion.

For the November sampling event the project and QA data were in agreement and are acceptable. Exceptions are noted in the discussion of specific test results.

3.1.2 Replicate Samples: No blind duplicate samples were submitted for the May sampling event.

For the November event the blind duplicate quality control (QC) samples were submitted to the project laboratory, which analyzed the majority of the samples. Analysis of QC duplicate samples provides a measure of intra-laboratory variations. Additional replicate samples were provided to an independent quality assurance (QA) laboratory, to provide a test of inter-laboratory accuracy. QC and QA samples were collected by dispensing aliquots into each sample container from each bailer collected. Approximately 20% of the samples were QA or QC replicates that effectively provide triplicate analysis on approximately 10% of the samples. QC and QA duplicates are so noted in Tables XI through XVIII.

For the November sampling event data from all replicate samples were analyzed by CENPD-PE-GT-L as part of development of the QAR. Of each triplicate set, two samples were analyzed at the project laboratory, and the third was analyzed at the QA laboratory. The three sets of data for each set were carefully compared and tabulated. Any discrepancies were noted in the QAR. If results for a given analyte did not agree within a factor of three between the data sets, the data were rejected. If two of three data sets agreed, each laboratory's internal QA/QC data were reassessed to determine which set of data is the most accurate. Data from related analyses may have been inspected to determine which set of data was more accurate.

3.1.3 Rinsate Samples: Rinsate sample analysis indicated that sampling equipment decontamination procedures were sufficient to preclude sample cross-contamination. A rinsate sample from the November 1991 sampling event was reported to contain 3 ug/L (ppb) of 1,1,1-trichloroethane. The QAR states that data were not affected by this reported compound because it was not found in any samples or laboratory blanks.

3.1.4 Trip Blanks: Methylene chloride, chloroform and trichlorotrifluoroethane (Freon 113) were detected in some samples, but were also present in laboratory and/or trip blanks. These are common laboratory contaminants, and the levels detected in well samples do not exceed ten times the level found in any blank. As such, their presence in groundwater samples may be discounted.

Some trip blanks from the November 1991 sampling event contained trace amounts (2 to 3 ppb) of toluene, 1,1,1-trichloroethane, and cis-1,2-dichloroethene. Their presence may be due to cross-contamination during sample storage and shipment, or to laboratory contamination. These analytes were not found in any groundwater samples and did not affect the data.

#### 4. GROUNDWATER QUALITY - SAMPLING AND RESULTS

4.1 Field Effort: Water samples were collected from selected wells for chemical analysis by Ecology and Environment, Inc. (E & E) (Spring 1991) and America North Inc. (ANI) (Fall 1991). Sampling plans are on file at CENPA-EN-G-MI (refr. 8a.)

4.2 Sample Locations: Table A summarizes the wells sampled and the tests methods used.

4.3 Field Measurements: Tables B and C summarize the field measurements for the April/May and November sampling efforts.

4.4 Chemical Analysis and Results: The samples procured from the selected wells were analyzed for specific polluting elements and compounds. The data from the chemical analyses are reported in Enclosure 1. The analytical methods employed are presented in the tables and are published in Environmental Protection Agency (EPA) Methods Manuals.

## 5. ENCLOSURES

This memorandum includes 5 enclosures as tabulated below:

- 5.1 Enclosure 1 - Chemical Results, in summary tables
- 5.2 Enclosure 2 - Chemical Results, only detected analytes/results.
- 5.3 Enclosure 3 - Location Map
- 5.4 Enclosure 4 - Site Map
- 5.5 Enclosure 5 - Quality Assurance Reports (QAR)

## 6. SUMMARY OF FINDINGS

6.1 Volatile Organic Compounds (VOCs): Data are presented in Tables I & XI: 13 ug/L of 2-butanone (MEK) was reported in the May water sample for well AK-2127. Toluene was found in low levels (1.2 to 7.1 ug/L) in the May sampling effort for wells AK-2127, AP-3014, A-1, WELL-1, and W-B. Neither compound was found in the 1990 samples nor in the November 1991 sample. Their presence in the groundwater should be accepted with caution.

6.2 Semivolatile Organic Compounds: Data are presented in Tables II & XII: 370 ug/L of benzoic acid was found in the November sampling effort for well TW-1. Bis(2-ethylhexyl)phthalate was found in wells FR-1 and FR-2. Phthalates are used as plasticizers and are common laboratory contaminants from plastic items used in the analysis. This compound would also be found in a landfill. The presence of this compound should be accepted with caution.

Tentatively identified compounds (TICs) detected and reported by the project laboratory in several samples included unknown compounds. No precise identification or quantification of these compounds could be made. Water samples from FR-1 and FR-3 contained up to 1 ppm TICs. This is indicative of petroleum-like contamination in these wells, and reconfirms the data from petroleum screening analysis of samples from these two wells.

6.3 Organophosphorus Pesticides. (Method 8140): Tables III & XIII: No analytes were detected in any water samples with this method.

6.4 PCBs and Organochlorine Pesticides. (Method 8080): Tables IV & XIV: No analytes were detected in any water samples with this method.

6.5 Fuel Identification (Method 8015 modified): Tables V & XV: Oil/diesel fuel was tentatively identified in water from wells FR-1 and FR-3 in both sampling efforts but the oil does not match diesel range hydrocarbons. This is consistent with the findings from the sampling effort in 1990. For the November sampling event the QA data identifies a compound as Bunker C (diesel #6). The project and QA agree all targeted



fuels except for bunker C. The project laboratory found some anomalous organics in the diesel range but it did not match the any diesel hydrocarbons.

*filtered*

6.6 Dissolved Metals (Methods: 6010 & 7000 series): Tables VI & XVI: For dissolved metals the Secondary Maximum Contaminant Level (SMCL) for one or more metal was exceeded in the wells as follows: ADFG K - aluminum, iron and manganese; AP-3010 - aluminum, iron and manganese; AP-3014 - aluminum and manganese; AP-3015 - iron and manganese; A-6 - manganese; FR-1 - aluminum, iron and manganese; FR-3 - aluminum, iron and manganese; OTTER - manganese; and TW-1 - aluminum, iron and manganese. Well number FR-1 had dissolved metal concentrations that grossly exceeded the SMCLs.

The Maximum Contaminant Level (MCL) was exceeded as follows: ADFG E - lead; FR-1 - lead.

*unfiltered*

6.7 Total Metals (Methods: 6010 & 7000 series): Tables VII & XVII: The SMCLs were exceeded for one or more metals as follows: ADFG C - aluminum, iron and manganese; ADFG E - iron and manganese; ADFG K - aluminum, iron, manganese and nickel; AK-2127 - iron and manganese; AP-3010 - aluminum, iron and manganese; AP-3013 - Not tested for metals; AP-3014 - iron and manganese; AP-3015 - iron and manganese; A-1 - iron and manganese; A-6 - iron, manganese and chromium; FR-1 - aluminum, iron and manganese; FR-3 - aluminum, iron, and manganese; OTTER - aluminum, iron and manganese; TW-1 - aluminum, iron and manganese; WELL 1 - iron and manganese; WELL 3 - aluminum, iron and manganese; W-B - iron and manganese;

The MCLs were exceeded for metals as follows: FR-2 - lead; FR-3 - lead and chromium;

6.8 Nonmetallic Parameters: Tables VIII & XVIII: Most of the project and QA data agreed except for turbidity, Langlier's index and chemical oxygen demand due to varying degrees of particulates found in the project blind duplicate and QA samples.

The pH ranged between 6.53 and 7.9 and is within the range allowed by state regulations.

The state secondary maximum contaminant level for chloride is 250 mg/L. This level was not approached in any sample; the highest level reported was 16.3 mg/L in the May 1991 sample from ADFG K.

Alkalinity, ammonia and Kjeldahl nitrogen, methylene blue active substances and corrosivity (Langlier's index) levels were generally within normal ranges. None of these parameters is regulated.

The state secondary MCL for sulfate is 250 mg/L (Ref. 7.14). This level was not exceeded in any sample; the maximum level was 23 mg/L in the November 1991 sample from ADFG C.

Turbidity is a measurement of the opacity of a water sample. The higher the turbidity, the more opaque the water sample. Turbidity levels in the 1991 groundwater samples ranged from 0.03 nephelometric turbidity units (NTU) in Well ADFG E to 5900 NTU in FR-3, a landfill well. The landfill wells FR-1, FR-2, and FR-3 had noticeably elevated readings.

The state secondary MCL for total dissolved solids is 500 mg/L. This level was not exceeded in water samples from the 1991 sampling events. The maximum level was 257 mg/L in the November 1991 sample from FR-2.

#### 6.9 Inorganic Parameters: Table IX:

The state MCL for nitrate and nitrite as nitrogen is 10 mg/L. The MCL for nitrate and nitrites was exceeded in samples from wells AP-3013, AP-3014, FR-1, and FR-3. The highest reported amount was 150 mg/L in the May 1991 sample from FR-1.

Total Organic Carbon: Levels of total organic carbon ranged from less than the detection limit of 0.5 mg/L to a high of 6.6 mg/L.

#### 6.10 Microbiological Analysis: Table X:

No colonies were counted on the filters.

## 7. REFERENCES

7.1 Sampling Plan, CENPA-EN-G-M, dated: February 1990, Sampling and Analysis, & QA/QC Plan for Groundwater Monitoring at Fort Richardson, Alaska.

Sampling and Analysis Plan for Groundwater Monitoring at Fort Richardson, Alaska, dated February 1990.

7.2 Memorandum for Record, CENPA-EN-G-MI dated 27 February 1990, subject: Draft Sampling Plan: Groundwater Monitoring, Fort Richardson, Alaska.

7.3 Memorandum for Record, CENPA-EN-G-MI dated 31 February 1990, subject: Base Wide Groundwater Study, Fort Richardson, Alaska.

7.4 Chemical Data Report, Fort Richardson, Groundwater Monitoring, ARDL ID No. 919, dated 06 June 1991

7.5 Chemical Data Report, Columbia Analytical Services, Kelso, Washington, dated 10 June 1991, (Fort Richardson Basewide Groundwater). Chemical Data Report, Columbia Analytical Services, Kelso, Washington, dated 20 June 1991, (Fort Richardson Basewide Groundwater). Columbia Analytical Services, Kelso, Washington, dated 14 June 1991 (Fort Richardson Landfill), Columbia Analytical Services, Kelso, Washington, dated 19 June 1991 (Fort Richardson Landfill), Columbia Analytical Services, Kelso, Washington, dated 19 June 1991 (Fort Richardson Landfill), Columbia Analytical Services, Kelso, Washington, dated 21 June 1991 (Fort Richardson Landfill). Columbia Analytical Services, Kelso, Washington, dated 21 June 1991 (Fort Richardson Landfill).

7.6 Chemical Quality Assurance Report, CENPD-PE-GT-L, dated 13 August 1991, Subject: W.O. 90-HM-241a, Fort Richardson Groundwater Monitoring.

7.7 Chemical Quality Assurance Report, CENPD-PE-GT-L, dated 06 Mar 1991, Subject: W.O. 91-HM-517, Fort Richardson Groundwater Monitoring.

7.8 Chemical Data Report, North Pacific Division Laboratory, dated 16 July 1991 (90-HM-241A) and Chemical Data Report. Chemical Data Report, North Pacific Division Laboratory, dated 10 Jan 1992 (90-HM-517) and Chemical Data Report.

7.9 Chemical Data Report, National Environmental Testing, Inc., dated 11 Dec. 91, (Ft. Richardson Groundwater Monitoring), NET Log No: 91.0718 & 91.0736

7.10 Memorandum for Record, CENPA-EN-G-M dated 28 June 1991, subject: Geotechnical Report for Groundwater Monitoring Network, Ft. Richardson, Alaska.

7.11 Letter, America North Inc., dated 10 Dec. 91, RE: Contract No. DACA85-91-D-0002, Indefinite Delivery Professional Services Contract for Environmental/Cultural Resources Evaluations, Military Projects, Various Locations, Alaska, Delivery Order No. 0001 and Delivery Order No. 0004.

7.12 Army Regulation 200-1, Environmental Protection and Enhancement, Headquarters, Department of the Army, Washington, DC, 23 April 1990.

7.13 State of Alaska, Drinking Water Regulations 18 AAC 80, July 1991.

7.14 State of Alaska, Water Quality Standards 18 AAC 70.

7.15 State of Alaska, Solid Waste Management Regulations 18 AAC 60, October 1987.

TABLE A  
KEY TO WELLS SAMPLED AND TESTS METHODS

Test Method	ADFG C	ADFG C	ADFG E	ADFG E	ADFG K	ADFG K	AK-2127	AK-2127	AP-3010	AP-3013	AP-3014	AP-3015	A-1	A-6	A-6
	May	November	May	November	May	November	May	November	May	May	May	May	May	May	November
8240	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8270	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8140	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8080	X	X	X	X	X	X	X	X	X		X	X		X	X
8015 Mod	X	X	X	X	X	X	X	X					X	X	X
Dissolved Metals	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Total Metals	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Nonmetallic Para.	X	X	X	X	X	X	X	X	X		X	X	X	X	X
Inorganic Para.	X		X		X		X		X	X	X	X	X	X	
Micro.					X				X		X	X			

(1991 series,

Test Method	FR-1	FR-1	FR-2	FR-3	FR-3	OTTER	OTTER	TW-1	TW-1	WELL-1	WELL-1	WELL-3	WELL-3	W-B	W-B
	May	November	November	May	November	May	November	May	November	May	November	May	November	May	November
8240	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8270	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8140	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8080	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8015 Mod	X	X	X	X	X	X	X	X	X	X			X	X	X
Dissolved Metals	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Total Metals	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nonmetallic Para.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inorganic Para.	X			X				X		X			X		
Micro.	X			X											

Σ 30 wells

**TABLE B**  
**FORT RICHARDSON GROUNDWATER MONITORING**  
**MAY 1991 SAMPLING EFFORT**  
**SUMMARY OF FIELD MEASUREMENTS & WELLS SAMPLED**

WELL NO:	SAMPLE NO:	DEPTH TO WATER (FEET)	GALLONS PURGED	TEMPERATURE (DEG F)	pH	WATER DESCRIPTION
ADFG C	91FRGW01WA	-----	-----	-----	-----	CLEAR
ADFG E	91FRGW02WA	-----	-----	-----	-----	-----
ADFG K	9118FRGW03WA 9118FRL03WA 9118FRL103WA 91FRGW03WA 91FRGW03WA	-----	-----	-----	-----	-----
AK-2127	9120FRGW015WA	75	147	69	7.4	-----
AP-3010	9119FRL008WA 9119FRL108WA	-----	-----	55	7.3	-----
AP-3013	9119FRL003WA	-----	-----	65.2	7.4	-----
AP-3014	9120FRL016WA 9120FRL116WA	21	29.4	69	6.3	-----
AP-3015	9120FRL017WA 9120FRL117WA	117	29.4	62.8	6.8	LIGHT GRY/BRN
A-1	9120FRGW013WA	39.7	163	59.3	6.9	LIGHT BROWN
A-6	9120FRGW012WA	7.2	140.5	57.3	6.9	DARK BROWN
FR-1	9118FRL02WA 9118FRL102WA	-----	-----	-----	-----	-----
FR-3	9118FRL01WA 9118FRL101WA	130	24	43.8	7.4	BROWN/SILTY
OTTER	9120FRGW010WA	-----	-----	-----	-----	-----
TW-1	9120FRGW011WA	25	288	68	7.4	-----
WELL-1	91FRGW04WA 91FRGW05WA 91FRGW05WA 91FRGW06WA	-----	-----	54	7.3	-----
WELL-3	91FRGW07WA	-----	-----	-----	-----	-----
W-B	9120FRGW014WA	98	316.7	58.7	6.9	CLEAR

**TABLE C**  
**FORT RICHARDSON GROUNDWATER MONITORING**  
**NOVEMBER 1991 SAMPLING EFFORT**  
**SUMMARY OF FIELD MEASUREMENTS & WELLS SAMPLED**

WELL NO:	SAMPLE NO:	DEPTH OF WELL (FEET)	DEPTH TO WATER (FEET)	GALLONS PURGED	TEMPERATURE (DEG F)	pH	CONDUCTIVITY	TURBIDITY (NTU)	OXIDATION REDUCTION POTENTIAL
ADFG C	91FGRW01WA	---	---	---	43.9	5.86	162	0.87	250
ADFG E	91FGRW02WA	---	---	---	46.2	6.44	167	2.0	324
ADFG K	91FGRW03WA	---	---	---	43.1	6.30	160	8.7	285
AK-2127	91FGRW13WA	190	78.52	500	38.7	6.50	327	1.7	253
A-1	Could Not Locate	---	---	---	---	---	---	---	---
A-6	91FGRW04WA	60.00	7.74	230	45.1	7.31	163	1.4	227
FR-1	91FGRW07WA	~150	131.31	9.5	33.2	---	584	116	221
FR-2	91FGRW15WA	166.0	147.56	9.3	40.1	---	372	250	---
FR-3	91FGRW09WA 91FGRW10WA	170.00	142.86	13.5	36.9	5.89	414	830	551
OTTER	91FGRW11WA	---	---	---	45.9	6.68	391	9.0	237
Rinsate Sample	91FGRW05WA	---	---	---	---	---	---	---	---
Rinsate Sample	91FGRW08WA	---	---	---	---	---	---	---	---
TW-1	91FGRW06WA	---	---	---	43.4	6.48	303	0.8	507
WELL-1	91FGRW14WA	---	---	---	38.7	---	266	3.6	247
WELL-2	Pump needs repair; not sampled	---	---	---	---	---	---	---	---
WELL-3	91FGRW16WA 91FGRW17WA	---	---	---	39.8	---	280	1.3	269
W-B	91FGRW12WA	~155	98.16	1000	38.6	7.27	494	0.6	296

ENCLOSURE 1

TABLE 1  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
VOLATILE ORGANICS COMPOUNDS  
EPA METHOD 8240

SAMPLE NUMBER:	91FRGW01WA	91FRGW02W A	91FRGW03WA	9120FRGW015W
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/13/91	05/13/91	05/13/91	05/25/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	13
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	7.1
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## VOLATILE ORGANICS COMPOUNDS

W846 METHOD 8240

	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL016WA
SAMPLE NUMBER:	AP-3010	AP-3013	AP-3014	AP-3014
LOCATION:	-----	-----	21	21
SAMPLE DEPTH:	WATER	WATER	WATER	WATER
SAMPLE TYPE:	05/09/91	05/08/91	05/15/91	05/15/91
DATE OF SAMPLING:	05/11/91	05/09/91	05/16/91	05/16/91
DATE SHIPPED:	CAS	CAS	ARDL	CAS
TESTING LABORATORY:	K2645-1	K2607-1	919-1	K2729-1
LABORATORY SAMPLE #:	05/15/91	05/14/91	05/18/91	05/18/91
DATE RECEIVED:	05/22/91	05/19/91	05/28/91	05/22/91
DATE ANALYZED:	μg/L (ppb)	μg/L (ppb)	μg/L (ppb)	μg/L (ppb)

COMPOUND	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL016WA
Chloromethane	ND (1)	ND (1)	43	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (10)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (10)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (10)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (10)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (10)	ND (1)
Acetone	ND (20)	ND (20)	ND (10)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (10)	ND (1)
Methylene Chloride	ND (10)	ND (10)	4 JB	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (10)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (10)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (10)	ND (1)
Chloroform	ND (1)	ND (1)	ND (10)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (10)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (10)	ND (1)
Benzene	ND (1)	ND (1)	ND (10)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (10)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (10)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (10)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (10)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (10)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (10)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (10)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (10)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (10)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (10)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (10)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (10)	ND (1)
Styrene	ND (1)	ND (1)	ND (10)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (10)	ND (1)
Bromoform	ND (1)	ND (1)	ND (10)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (10)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (10)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (10)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (10)	ND (1)
NUMBER OF TICs:	0	0	2	0
TOTAL TIC CONCENTRATION:	0	0	23	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 VOLATILE ORGANICS COMPOUNDS

SW846 METHOD 8240

	9120FRL017WA	9120FRGW013WA	9120FRGW012WA	9118FRL02WA
SAMPLE NUMBER:	AP-3015	A-1	A-6	FR-1
LOCATION:	117	39.7	7.2	-----
SAMPLE DEPTH:	117	39.7	7.2	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/15/91	05/14/91	05/14/91	05/06/91
DATE SHIPPED:	05/16/91	05/15/91	05/15/91	05/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2729-2	K2709-4	K2709-3	K2400-10
DATE RECEIVED:	05/18/91	05/17/91	05/17/91	05/09/91
DATE ANALYZED:	05/22/91	05/28/91	05/28/91	05/13/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND	9120FRL017WA	9120FRGW013WA	9120FRGW012WA	9118FRL02WA
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	1.2	ND (1)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## VOLATILE ORGANICS COMPOUNDS

3W846 METHOD 8240

SAMPLE NUMBER:	9118FRL01WA	9120FRGW010WA	9120FRGW011WA	91FRGW04WA
LOCATION:	FR-3	OTTER	TW-1	WELL-1
SAMPLE DEPTH:	130	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/06/91	05/14/91	05/14/91	04/30/91
DATE SHIPPED:	05/07/91	05/15/91	05/15/91	05/01/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-9	K2709-1	K2709-2	K2400-4
DATE RECEIVED:	05/09/91	05/17/91	05/17/91	05/03/91
DATE ANALYZED:	05/13/91	05/25/91	05/28/91	05/13/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND	9118FRL01WA	9120FRGW010WA	9120FRGW011WA	91FRGW04WA
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	1.4
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## VOLATILE ORGANICS COMPOUNDS

SW846 METHOD 8240

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

QC DUP

91FRGW05WA

WELL-1

-----

WATER

04/30/91

05/01/91

CAS

K2400-5

05/03/91

05/13/91

 $\mu\text{g/L (ppb)}$ 

QC DUP

91FRGW06WA

WELL-1

-----

WATER

04/30/91

05/01/91

CAS

K2400-6

05/03/91

05/13/91

 $\mu\text{g/L (ppb)}$ 

91FRGW07WA

WELL-3

-----

WATER

04/30/91

05/01/91

CAS

K2400-7

05/03/91

05/13/91

 $\mu\text{g/L (ppb)}$ 

9120FRGW014WA

W-B

98

WATER

05/14/91

05/15/91

CAS

K2709-5

05/17/91

05/25/91

 $\mu\text{g/L (ppb)}$ 

## COMPOUND

Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	4.4
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

CAS means Columbia Analytical Services, Kelso, WA

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ARL means ARL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

----- means not tested or measured.

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
SEMI-VOLATILE ORGANIC COMPOUNDS

3W846 METHOD 8270

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9120FRGW015WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/13/91	05/13/91	05/13/91	06/11/91
DATE EXTRACTED:	05/06/91	05/06/91	05/06/91	05/21/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND				
N-Nitrosodimethylamine	ND (5)	ND (5)	ND (5)	ND (5)
Aniline	ND (20)	ND (20)	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (5)	ND (5)	ND (5)	ND (5)
Hexachloroethane	ND (5)	ND (5)	ND (5)	ND (5)
Nitrobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Isophorone	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (5)	ND (5)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Naphthalene	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloroaniline	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobutadiene	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylnaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Dimethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Acenaphthylene	ND (5)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Acenaphthene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzofuran	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Phenol	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzyl Alcohol	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Diethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Fluorene	ND (5)	ND (5)	ND (5)	ND (5)
4-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (5)	ND (5)	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Phenanthrene	ND (5)	ND (5)	ND (5)	ND (5)
Anthracene	ND (5)	ND (5)	ND (5)	ND (5)

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TABLE II  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
SEMIVOLATILE ORGANIC COMPOUNDS  
SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9120FRGW015WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/13/91	05/13/91	05/13/91	06/11/91
DATE EXTRACTED:	05/06/91	05/06/91	05/06/91	05/21/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
COMPOUND				
Di-n-butyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Butylbenzyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
3,3'-Dichlorobenzidine	ND (20)	ND (20)	ND (20)	ND (20)
Benzo(a)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-ethylhexyl) Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Chrysene	ND (5)	ND (5)	ND (5)	ND (5)
Di-n-octyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(b)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(k)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(a)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Indeno(1,2,3-c,d)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzo(a,h)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(g,h,i)perylene	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloro-3-methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,6-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,5-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
4-Nitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
2-Methyl-4,6-dinitrophenol	ND (20)	ND (20)	ND (20)	ND (20)
Pentachlorophenol	ND (30)	ND (30)	ND (30)	ND (30)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL016WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3014
SAMPLE DEPTH:	-----	-----	21	21
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-1
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/03/91	06/11/91	06/10/91	06/13/91
DATE EXTRACTED:	05/16/91	05/15/91	05/21/91	05/21/91*
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND				
N-Nitrosodimethylamine	ND (5)	ND (5)	ND (5)	ND (5)
Aniline	ND (20)	ND (20)	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (5)	ND (5)	ND (5)	ND (5)
Hexachloroethane	ND (5)	ND (5)	ND (5)	ND (5)
Nitrobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Isophorone	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (5)	ND (5)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Naphthalene	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloroaniline	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobutadiene	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylnaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Dimethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Acenaphthylene	ND (5)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Acenaphthene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzofuran	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Phenol	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzyl Alcohol	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Diethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Fluorene	ND (5)	ND (5)	ND (5)	ND (5)
4-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (5)	ND (5)	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Phenanthrene	ND (5)	ND (5)	ND (5)	ND (5)
Anthracene	ND (5)	ND (5)	ND (5)	ND (5)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL016WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3014
SAMPLE DEPTH:	-----	-----	21	21
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-1
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/03/91	06/11/91	06/10/91	06/13/91
DATE EXTRACTED:	05/16/91	05/15/91	05/21/91	05/21/91*
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND				
Di-n-butyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Butylbenzyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
3,3'-Dichlorobenzidine	ND (20)	ND (20)	ND (20)	ND (20)
Benzo(a)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-ethylhexyl) Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Chrysene	ND (5)	ND (5)	ND (5)	ND (5)
Di-n-octyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(b)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(k)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(a)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Indeno(1,2,3-c,d)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzo(a,h)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(g,h,i)perylene	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloro-3-methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,6-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,5-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
4-Nitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
2-Methyl-4,6-dinitrophenol	ND (20)	ND (20)	ND (20)	ND (20)
Pentachlorophenol	ND (30)	ND (30)	ND (30)	ND (30)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL016WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3014
SAMPLE DEPTH:	-----	-----	21	21
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-1
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/03/91	06/11/91	06/10/91	06/13/91
DATE EXTRACTED:	05/16/91	05/15/91	05/21/91	05/21/91*
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
COMPOUND				
Di-n-butyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Butylbenzyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
3,3'-Dichlorobenzidine	ND (20)	ND (20)	ND (20)	ND (20)
Benzo(a)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-ethylhexyl) Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Chrysene	ND (5)	ND (5)	ND (5)	ND (5)
Di-n-octyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(b)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(k)fluoranthene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(a)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Indeno(1,2,3-c,d)pyrene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzo(a,h)anthracene	ND (5)	ND (5)	ND (5)	ND (5)
Benzo(g,h,i)perylene	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloro-3-methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,6-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4,5-Trichlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
4-Nitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
2-Methyl-4,6-dinitrophenol	ND (20)	ND (20)	ND (20)	ND (20)
Pentachlorophenol	ND (30)	ND (30)	ND (30)	ND (30)
NUMBER OF TICs:	0	0	0	0
TOTAL TIC CONCENTRATION:	0	0	0	0

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TABLE II  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
SEMIVOLATILE ORGANIC COMPOUNDS  
SW846 METHOD 8270

SAMPLE NUMBER:	9120FRL016WA	9120FRL017WA	9120FRL017WA	9120FRGW013WA
LOCATION:	AP-3014	AP-3015	AP-3015	A-1
SAMPLE DEPTH:	21	117	117	39.7
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/15/91	05/15/91	05/15/91	05/14/91
DATE SHIPPED:	05/16/91	05/16/91	05/16/91	05/15/91
TESTING LABORATORY:	ARDL	CAS	CAS	CAS
LABORATORY SAMPLE #:	919-1	K2729-2	K2729-2	K2709-4
DATE RECEIVED:	05/18/91	05/18/91	05/18/91	05/17/91
DATE ANALYZED:	06/13/91	06/10/91	06/13/91	06/11/91
DATE EXTRACTED:	05/21/91	05/21/91	06/12/91*	05/21/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
N-Nitrosodimethylamine	ND (10)	ND (5)	ND (5)	ND (5)
Aniline	ND (10)	ND (20)	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (10)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (10)	ND (5)	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (10)	ND (5)	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (10)	ND (5)	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (10)	ND (5)	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (10)	ND (5)	ND (5)	ND (5)
Hexachloroethane	ND (10)	ND (5)	ND (5)	ND (5)
Nitrobenzene	ND (10)	ND (5)	ND (5)	ND (5)
Isophorone	ND (10)	ND (5)	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (10)	ND (5)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (10)	ND (5)	ND (5)	ND (5)
Naphthalene	ND (10)	ND (5)	ND (5)	ND (5)
4-Chloroaniline	ND (10)	ND (5)	ND (5)	ND (5)
Hexachlorobutadiene	ND (10)	ND (5)	ND (5)	ND (5)
2-Methylnaphthalene	ND (10)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	ND (10)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	ND (50)	ND (20)	ND (20)	ND (20)
Dimethyl Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
Acenaphthylene	ND (10)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	ND (50)	ND (20)	ND (20)	ND (20)
Acenaphthene	ND (10)	ND (5)	ND (5)	ND (5)
Dibenzofuran	ND (10)	ND (5)	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (10)	ND (5)	ND (5)	ND (5)
Phenol	ND (10)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	ND (10)	ND (5)	ND (5)	ND (5)
Benzyl Alcohol	ND (10)	ND (5)	ND (5)	ND (5)
2-Methylphenol	ND (10)	ND (5)	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (10)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	ND (10)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	ND (10)	ND (5)	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (10)	ND (5)	ND (5)	ND (5)
Diethyl Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (10)	ND (5)	ND (5)	ND (5)
Fluorene	ND (10)	ND (5)	ND (5)	ND (5)
4-Nitroaniline	ND (50)	ND (20)	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (10)	ND (5)	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (10)	ND (5)	ND (5)	ND (5)
Hexachlorobenzene	ND (10)	ND (5)	ND (5)	ND (5)
Phenanthrene	ND (10)	ND (5)	ND (5)	ND (5)
Anthracene	ND (10)	ND (5)	ND (5)	ND (5)

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

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ND means "Not Detected".

--- means not tested or measured.

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

3W846 METHOD 8270

SAMPLE NUMBER:	9120FRL016WA	9120FRL017WA	9120FRL017WA	9120FRGW013WA
LOCATION:	AP-3014	AP-3015	AP-3015	A-1
SAMPLE DEPTH:	21	117	117	39.7
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/15/91	05/15/91	05/15/91	05/14/91
DATE SHIPPED:	05/16/91	05/16/91	05/16/91	05/15/91
TESTING LABORATORY:	ARDL	CAS	CAS	CAS
LABORATORY SAMPLE #:	919-1	K2729-2	K2729-2	K2709-4
DATE RECEIVED:	05/18/91	05/18/91	05/18/91	05/17/91
DATE ANALYZED:	06/13/91	06/10/91	06/13/91	06/11/91
DATE EXTRACTED:	05/21/91	05/21/91	06/12/91*	05/21/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND	9120FRL016WA	9120FRL017WA	9120FRL017WA	9120FRGW013WA
Di-n-butyl Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
Fluoranthene	ND (10)	ND (5)	ND (5)	ND (5)
Pyrene	ND (10)	ND (5)	ND (5)	ND (5)
Butylbenzyl Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
3,3'-Dichlorobenzidine	ND (50)	ND (20)	ND (20)	ND (20)
Benzo(a)anthracene	ND (10)	ND (5)	ND (5)	ND (5)
Bis(2-ethylhexyl) Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
Chrysene	ND (10)	ND (5)	ND (5)	ND (5)
Di-n-octyl Phthalate	ND (10)	ND (5)	ND (5)	ND (5)
Benzo(b)fluoranthene	ND (10)	ND (5)	ND (5)	ND (5)
Benzo(k)fluoranthene	ND (10)	ND (5)	ND (5)	ND (5)
Benzo(a)pyrene	ND (10)	ND (5)	ND (5)	ND (5)
Indeno(1,2,3-c,d)pyrene	ND (10)	ND (5)	ND (5)	ND (5)
Dibenzo(a,h)anthracene	ND (10)	ND (5)	ND (5)	ND (5)
Benzo(g,h,i)perylene	ND (10)	ND (5)	ND (5)	ND (5)
2,4-Dichlorophenol	ND (10)	ND (5)	ND (5)	ND (5)
4-Chloro-3-methylphenol	ND (10)	ND (5)	ND (5)	ND (5)
2,4,6-Trichlorophenol	ND (10)	ND (5)	ND (5)	ND (5)
2,4,5-Trichlorophenol	ND (50)	ND (5)	ND (5)	ND (5)
2,4-Dinitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
4-Nitrophenol	ND (50)	ND (50)	ND (50)	ND (50)
2-Methyl-4,6-dinitrophenol	ND (50)	ND (20)	ND (20)	ND (20)
Pentachlorophenol	ND (50)	ND (30)	ND (30)	ND (30)
NUMBER OF TICs:	2	0	0	0
TOTAL TIC CONCENTRATION:	635	0	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	9120FRGW012WA	9118FRL02WA	9118FRL01WA	9120FRGW010WA
LOCATION:	A-6	FR-1	FR-3	OTTER
SAMPLE DEPTH:	7.2	-----	130	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/06/91	05/06/91	05/14/91
DATE SHIPPED:	05/15/91	05/07/91	05/07/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-3	K2400-10	K2400-9	K2709-1
DATE RECEIVED:	05/17/91	05/09/91	05/09/91	05/17/91
DATE ANALYZED:	06/11/91	05/14/91	05/14/91	06/11/91
DATE EXTRACTED:	05/21/91	05/22/91	05/22/91	05/21/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
N-Nitrosodimethylamine	ND (5)	ND (5)	ND (5)	ND (5)
Aniline	ND (20)	ND (20)	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (5)	ND (5)	ND (5)	ND (5)
Hexachloroethane	ND (5)	ND (5)	ND (5)	ND (5)
Nitrobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Isophorone	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (5)	ND (5)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Naphthalene	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloroaniline	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobutadiene	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylnaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Dimethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Acenaphthylene	ND (5)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Acenaphthene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzofuran	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Phenol	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzyl Alcohol	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Diethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Fluorene	ND (5)	ND (5)	ND (5)	ND (5)
4-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (5)	ND (5)	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Phenanthrene	ND (5)	ND (5)	ND (5)	ND (5)
Anthracene	ND (5)	ND (5)	ND (5)	ND (5)

CAS means Columbia Analytical Services, Kelso, WA

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— means not tested or measured.

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

DATE EXTRACTED:

## COMPOUND

Di-n-butyl Phthalate

Fluoranthene

Pyrene

Butylbenzyl Phthalate

3,3'-Dichlorobenzidine

Benzo(a)anthracene

Bis(2-ethylhexyl) Phthalate

Chrysene

Di-n-octyl Phthalate

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Benzo(a)pyrene

Indeno(1,2,3-c,d)pyrene

Dibenzo(a,h)anthracene

Benzo(g,h,i)perylene

2,4-Dichlorophenol

4-Chloro-3-methylphenol

2,4,6-Trichlorophenol

2,4,5-Trichlorophenol

2,4-Dinitrophenol

4-Nitrophenol

2-Methyl-4,6-dinitrophenol

Pentachlorophenol

NUMBER OF TICs:

TOTAL TIC CONCENTRATION:

9120FRGW012WA

A-6

7.2

WATER

05/14/91

05/15/91

CAS

K2709-3

05/17/91

06/11/91

05/21/91

 $\mu\text{g/L (ppb)}$ 

9118FRL02WA

FR-1

-----

WATER

05/06/91

05/07/91

CAS

K2400-10

05/09/91

05/14/91

05/22/91

 $\mu\text{g/L (ppb)}$ 

9118FRL01WA

FR-3

130

WATER

05/06/91

05/07/91

CAS

K2400-9

05/09/91

05/14/91

05/22/91

 $\mu\text{g/L (ppb)}$ 

9120FRGW010WA

OTTER

-----

WATER

05/14/91

05/15/91

CAS

K2709-1

05/17/91

06/11/91

05/21/91

 $\mu\text{g/L (ppb)}$ 

ND (5)

ND (5)

ND (5)

ND (5)

ND (20)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (50)

ND (50)

ND (20)

ND (30)

0

0

ND (5)

ND (5)

ND (5)

ND (5)

ND (20)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (50)

ND (50)

ND (20)

ND (30)

20

1503

ND (5)

ND (5)

ND (5)

ND (5)

ND (20)

ND (5)

8

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (50)

ND (50)

ND (20)

ND (30)

15

550

ND (5)

ND (5)

ND (5)

ND (5)

ND (20)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (5)

ND (50)

ND (50)

ND (20)

ND (30)

0

0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

DATE EXTRACTED:

9120FRGW011WA

91FRGW04WA

91FRGW05WA

91FRGW06WA

TW-1

WELL-1

WELL-1

WELL-1

-----

-----

-----

-----

WATER

WATER

WATER

WATER

05/14/91

04/30/91

04/30/91

04/30/91

05/15/91

05/01/91

05/01/91

05/01/91

CAS

CAS

CAS

CAS

K2709-2

K2400-4

K2400-5

K2400-6

05/17/91

05/03/91

05/03/91

05/03/91

06/11/91

05/22/91

05/22/91

05/22/91

05/21/91

05/06/91

05/06/91

05/06/91

 $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$ 

## COMPOUND

N-Nitrosodimethylamine	ND (5)	ND (5)	ND (5)	ND (5)
Aniline	ND (20)	ND (20)	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (5)	ND (5)	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (5)	ND (5)	ND (5)	ND (5)
Hexachloroethane	ND (5)	ND (5)	ND (5)	ND (5)
Nitrobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Isophorone	ND (5)	ND (5)	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (5)	ND (5)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Naphthalene	ND (5)	ND (5)	ND (5)	ND (5)
4-Chloroaniline	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobutadiene	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylnaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloronaphthalene	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Dimethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
Acenaphthylene	ND (5)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
Acenaphthene	ND (5)	ND (5)	ND (5)	ND (5)
Dibenzofuran	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Phenol	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzyl Alcohol	ND (5)	ND (5)	ND (5)	ND (5)
2-Methylphenol	ND (5)	ND (5)	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	ND (5)	ND (5)	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (5)	ND (5)	ND (5)	ND (5)
Diethyl Phthalate	ND (5)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Fluorene	ND (5)	ND (5)	ND (5)	ND (5)
4-Nitroaniline	ND (20)	ND (20)	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (5)	ND (5)	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorobenzene	ND (5)	ND (5)	ND (5)	ND (5)
Phenanthrene	ND (5)	ND (5)	ND (5)	ND (5)
Anthracene	ND (5)	ND (5)	ND (5)	ND (5)

CAS means Columbia Analytical Services, Kelso, WA

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ND means "Not Detected".

----- means not tested or measured.

## TABLE II

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

9120FRGW011WA

91FRGW04WA

91FRGW05WA

91FRGW06WA

LOCATION:

TW-1

WELL-1

WELL-1

WELL-1

SAMPLE DEPTH:

-----

-----

-----

-----

SAMPLE TYPE:

WATER

WATER

WATER

WATER

DATE OF SAMPLING:

05/14/91

04/30/91

04/30/91

04/30/91

DATE SHIPPED:

05/15/91

05/01/91

05/01/91

05/01/91

TESTING LABORATORY:

CAS

CAS

CAS

CAS

LABORATORY SAMPLE #:

K2709-2

K2400-4

K2400-5

K2400-6

DATE RECEIVED:

05/17/91

05/03/91

05/03/91

05/03/91

DATE ANALYZED:

06/11/91

05/22/91

05/22/91

05/22/91

DATE EXTRACTED:

05/21/91

05/06/91

05/06/91

05/06/91

 $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$  $\mu\text{g/L (ppb)}$ 

## COMPOUND

Di-n-butyl Phthalate

ND (5)

ND (5)

ND (5)

ND (5)

Fluoranthene

ND (5)

ND (5)

ND (5)

ND (5)

Pyrene

ND (5)

ND (5)

ND (5)

ND (5)

Butylbenzyl Phthalate

ND (5)

ND (5)

ND (5)

ND (5)

3,3'-Dichlorobenzidine

ND (20)

ND (20)

ND (20)

ND (20)

Benzo(a)anthracene

ND (5)

ND (5)

ND (5)

ND (5)

Bis(2-ethylhexyl) Phthalate

ND (5)

ND (5)

ND (5)

ND (5)

Chrysene

ND (5)

ND (5)

ND (5)

ND (5)

Di-n-octyl Phthalate

ND (5)

ND (5)

ND (5)

ND (5)

Benzo(b)fluoranthene

ND (5)

ND (5)

ND (5)

ND (5)

Benzo(k)fluoranthene

ND (5)

ND (5)

ND (5)

ND (5)

Benzo(a)pyrene

ND (5)

ND (5)

ND (5)

ND (5)

Indeno(1,2,3-c,d)pyrene

ND (5)

ND (5)

ND (5)

ND (5)

Dibenzo(a,h)anthracene

ND (5)

ND (5)

ND (5)

ND (5)

Benzo(g,h,i)perylene

ND (5)

ND (5)

ND (5)

ND (5)

2,4-Dichlorophenol

ND (5)

ND (5)

ND (5)

ND (5)

4-Chloro-3-methylphenol

ND (5)

ND (5)

ND (5)

ND (5)

2,4,6-Trichlorophenol

ND (5)

ND (5)

ND (5)

ND (5)

2,4,5-Trichlorophenol

ND (5)

ND (5)

ND (5)

ND (5)

2,4-Dinitrophenol

ND (50)

ND (50)

ND (50)

ND (50)

4-Nitrophenol

ND (50)

ND (50)

ND (50)

ND (50)

2-Methyl-4,6-dinitrophenol

ND (20)

ND (20)

ND (20)

ND (20)

Pentachlorophenol

ND (30)

ND (30)

ND (30)

ND (30)

NUMBER OF TICs:

0

0

0

0

TOTAL TIC CONCENTRATION:

0

0

0

0

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NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

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----- means not tested or measured.

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-3	W-B
SAMPLE DEPTH:	-----	98
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS
LABORATORY SAMPLE #:	K2400-7	K2709-5
DATE RECEIVED:	05/03/91	05/17/91
DATE ANALYZED:	05/22/91	06/11/91
DATE EXTRACTED:	05/06/91	05/21/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND		
N-Nitrosodimethylamine	ND (5)	ND (5)
Aniline	ND (20)	ND (20)
Bis(2-chloroethyl) Ether	ND (5)	ND (5)
1,2-Dichlorobenzene	ND (5)	ND (5)
1,3-Dichlorobenzene	ND (5)	ND (5)
1,4-Dichlorobenzene	ND (5)	ND (5)
Bis(2-chloroisopropyl) Ether	ND (5)	ND (5)
N-Nitroso-di-n-propylamine	ND (5)	ND (5)
Hexachloroethane	ND (5)	ND (5)
Nitrobenzene	ND (5)	ND (5)
Isophorone	ND (5)	ND (5)
Bis(2-chloroethoxy)methane	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ND (5)	ND (5)
Naphthalene	ND (5)	ND (5)
4-Chloroaniline	ND (5)	ND (5)
Hexachlorobutadiene	ND (5)	ND (5)
2-Methylnaphthalene	ND (5)	ND (5)
Hexachlorocyclopentadiene	ND (10)	ND (10)
2-Chloronaphthalene	ND (5)	ND (5)
2-Nitroaniline	ND (20)	ND (20)
Dimethyl Phthalate	ND (5)	ND (5)
Acenaphthylene	ND (5)	ND (5)
3-Nitroaniline	ND (20)	ND (20)
Acenaphthene	ND (5)	ND (5)
Dibenzofuran	ND (5)	ND (5)
2,4-Dinitrotoluene	ND (5)	ND (5)
Phenol	ND (5)	ND (5)
2-Chlorophenol	ND (5)	ND (5)
Benzyl Alcohol	ND (5)	ND (5)
2-Methylphenol	ND (5)	ND (5)
3- and 4-Methylphenol*	ND (5)	ND (5)
2-Nitrophenol	ND (5)	ND (5)
2,4-Dimethylphenol	ND (5)	ND (5)
Benzoic Acid	ND (50)	ND (50)
2,6-Dinitrotoluene	ND (5)	ND (5)
Diethyl Phthalate	ND (5)	ND (5)
4-Chlorophenyl Phenyl Ether	ND (5)	ND (5)
Fluorene	ND (5)	ND (5)
4-Nitroaniline	ND (20)	ND (20)
N-Nitrosodiphenylamine	ND (5)	ND (5)
4-Bromophenyl Phenyl Ether	ND (5)	ND (5)
Hexachlorobenzene	ND (5)	ND (5)
Phenanthrene	ND (5)	ND (5)
Anthracene	ND (5)	ND (5)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-3	W-B
SAMPLE DEPTH:	-----	98
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS
LABORATORY SAMPLE #:	K2400-7	K2709-5
DATE RECEIVED:	05/03/91	05/17/91
DATE ANALYZED:	05/22/91	06/11/91
DATE EXTRACTED:	05/06/91	05/21/91

COMPOUND	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
Di-n-butyl Phthalate	ND (5)	ND (5)
Fluoranthene	ND (5)	ND (5)
Pyrene	ND (5)	ND (5)
Butylbenzyl Phthalate	ND (5)	ND (5)
3,3'-Dichlorobenzidine	ND (20)	ND (20)
Benzo(a)anthracene	ND (5)	ND (5)
Bis(2-ethylhexyl) Phthalate	ND (5)	ND (5)
Chrysene	ND (5)	ND (5)
Di-n-octyl Phthalate	ND (5)	ND (5)
Benzo(b)fluoranthene	ND (5)	ND (5)
Benzo(k)fluoranthene	ND (5)	ND (5)
Benzo(a)pyrene	ND (5)	ND (5)
Indeno(1,2,3-c,d)pyrene	ND (5)	ND (5)
Dibenzo(a,h)anthracene	ND (5)	ND (5)
Benzo(g,h,i)perylene	ND (5)	ND (5)
2,4-Dichlorophenol	ND (5)	ND (5)
4-Chloro-3-methylphenol	ND (5)	ND (5)
2,4,6-Trichlorophenol	ND (5)	ND (5)
2,4,5-Trichlorophenol	ND (5)	ND (5)
2,4-Dinitrophenol	ND (50)	ND (50)
4-Nitrophenol	ND (50)	ND (50)
2-Methyl-4,6-dinitrophenol	ND (20)	ND (20)
Pentachlorophenol	ND (30)	ND (30)
NUMBER OF TICs:	0	0
TOTAL TIC CONCENTRATION:	0	0

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## TABLE III

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8140

## ORGANOPHOSPHORUS PESTICIDES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9120FRGW015W
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/09/92	05/31/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1 )	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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TABLE III

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8140

## ORGANOPHOSPHORUS PESTICIDES

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL017WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3015
SAMPLE DEPTH:	----	----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-2
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/01/91	05/31/91	05/31/91	05/31/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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TABLE III  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
METHOD 8140  
ORGANOPHOSPHORUS PESTICIDES

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
SAMPLE DEPTH:	39.7	7.2	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-4	K2709-3	K2400-10	K2400-9
DATE RECEIVED:	05/17/91	05/17/91	05/09/91	05/09/91
DATE ANALYZED:	05/31/91	05/31/91	05/21/91	05/21/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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TABLE III  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
METHOD 8140  
ORGANOPHOSPHORUS PESTICIDES

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
SAMPLE DEPTH:	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-1	K2709-2	K2400-4	K2400-5
DATE RECEIVED:	05/17/91	05/17/91	05/03/91	05/03/91
DATE ANALYZED:	05/31/91	05/31/91	05/09/92	05/09/92
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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TABLE III

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8140

## ORGANOPHOSPHORUS PESTICIDES

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
SAMPLE DEPTH:	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-6	K2400-7	K2709-5
DATE RECEIVED:	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/31/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND			
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-0	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)

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## TABLE IV

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

PCBs &amp; PESTICIDES

METHOD 8080

SAMPLE NUMBER:	91FRGW01WA	9118FRGW03WA	91FRGW03WA	9120FRGW015WA
LOCATION:	ADFG C	ADFG K	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	05/06/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/07/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0754	0742	0806
DATE RECEIVED:	05/02/91	05/08/91	05/02/91	05/16/91
DATE ANALYZED:	05/23/91	05/23/91	05/23/91	05/23/91
	µg/L(ppm)	µg/L(ppm)	µg/L(ppm)	µg/L(ppm)

## COMPOUND

Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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## TABLE IV

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## PCBs &amp; PESTICIDES

## METHOD 8080

			QA DUP	
SAMPLE NUMBER:	9119FRL008WA	9120FRL016WA	9120FRL016WA	9120FRL017WA
LOCATION:	AP-3010	AP-3014	AP-3014	AP-3015
SAMPLE DEPTH:	-----	21	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/15/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/16/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	ARDL	NPD
LABORATORY SAMPLE #:	0778	0809	919-1	0810
DATE RECEIVED:	05/08/91	05/17/91	05/18/91	05/17/91
DATE ANALYZED:	05/23/91	05/23/91	05/23/91	05/23/91
	µg/L(ppm)	µg/L(ppm)	µg/L(ppm)	µg/L(ppm)

## COMPOUND

Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.03)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.06)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.09)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.04)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.14)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.11)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.04)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.12)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.02)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.14)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.04)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.66)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.06)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.10)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.03)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.8)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (2.4)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.50)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.50)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.50)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.50)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.50)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (1.0)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (1.0)	ND (0.8)

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TABLE IV  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
PCBs & PESTICIDES  
METHOD 8080

SAMPLE NUMBER:	9120FRGW012WA	9118FRL02WA	9118FRL01WA	9120FRGW010WA
LOCATION:	A-6	FR-1	FR-3	OTTER
SAMPLE DEPTH:	7.2	-----	130	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/06/91	05/06/91	05/14/91
DATE SHIPPED:	05/15/91	05/07/91	05/07/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0803	0757	0755	0801
DATE RECEIVED:	05/16/91	05/08/91	05/06/91	05/16/91
DATE ANALYZED:	05/23/91	05/23/91	05/23/91	05/22/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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TABLE IV  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991

## PCBs &amp; PESTICIDES

## METHOD 8080

SAMPLE NUMBER:	9120FRGW011WA	91FRGW04WA	QC DUP 91FRGW05W	QC DUP 91FRGW06WA
LOCATION:	TW-1	WELL-1	WELL-1	WELL-1
SAMPLE DEPTH:	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	04/30/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/01/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0802	0743	0744	0745
DATE RECEIVED:	05/16/91	05/02/91	05/02/91	05/02/91
DATE ANALYZED:	05/21/91	05/23/91	05/23/91	05/23/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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TABLE IV  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991

## PCBs &amp; PESTICIDES

## METHOD 8080

SAMPLE NUMBER:	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-3	W-B
SAMPLE DEPTH:	-----	98
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD
LABORATORY SAMPLE #:	0746	0805
DATE RECEIVED:	05/02/91	05/16/91
DATE ANALYZED:	05/23/91	05/21/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$

## COMPOUND

Aldrin	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)

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## TABLE V

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW04WA
LOCATION:	ADFG C	ADFG E	ADFG K	WELL-1
SAMPLE DEPTH:	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/01/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2400-4
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/03/91
DATE ANALYZED:	05/28/91	05/28/91	05/28/91	05/28/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Diesel	ND (50)	ND (50)	ND (50)	ND (50)
Jet Fuel	ND (50)	ND (50)	ND (50)	ND (50)
Gasoline	ND (50)	ND (50)	ND (50)	ND (50)
Kerosene	ND (50)	ND (50)	ND (50)	ND (50)
Mineral Spirits	ND (50)	ND (50)	ND (50)	ND (50)
Oil*	ND (50)	ND (50)	ND (50)	ND (50)

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--- means not tested or measured.

\* Quantitated using hydraulic oil as standard.

\*\* Blank contaminated with oil

J means Identified Below Detection Limit

B means found in Lab Blank

TABLE V  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	91FRGW05WA	91FRGW06WA	91FRGW07WA	9118FRL01WA
LOCATION:	WELL-1	WELL-1	WELL-3	FR-3
SAMPLE DEPTH:	-----	-----	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/06/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-5	K2400-6	K2400-7	K2400-9
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/09/91
DATE ANALYZED:	05/28/91	05/28/91	05/28/91	05/30/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$

## COMPOUND

Diesel	ND (50)	ND (50)	ND (50)	ND (50)
Jet Fuel	ND (50)	ND (50)	ND (50)	ND (50)
Gasoline	ND (50)	ND (50)	ND (50)	ND (50)
Kerosene	ND (50)	ND (50)	ND (50)	ND (50)
Mineral Spirits	ND (50)	ND (50)	ND (50)	ND (50)
Oil*	ND (50)	ND (50)	ND (50)	**5,600

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\*\* Blank contaminated with oil

J means Identified Below Detection Limit

B means found in Lab Blank

## TABLE V

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	9118FRL02WA	9120FRGW010WA	9120FRGW011WA	9120FRGW012WA
LOCATION:	FR-1	OTTER	TW-1	A-6
SAMPLE DEPTH:	-----	-----	-----	7.2
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/06/91	05/14/91	05/14/91	05/14/91
DATE SHIPPED:	05/07/91	05/15/91	05/15/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-10	K2709-1	K2709-2	K2709-3
DATE RECEIVED:	05/09/91	05/17/91	05/17/91	05/17/91
DATE ANALYZED:	05/30/91	06/01/91	06/01/91	06/01/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Diesel	ND (50)	ND (50)	ND (50)	ND (50)
Jet Fuel	ND (50)	ND (50)	ND (50)	ND (50)
Gasoline	ND (50)	ND (50)	ND (50)	ND (50)
Kerosene	ND (50)	ND (50)	ND (50)	ND (50)
Mineral Spirits	ND (50)	ND (50)	ND (50)	ND (50)
Oil*	**5,500	ND (50)	ND (50)	ND (50)

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\*\* Blank contaminated with oil

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B means found in Lab Blank

TABLE V

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW014WA	9120FRGW015WA
LOCATION:	A-1	W-B	AK-2127
SAMPLE DEPTH:	39.7	98	75
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/14/91
DATE SHIPPED:	05/15/91	05/15/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-4	K2709-5	K2709-6
DATE RECEIVED:	05/17/91	05/17/91	05/17/91
DATE ANALYZED:	06/01/91	06/01/91	06/01/91
	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND			
Diesel	ND (50)	ND (50)	ND (50)
Jet Fuel	ND (50)	ND (50)	ND (50)
Gasoline	ND (50)	ND (50)	ND (50)
Kerosene	ND (50)	ND (50)	ND (50)
Mineral Spirits	ND (50)	ND (50)	ND (50)
Oil*	ND (50)	ND (50)	ND (50)

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\* Quantitated using hydraulic oil as standard.

\*\* Blank contaminated with oil

J means Identified Below Detection Limit

B means found in Lab Blank

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9118FRL103WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/07/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0742	0766
DATE RECEIVED:	05/02/91	05/02/91	05/02/91	05/10/91

	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)	$\mu\text{g/L}$ (ppb)
COMPOUND				
Aluminum, dissolved	ND (50)	ND (50)	ND (50)	240
Antimony, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Barium, dissolved	13	ND (10)	ND (10)	19
Beryllium, dissolved	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, dissolved	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, dissolved	1600	1600	2700	4100
Chromium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Cobalt, dissolved	ND (30)	ND (30)	ND (30)	ND (30)
Copper, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Iron, dissolved	20	20	10	600
Lead, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, dissolved	3000	3200	3200	3600
Manganese, dissolved	50	50	40	120
Mercury, dissolved	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Potassium, dissolved	ND (500)	ND (500)	ND (500)	730
Selenium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Silver, dissolved	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, dissolved	3700	1900	1400	2700
Thallium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, dissolved	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, dissolved	12	15	ND (10)	16

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TABLE VI  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
DISSOLVED METALS  
7000 SERIES

SAMPLE NUMBER:	9120FRGW015WA	9119FRL108WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER (ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0779	0807	0808
DATE RECEIVED:	05/16/91	05/13/91	05/17/91	05/17/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved	ND (50)	110	120	ND (50)
Antimony, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Barium, dissolved	11	17	19	16
Beryllium, dissolved	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, dissolved	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, dissolved	1,900	5,600	5,500	23,000
Chromium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Cobalt, dissolved	ND (30)	ND (30)	ND (30)	ND (30)
Copper, dissolved	ND (10)	ND (10)	ND (10)	23
Iron, dissolved	10	490	140	730
Lead, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, dissolved	6,300	29,000	3,700	10,000
Manganese, dissolved	40	140	860	130
Mercury, dissolved	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Potassium, dissolved	590	1,200	2,200	870
Selenium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Silver, dissolved	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, dissolved	2,800	3,100	4,200	2,300
Thallium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, dissolved	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, dissolved	10	11	ND (10)	26

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## TABLE VI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## DISSOLVED METALS

## .000 SERIES

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL102WA	9118FRL101WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER (ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0758	0756
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved	ND (50)	ND (50)	26,000	1,700
Antimony, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, dissolved	ND (5)	ND (5)	6.2	ND (5)
Barium, dissolved	ND (10)	ND (10)	150	36
Beryllium, dissolved	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, dissolved	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, dissolved	800	1,800	58,000	8,400
Chromium, dissolved	ND (5)	ND (5)	46	ND (5)
Cobalt, dissolved	ND (30)	ND (30)	ND (30)	ND (30)
Copper, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Iron, dissolved	40	60	22,000	3,100
Lead, dissolved	ND (5)	ND (5)	26	ND (5)
Magnesium, dissolved	4,300	3,300	7,200	4,100
Manganese, dissolved	40	60	850	80
Mercury, dissolved	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, dissolved	ND (10)	ND (10)	63	ND (10)
Potassium, dissolved	ND (500)	ND (500)	2,800	1,400
Selenium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Silver, dissolved	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, dissolved	2,400	2,100	3,200	1,900
Thallium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, dissolved	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, dissolved	ND (10)	ND (10)	1,300	ND (10)

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TABLE VI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved	ND (50)	130	ND (50)	ND (50)
Antimony, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Barium, dissolved	14	ND (10)	ND (10)	ND (10)
Beryllium, dissolved	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, dissolved	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, dissolved	14,000	3,100	12,000	28,000
Chromium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Cobalt, dissolved	ND (30)	ND (30)	ND (30)	ND (30)
Copper, dissolved	14	ND (10)	12	28
Iron, dissolved	60	660	30	50
Lead, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, dissolved	6,800	6,600	3,100	5,000
Manganese, dissolved	70	70	40	30
Mercury, dissolved	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, dissolved	ND (10)	ND (10)	ND (10)	ND (10)
Potassium, dissolved	620	650	ND (500)	ND (500)
Selenium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Silver, dissolved	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, dissolved	1,700	2,700	3,200	3,400
Thallium, dissolved	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, dissolved	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, dissolved	370	ND (10)	19	ND (10)

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GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991

DISSOLVED METALS  
7000 SERIES

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER (ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND			
Aluminum, dissolved	ND (50)	ND (50)	ND (50)
Antimony, dissolved	ND (10)	ND (10)	ND (10)
Arsenic, dissolved	ND (5)	ND (5)	ND (5)
Barium, dissolved	ND (10)	ND (10)	ND (10)
Beryllium, dissolved	ND (2)	ND (2)	ND (2)
Cadmium, dissolved	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, dissolved	8600	3,800	1,600
Chromium, dissolved	ND (5)	ND (5)	ND (5)
Cobalt, dissolved	ND (30)	ND (30)	ND (30)
Copper, dissolved	ND (10)	ND (10)	ND (10)
Iron, dissolved	30	10	60
Lead, dissolved	ND (5)	ND (5)	ND (5)
Magnesium, dissolved	5,000	5,300	14,000
Manganese, dissolved	30	30	40
Mercury, dissolved	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, dissolved	ND (10)	ND (10)	ND (10)
Potassium, dissolved	ND (500)	ND (500)	960
Selenium, dissolved	ND (5)	ND (5)	ND (5)
Silver, dissolved	ND (1)	ND (1)	ND (1)
Sodium, dissolved	2,800	3,100	3,100
Thallium, dissolved	ND (5)	ND (5)	ND (5)
Vanadium, dissolved	ND (15)	ND (15)	ND (15)
Zinc, dissolved	ND (10)	ND (10)	ND (10)

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TABLE VII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	9118FRL03WA	91FRGW03WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/07/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/07/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0765	0742
DATE RECEIVED:	05/02/91	05/02/91	05/10/91	05/02/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	96	ND (50)	410	ND (50)
Antimony, total	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, total	ND (5)	ND (5)	ND (5)	ND (5)
Barium, total	ND (10)	ND (10)	ND (10)	ND (10)
Beryllium, total	2	ND (2)	ND (2)	ND (2)
Cadmium, total	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, total	23,000	26,000	18,000	24,000
Chromium, total	ND (5)	ND (5)	ND (5)	ND (5)
Cobalt, total	ND (30)	ND (30)	ND (30)	ND (30)
Copper, total	23	26	18	24
Iron, total	660	700	1,100	540
Lead, total	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, total	4400	4300	5,400	4100
Manganese, total	1440	1300	990	1000
Mercury, total	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, total	ND (10)	ND (10)	ND (10)	ND (10)
Potassium, total	ND (550)	ND (500)	890	ND (500)
Selenium, total	ND (5)	ND (5)	ND (5)	ND (5)
Silver, total	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, total	ND (2200)	2000	4,500	2400
Thallium, total	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, total	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, total	79	42	42	31

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## TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW015WA	9119FRL008WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER (ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0778	0807	0808
DATE RECEIVED:	05/16/91	05/08/91	05/17/91	05/17/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	ND (50)	500	ND (50)	990
Antimony, total	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, total	ND (5)	ND (5)	ND (5)	ND (5)
Barium, total	ND (10)	27	14	15
Beryllium, total	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, total	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, total	23,000	21,000	20,000	20,000
Chromium, total	ND (5)	ND (5)	ND (5)	ND (5)
Cobalt, total	ND (30)	ND (30)	ND (30)	ND (30)
Copper, total	23	21	20	20
Iron, total	730	1,500	1,100	1,700
Lead, total	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, total	7500	34,000	4,900	12,000
Manganese, total	540	700	1,600	720
Mercury, total	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, total	ND (10)	11	ND (10)	ND (10)
Potassium, total	720	1,400	2,500	990
Selenium, total	ND (5)	ND (5)	ND (5)	ND (5)
Silver, total	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, total	4100	4,300	5,400	3,400
Thallium, total	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, total	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, total	26	37	32	57

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## TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER (ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0757	0755
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	ND (50)	ND (50)	50,000	91,000
Antimony, total	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, total	ND (5)	ND (5)	6.7	8.8
Barium, total	ND (10)	10	340	480
Beryllium, total	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, total	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, total	20,000	23,000	94,000	110,000
Chromium, total	ND (5)	ND (5)	72	82
Cobalt, total	ND (30)	ND (30)	ND (30)	ND (30)
Copper, total	20	24	94	110
Iron, total	790	890	81,000	96,000
Lead, total	ND (5)	ND (5)	29	36
Magnesium, total	6300	4700	32,000	36,000
Manganese, total	560	570	2,100	2,200
Mercury, total	ND (0.2)	ND (0.2)	ND (0.2)	0.23
Nickel, total	ND (10)	ND (10)	65	130
Potassium, total	640	ND (500)	7,000	10,000
Selenium, total	ND (5)	ND (5)	ND (5)	ND (5)
Silver, total	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, total	2800	3300	6,500	5,500
Thallium, total	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, total	ND (15)	ND (15)	130	160
Zinc, total	32	33	1,600	1,900

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## TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	170	84	ND (50)	ND (50)
Antimony, total	ND (10)	ND (10)	ND (10)	ND (10)
Arsenic, total	ND (5)	ND (5)	ND (5)	ND (5)
Barium, total	29	19	ND (10)	ND (10)
Beryllium, total	ND (2)	ND (2)	ND (2)	ND (2)
Cadmium, total	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, total	34,000	24,000	41000	55,000
Chromium, total	8.6	ND (5)	ND (5)	ND (5)
Cobalt, total	ND (30)	ND (30)	ND (30)	ND (30)
Copper, total	34	24	41	55
Iron, total	1,000	1900	770	710
Lead, total	ND (5)	ND (5)	ND (5)	ND (5)
Magnesium, total	8,200	8300	6300	6300
Manganese, total	530	620	1100	1100
Mercury, total	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, total	ND (10)	ND (10)	ND (10)	ND (10)
Potassium, total	810	820	570	620
Selenium, total	ND (5)	ND (5)	ND (5)	ND (5)
Silver, total	ND (1)	ND (1)	ND (1)	ND (1)
Sodium, total	2,800	3600	2400	2600
Thallium, total	ND (5)	ND (5)	ND (5)	ND (5)
Vanadium, total	ND (15)	ND (15)	ND (15)	ND (15)
Zinc, total	480	37	41	47

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER (ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND			
Aluminum, total	ND (50)	ND (50)	ND (50)
Antimony, total	ND (10)	ND (10)	ND (10)
Arsenic, total	ND (5)	ND (5)	ND (5)
Barium, total	ND (10)	ND (10)	ND (10)
Beryllium, total	ND (2)	ND (2)	ND (2)
Cadmium, total	ND (0.5)	ND (0.5)	ND (0.5)
Calcium, total	32,900	30,000	24,000
Chromium, total	ND (5)	ND (5)	ND (5)
Cobalt, total	ND (30)	ND (30)	ND (30)
Copper, total	33	30	24
Iron, total	800	790	800
Lead, total	ND (5)	ND (5)	ND (5)
Magnesium, total	6400	6600	17,000
Manganese, total	1200	1200	570
Mercury, total	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, total	ND (10)	ND (10)	73
Potassium, total	580	610	1100
Selenium, total	ND (5)	ND (5)	ND (5)
Silver, total	ND (1)	ND (1)	ND (1)
Sodium, total	2200	2300	42000
Thallium, total	ND (5)	ND (5)	ND (5)
Vanadium, total	ND (15)	15	ND (15)
Zinc, total	39	60	25

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	9118FRL03WA	91FRGW03WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER(ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/07/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/07/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0765	0742
DATE RECEIVED:	05/02/91	05/02/91	05/10/91	05/02/91

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	55.7	53.8	152.7	52.0
Chloride (mg/L)	2.4	1.5	16.3	1.3
Corrosivity, Langelier Index	-2.84	-2.82	----	-2.57
Methylene blue Active substances (MBAS). AS LAS	ND (0.025)	ND (0.025)	----	ND (0.025)
pH	6.68	6.72	----	6.75
Solids, total dissolved, dried at 180 C (mg/L)	96	94	234	93
Sulfate (mg/L)	17	17	13	17
Turbidity (FTU)	0.07	0.03	0.36	0.04

TABLE VIII

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW015WA	9119FRL008WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER(ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0778	0807	0808
DATE RECEIVED:	05/16/91	05/08/91	05/17/91	05/17/91
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	94.7	304.3	80.5	186
Chloride (mg/L)	2.1	2.0	7.0	8.5
Corrosivity, Langelier Index	-1.89	----	----	----
Methylene blue Active substances (MBAS). AS LAS	ND (0.025)	----	----	----
pH	7.34	----	----	----
Solids, total dissolved, dried at 180 C (mg/L)	125	35	122	251
Sulfate (mg/L)	12	11	13	14
Turbidity (FTU)	0.33	3.7	0.81	7.3

TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER(ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0757	0755
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	91.2	53.9	169	173.2
Chloride (mg/L)	1.7	3.2	8.8	7.0
Corrosivity, Langelier Index	-1.99	-2.93	0.17	0.17
Methylene blue Active substances (MBAS). AS LAS	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
pH	7.62	6.53	7.48	7.42
Solids, total dissolved, dried at 180 C (mg/L)	108	58	173	200
Sulfate (mg/L)	14	16	4	5
Turbidity (FTU)	0.61	0.53	660	670

TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER(ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	158.9	120.1	100.6	96.1
Chloride (mg/L)	10	3.2	2.8	2.5
Corrosivity, Langelier Index	-0.54	-1.20	-1.00	-0.65
Methylene blue Active substances (MBAS), AS LAS	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
pH	7.62	7.72	7.43	7.42
Solids, total dissolved, dried at 180 C (mg/L)	177	127	147	145
Sulfate (mg/L)	9	12	18	16
Turbidity (NTU)	0.62	7.8	0.04	0.15

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER(ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	101.1	97.0	163.1
Chloride (mg/L)	3.0	2.0	2.8
Corrosivity, Langelier Index	-1.05	-1.67	-1.49
Methylene blue Active substances (MBAS). AS LAS	ND (0.025)	ND (0.025)	ND (0.025)
pH	7.52	7.25	7.62
Solids, total dissolved, dried at 180 C (mg/L)	145	140	178
Sulfate (mg/L)	15	14	13
Turbidity <sup>N</sup> (FTU)	0.06	0.04	0.42

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 1AY 1991  
 INORGANIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9120FRGW015WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/09/92	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>				
COMPOUND				
Chemical Oxygen Demand (COD)	ND (5)	ND (5)	ND (5)	ND (5)
Cyanide	-----	-----	-----	-----
Nitrogen, Ammonia	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Nitrogen, Nitrate & Nitrite	0.7	0.4	0.4	0.7
Nitrogen, Total Kjeldahl	0.7	0.3	0.5	0.2
Total Organic Carbon (TOC)	0.5	ND (0.5)	0.8	0.8

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TABLE 1A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL017WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3015
SAMPLE DEPTH:	----	----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-2
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/01/91	05/31/91	05/31/91	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>				
COMPOUND				
Chemical Oxygen Demand (COD)	10	7	12	ND (5)
Cyanide	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Nitrogen, Ammonia	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Nitrogen, Nitrate & Nitrite	0.3	22	136	0.8
Nitrogen, Total Kjeldahl	0.6	0.4	----	----
Total Organic Carbon (TOC)	0.9	1.0	2.8	0.6

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IPD means North Pacific Division Laboratory

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TABLE 12  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
SAMPLE DEPTH:	39.7	7.2	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-4	K2709-3	K2400-10	K2400-9
DATE RECEIVED:	05/17/91	05/17/91	05/09/91	05/09/91
DATE ANALYZED:	05/31/91	05/31/91	05/21/91	05/21/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>				
COMPOUND				
Chemical Oxygen Demand (COD)	9	26	139	101
Cyanide	----	----	ND (0.01)	ND (0.01)
Nitrogen, Ammonia	ND (0.05)	0.07	ND (0.05)	ND (0.05)
Nitrogen, Nitrate & Nitrite	ND (0.2)	0.6	150	119
Nitrogen, Total Kjeldahl	0.4	0.4	0.2	ND (0.1)
Total Organic Carbon (TOC)	ND (0.5)	6.6	7.0	5.1

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TABLE 1A

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 INORGANIC PARAMETERS

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
SAMPLE DEPTH:	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-1	K2709-2	K2400-4	K2400-5
DATE RECEIVED:	05/17/91	05/17/91	05/03/91	05/03/91
DATE ANALYZED:	05/31/91	05/31/91	05/09/92	05/09/92
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
COMPOUND				
Chemical Oxygen Demand (COD)	8	ND (5)	ND (5)	ND (5)
Cyanide	0.07	----	----	----
Nitrogen, Ammonia	0.4	ND (0.05)	ND (0.05)	ND (0.05)
Nitrogen, Nitrate & Nitrite	0.4	0.4	0.4	0.4
Nitrogen, Total Kjeldahl	0.3	0.5	0.2	0.3
Total Organic Carbon (TOC)	0.7	ND (0.5)	ND (0.5)	ND (0.5)

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TABLE 1A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-8
SAMPLE DEPTH:	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-6	K2400-7	K2709-5
DATE RECEIVED:	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>			
COMPOUND			
Chemical Oxygen Demand (COD)	ND (5)	ND (5)	ND (5)
Cyanide	-----	-----	-----
Nitrogen, Ammonia	ND (0.05)	ND (0.05)	ND (0.05)
Nitrogen, Nitrate & Nitrite	0.4	0.5	0.5
Nitrogen, Total Kjeldahl	0.2	0.2	0.3
Total Organic Carbon (TOC)	ND (0.5)	ND (0.5)	ND (0.5)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 MICROBIOLOGICAL ANALYSIS

SAMPLE NUMBER:	9118FRL103WA	9119FRL008WA	9120FRL016WA	9120FRL017WA
LOCATION:	ADFG K	AP-3010	AP-3014	AP-3015
DEPTH OF WATER(ft):	-----	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/07/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/08/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0765	0778	0809	0810
DATE RECEIVED:				

Colonies/100 mls.  
 counted on total coliform filter:

Total colonies (includes noncoliform types):	ND (1)	ND (1)	ND (1)	ND (1)
Total coliform colonies:	ND (1)	ND (1)	ND (1)	ND (1)

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VPD means North Pacific Division Laboratory

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 MICROBIOLOGICAL ANALYSIS

SAMPLE NUMBER:	9118FRL02WA	9118FRL01WA
LOCATION:	FR-1	FR-3
DEPTH OF WATER(ft):	-----	130
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	05/06/91	05/06/91
DATE SHIPPED:	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD
LABORATORY SAMPLE #:	0757	0755
DATE RECEIVED:		

Colonies/100 mls.  
 counted on total coliform filter:

Total colonies (includes noncoliform types):	ND (1)	ND (1)
Total coliform colonies:	ND (1)	ND (1)

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NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

JPDL means North Pacific Division Laboratory

ND means "Not Detected".

— means not tested or measured.

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 VOLATILE ORGANICS COMPOUNDS  
 SW846 METHODS 8240/8260

	8240	8240	8240	8260
SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW13WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	---	---	---	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/15/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6769-12
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/19/91
DATE ANALYZED:	11/19/91	11/19/91	11/19/91	11/25/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
COMPOUND				
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	64	67	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL CONCENTRATION:	0	0	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 VOLATILE ORGANICS COMPOUNDS  
 JW846 METHODS 8240/8260

	8240	8260	8260	8260
SAMPLE NUMBER:	91FRGW04WA	91FRGW07WA	91FRGW15WA	91FRGW10WA
LOCATION:	A-6	FR-1	FR-2	FR-3
SAMPLE DEPTH:	7.74	131.31	147.56	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6769-2	K6769-11	K6769-5
DATE RECEIVED:	11/09/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	11/19/91	11/22/91	11/22/91	11/25/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL CONCENTRATION:	0	0	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 VOLATILE ORGANICS COMPOUNDS  
 SW846 METHODS 8240/8260

	8260	8260	8240	8260
SAMPLE NUMBER:	91FRGW09WA	91FRGW11WA	91FRGW06WA	91FRGW14WA
LOCATION:	FR-3	OTTER	TW-1	WELL-1
SAMPLE DEPTH:	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/05/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/06/91	11/14/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-4	K6769-7	K6535-6	K6769-9
DATE RECEIVED:	11/19/91	11/19/91	11/08/91	11/19/91
DATE ANALYZED:	11/22/91	11/22/91	11/19/91	11/22/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
COMPOUND				
Chloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
Acetone	ND (20)	ND (20)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (1)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (1)	ND (1)	ND (1)
Benzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (1)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (1)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	ND (1)	ND (1)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (1)	ND (1)	ND (1)
Bromoform	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (1)	ND (1)	ND (1)
NUMBER OF TICs:	0	0	0	0
TOTAL CONCENTRATION:	0	0	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 VOLATILE ORGANICS COMPOUNDS  
 SW846 METHODS 8240/8260

	8260	8240	8260	8240
SAMPLE NUMBER:	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA	91FRGW12WA
LOCATION:	WELL-3	WELL-3	WELL-3	W-B
SAMPLE DEPTH:	---	---	---	98.16
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/06/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/07/91
TESTING LABORATORY:	CAS	NET	CAS	CAS
LABORATORY SAMPLE #:	K6769-13	105415	K6769-14	K6565-2
DATE RECEIVED:	11/19/91	11/18/91	11/19/91	11/09/91
DATE ANALYZED:	11/25/91	11/24/91	11/25/91	11/19/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
COMPOUND				
Chloromethane	ND (1)	ND (5)	ND (1)	ND (1)
Vinyl Chloride	ND (1)	ND (5)	ND (1)	ND (1)
Bromomethane	ND (1)	ND (5)	ND (1)	ND (1)
Chloroethane	ND (1)	ND (5)	ND (1)	ND (1)
Trichlorofluoromethane (Freon 11)	ND (1)	ND (5)	ND (1)	ND (1)
Trichlorotrifluoroethane (Freon 113)	ND (10)	ND (5)	ND (10)	ND (10)
1,1-Dichloroethene	ND (1)	ND (5)	ND (1)	ND (1)
Acetone	ND (20)	ND (10)	ND (20)	ND (20)
Carbon Disulfide	ND (1)	ND (5)	ND (1)	ND (1)
Methylene Chloride	ND (10)	ND (5)	ND (10)	ND (10)
trans-1,2-Dichloroethene	ND (1)	ND (5)	ND (1)	ND (1)
cis-1,2-Dichloroethene	ND (1)	ND (5)	ND (1)	ND (1)
2-Butanone (MEK)	ND (10)	ND (10)	ND (10)	ND (10)
1,1-Dichloroethane	ND (1)	ND (5)	ND (1)	ND (1)
Chloroform	ND (1)	ND (5)	ND (1)	ND (1)
1,1,1-Trichloroethane (TCA)	ND (1)	ND (5)	ND (1)	ND (1)
Carbon Tetrachloride	ND (1)	ND (5)	ND (1)	ND (1)
Benzene	ND (1)	ND (5)	ND (1)	ND (1)
1,2-Dichloroethane	ND (1)	ND (5)	ND (1)	ND (1)
Vinyl Acetate	ND (10)	ND (10)	ND (10)	ND (10)
Trichloroethene (TCE)	ND (1)	ND (5)	ND (1)	ND (1)
1,2-Dichloropropane	ND (1)	ND (5)	ND (1)	ND (1)
Bromodichloromethane	ND (1)	ND (5)	ND (1)	ND (1)
2-Chloroethyl Vinyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
trans-1,3-Dichloropropene	ND (1)	ND (5)	ND (1)	ND (1)
2-Hexanone	ND (10)	ND (10)	ND (10)	ND (10)
4-Methyl-2-pentanone (MIBK)	ND (10)	ND (10)	ND (10)	ND (10)
Toluene	ND (1)	ND (5)	ND (1)	ND (1)
cis-1,3-Dichloropropene	ND (1)	ND (5)	ND (1)	ND (1)
1,1,2-Trichloroethane	ND (1)	ND (5)	ND (1)	ND (1)
Tetrachloroethene (PCE)	ND (1)	ND (5)	ND (1)	ND (1)
Dibromochloromethane	ND (1)	ND (5)	ND (1)	ND (1)
Chlorobenzene	ND (1)	ND (5)	ND (1)	ND (1)
Ethylbenzene	ND (1)	ND (5)	ND (1)	ND (1)
Styrene	ND (1)	ND (5)	ND (1)	ND (1)
Total Xylenes	ND (1)	ND (5)	ND (1)	ND (1)
Bromoform	ND (1)	ND (5)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ND (1)	ND (5)	ND (1)	ND (1)
1,3-Dichlorobenzene	ND (1)	ND (6)	ND (1)	ND (1)
1,4-Dichlorobenzene	ND (1)	ND (6)	ND (1)	ND (1)
1,2-Dichlorobenzene	ND (1)	ND (6)	ND (1)	ND (1)
NUMBER OF TICs:	0	---	0	0
TOTAL CONCENTRATION:	0	---	0	0

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GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

DATE EXTRACTED:

COMPOUND	91FRGW01WA ADFG C	91FRGW02WA ADFG E	91FRGW03WA ADFG K	91FRGW06WA TW-1
N-Nitrosodimethylamine	ND (10)	ND (10)	ND (10)	ND (10)
Aniline	ND (40)	ND (40)	ND (40)	ND (40)
Bis(2-chloroethyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,3-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,4-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroisopropyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
N-Nitroso-di-n-propylamine	ND (10)	ND (10)	ND (10)	ND (10)
Hexachloroethane	ND (10)	ND (10)	ND (10)	ND (10)
Nitrobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Isophorone	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroethoxy)methane	ND (10)	ND (10)	ND (10)	ND (10)
1,2,4-Trichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Napthalene	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobutadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylnaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorocyclopentadiene	ND (20)	ND (20)	ND (20)	ND (20)
2-Chloronaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Dimethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthylene	ND (10)	ND (10)	ND (10)	ND (10)
3-Nitroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthene	ND (40)	ND (40)	ND (40)	ND (40)
Dibenzofuran	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Phenol	ND (10)	ND (10)	ND (10)	ND (10)
2-Chlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzyl Alcohol	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
3- and 4-Methylphenol *	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitrophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dimethylphenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzoic Acid	ND (100)	ND (100)	ND (100)	ND (100)
2,6-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Diethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
4-Chlorophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Fluorene	ND (10)	ND (10)	ND (10)	ND (10)
4-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
N-Nitrosodiphenylamine	ND (10)	ND (10)	ND (10)	ND (10)
4-Bromophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Phenanthrene	ND (10)	ND (10)	ND (10)	ND (10)
Anthracene	ND (10)	ND (10)	ND (10)	ND (10)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

DATE EXTRACTED:

91FRGW01WA

ADFG C

---

WATER

11/05/91

11/06/91

NPD

1269

11/07/91

12/28/91

11/08/91

 $\mu\text{g/L (ppb)}$ 

ND (10)

ND (10)

ND (10)

ND (10)

ND (40)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (100)

ND (100)

ND (40)

ND (60)

0

0

0

0

91FRGW02WA

ADFG E

---

WATER

11/05/91

11/06/91

NPD

1270

11/07/91

12/28/91

11/08/91

 $\mu\text{g/L (ppb)}$ 

ND (10)

ND (10)

ND (10)

ND (10)

ND (40)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (100)

ND (100)

ND (40)

ND (60)

0

0

0

0

91FRGW03WA

ADFG K

---

WATER

11/05/91

11/06/91

NPD

1271

11/07/91

12/28/91

11/08/91

 $\mu\text{g/L (ppb)}$ 

ND (10)

ND (10)

ND (10)

ND (10)

ND (40)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (100)

ND (100)

ND (40)

ND (60)

0

0

0

0

91FRGW06WA

TW-1

---

WATER

11/05/91

11/06/91

NPD

1272

11/07/91

12/28/91

11/08/91

 $\mu\text{g/L (ppb)}$ 

ND (10)

ND (10)

ND (10)

ND (10)

ND (40)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (10)

ND (100)

ND (100)

ND (40)

ND (60)

7

867

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION:	A-6	W-B	FR-1	FR-3
SAMPLE DEPTH:	7.74	98.16	131.31	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1305	1312	1313
DATE RECEIVED:	11/08/91	11/08/91	11/18/91	11/18/91
DATE ANALYZED:	12/28/91	12/28/91	12/29/91	12/29/91
DATE EXTRACTED:	11/13/91	11/13/91	11/20/91	11/20/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND				
N-Nitrosodimethylamine	ND (10)	ND (10)	ND (10)	ND (10)
Aniline	ND (40)	ND (40)	ND (40)	ND (40)
Bis(2-chloroethyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,3-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,4-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroisopropyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
N-Nitroso-di-n-propylamine	ND (10)	ND (10)	ND (10)	ND (10)
Hexachloroethane	ND (10)	ND (10)	ND (10)	ND (10)
Nitrobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Isophorone	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroethoxy)methane	ND (10)	ND (10)	ND (10)	ND (10)
1,2,4-Trichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Naphthalene	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobutadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylnaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorocyclopentadiene	ND (20)	ND (20)	ND (20)	ND (20)
2-Chloronaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Dimethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthylene	ND (10)	ND (10)	ND (10)	ND (10)
3-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Acenaphthene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzofuran	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Phenol	ND (10)	ND (10)	ND (10)	ND (10)
2-Chlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzyl Alcohol	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
3- and 4-Methylphenol*	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitrophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dimethylphenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzoic Acid	370	ND (100)	ND (100)	ND (100)
2,6-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Diethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
4-Chlorophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Fluorene	ND (10)	ND (10)	ND (10)	ND (10)
4-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
N-Nitrosodiphenylamine	ND (10)	ND (10)	ND (10)	ND (10)
4-Bromophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Phenanthrene	ND (10)	ND (10)	ND (10)	ND (10)
Anthracene	ND (10)	ND (10)	ND (10)	ND (10)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 3W846 METHOD 8270

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION:	A-6	W-B	FR-1	FR-3
SAMPLE DEPTH:	7.74	98.16	131.31	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1305	1312	1313
DATE RECEIVED:	11/08/91	11/08/91	11/18/91	11/18/91
DATE ANALYZED:	12/28/91	12/28/91	12/29/91	12/29/91
DATE EXTRACTED:	11/13/91	11/13/91	11/20/91	11/20/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
Di-n-butyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Butylbenzyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
3,3'-Dichlorobenzidine	ND (40)	ND (40)	ND (40)	ND (40)
Benzo(a)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-ethylhexyl) Phthalate	ND (10)	ND (10)	49.6	ND (10)
Chrysene	ND (10)	ND (10)	ND (10)	ND (10)
Di-n-octyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(b)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(k)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(a)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Indeno(1,2,3-c,d)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzo(a,h)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(g,h,i)perylene	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloro-3-methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,6-Trichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,5-Trichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrophenol	ND (100)	ND (100)	ND (100)	ND (100)
4-Nitrophenol	ND (100)	ND (100)	ND (100)	ND (100)
2-Methyl-4,6-dinitrophenol	ND (40)	ND (40)	ND (40)	ND (40)
Pentachlorophenol	ND (60)	ND (60)	ND (60)	ND (60)
NUMBER OF TICs:	2	0	1	0
TOTAL CONCENTRATION:	215	0	12	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

142.86

SAMPLE TYPE:

DATE OF SAMPLING:

11/15/91

DATE SHIPPED:

11/15/91

TESTING LABORATORY:

LABORATORY SAMPLE #:

NPD

1314

DATE RECEIVED:

11/18/91

DATE ANALYZED:

12/29/91

DATE EXTRACTED:

11/20/91

91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
FR-3	OTTER	AK-2127	WELL-1
142.86	---	78.52	---
WATER	WATER	WATER	WATER
11/15/91	11/13/91	11/15/91	11/13/91
11/15/91	11/14/91	11/15/91	11/14/91
NPD	NPD	NPD	NPD
1314	1315	1316	1317
11/18/91	11/18/91	11/18/91	11/18/91
12/29/91	12/29/91	12/29/91	12/29/91
11/20/91	11/20/91	11/20/91	11/20/91
µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND	91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
N-Nitrosodimethylamine	ND (10)	ND (10)	ND (10)	ND (10)
Aniline	ND (40)	ND (40)	ND (40)	ND (40)
Bis(2-chloroethyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,3-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,4-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroisopropyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
N-Nitroso-di-n-propylamine	ND (10)	ND (10)	ND (10)	ND (10)
Hexachloroethane	ND (10)	ND (10)	ND (10)	ND (10)
Nitrobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Isophorone	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroethoxy)methane	ND (10)	ND (10)	ND (10)	ND (10)
1,2,4-Trichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Naphthalene	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobutadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylnaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorocyclopentadiene	ND (20)	ND (20)	ND (20)	ND (20)
2-Chloronaphthalene	ND (40)	ND (40)	ND (40)	ND (40)
2-Nitroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Dimethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthylene	ND (10)	ND (10)	ND (10)	ND (10)
3-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Acenaphthene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzofuran	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Phenol	ND (10)	ND (10)	ND (10)	ND (10)
2-Chlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzyl Alcohol	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
3- and 4-Methylphenol*	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitrophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dimethylphenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzoic Acid	ND (100)	ND (100)	ND (100)	ND (100)
2,6-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Diethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
4-Chlorophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Fluorene	ND (10)	ND (10)	ND (10)	ND (10)
4-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
N-Nitrosodiphenylamine	ND (10)	ND (10)	ND (10)	ND (10)
4-Bromophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Phenanthrene	ND (10)	ND (10)	ND (10)	ND (10)
Anthracene	ND (10)	ND (10)	ND (10)	ND (10)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 JW846 METHOD 8270

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
LOCATION:	FR-3	OTTER	AK-2127	WELL-1
SAMPLE DEPTH:	142.86	---	78.52	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/15/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/15/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1314	1315	1316	1317
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91
DATE ANALYZED:	12/29/91	12/29/91	12/29/91	12/29/91
DATE EXTRACTED:	11/20/91	11/20/91	11/20/91	11/20/91
	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

COMPOUND				
N-Nitrosodimethylamine	ND (10)	ND (10)	ND (10)	ND (10)
Aniline	ND (40)	ND (40)	ND (40)	ND (40)
Bis(2-chloroethyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,3-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
1,4-Dichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroisopropyl) Ether	ND (10)	ND (10)	ND (10)	ND (10)
N-Nitroso-di-n-propylamine	ND (10)	ND (10)	ND (10)	ND (10)
Hexachloroethane	ND (10)	ND (10)	ND (10)	ND (10)
Nitrobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Isophorone	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-chloroethoxy)methane	ND (10)	ND (10)	ND (10)	ND (10)
1,2,4-Trichlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Naphthalene	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloroaniline	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobutadiene	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylnaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorocyclopentadiene	ND (20)	ND (20)	ND (20)	ND (20)
2-Chloronaphthalene	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Dimethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Acenaphthylene	ND (10)	ND (10)	ND (10)	ND (10)
3-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
Acenaphthene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzofuran	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Phenol	ND (10)	ND (10)	ND (10)	ND (10)
2-Chlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzyl Alcohol	ND (10)	ND (10)	ND (10)	ND (10)
2-Methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
3- and 4-Methylphenol*	ND (10)	ND (10)	ND (10)	ND (10)
2-Nitrophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dimethylphenol	ND (10)	ND (10)	ND (10)	ND (10)
Benzoic Acid	ND (100)	ND (100)	ND (100)	ND (100)
2,6-Dinitrotoluene	ND (10)	ND (10)	ND (10)	ND (10)
Diethyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
4-Chlorophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Fluorene	ND (10)	ND (10)	ND (10)	ND (10)
4-Nitroaniline	ND (40)	ND (40)	ND (40)	ND (40)
N-Nitrosodiphenylamine	ND (10)	ND (10)	ND (10)	ND (10)
4-Bromophenyl Phenyl Ether	ND (10)	ND (10)	ND (10)	ND (10)
Hexachlorobenzene	ND (10)	ND (10)	ND (10)	ND (10)
Phenanthrene	ND (10)	ND (10)	ND (10)	ND (10)
Anthracene	ND (10)	ND (10)	ND (10)	ND (10)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
LOCATION:	FR-3	OTTER	AK-2127	WELL-1
SAMPLE DEPTH:	142.86	---	78.52	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/15/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/15/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1314	1315	1316	1317
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91
DATE ANALYZED:	12/29/91	12/29/91	12/29/91	12/29/91
DATE EXTRACTED:	11/20/91	11/20/91	11/20/91	11/20/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
Di-n-butyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Butylbenzyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
3,3'-Dichlorobenzidine	ND (40)	ND (40)	ND (40)	ND (40)
Benzo(a)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-ethylhexyl) Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Chrysene	ND (10)	ND (10)	ND (10)	ND (10)
Di-n-octyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(b)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(k)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(a)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Indeno(1,2,3-c,d)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzo(a,h)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(g,h,i)perylene	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloro-3-methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,6-Trichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,5-Trichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dinitrophenol	ND (100)	ND (100)	ND (100)	ND (100)
4-Nitrophenol	ND (100)	ND (100)	ND (100)	ND (100)
2-Methyl-4,6-dinitrophenol	ND (40)	ND (40)	ND (40)	ND (40)
Pentachlorophenol	ND (60)	ND (60)	ND (60)	ND (60)
NUMBER OF TICs:	0	0	0	0
TOTAL CONCENTRATION:	0	0	0	0

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

DATE EXTRACTED:

91FRGW15WA

FR-2

147.56

WATER

11/13/91

11/14/91

NPD

1318

11/18/91

12/29/91

11/20/91

 $\mu\text{g/L (ppb)}$ 

91FRGW16WA

WELL-3

---

WATER

11/13/91

11/14/91

NPD

1319

11/18/91

12/29/91

11/20/91

 $\mu\text{g/L (ppb)}$ 

QA DUP

91FRGW16WA

WELL-3

---

WATER

11/13/91

11/14/91

NET

105415

11/18/91

11/21/91

11/20/91

 $\mu\text{g/L (ppb)}$ 

QC DUP

91FRGW17WA

WELL-3

---

WATER

11/13/91

11/14/91

NPD

1320

11/18/91

12/29/91

11/20/91

 $\mu\text{g/L (ppb)}$ 

## COMPOUND

N-Nitrosodimethylamine

Aniline

Bis(2-chloroethyl) Ether

1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

Bis(2-chloroisopropyl) Ether

N-Nitroso-di-n-propylamine

Hexachloroethane

Nitrobenzene

Isophorone

Bis(2-chloroethoxy)methane

1,2,4-Trichlorobenzene

Naphthalene

4-Chloroaniline

Hexachlorobutadiene

2-Methylnaphthalene

Hexachlorocyclopentadiene

2-Chloronaphthalene

2-Nitroaniline

Dimethyl Phthalate

Acenaphthylene

3-Nitroaniline

Acenaphthene

Dibenzofuran

2,4-Dinitrotoluene

Phenol

2-Chlorophenol

Benzyl Alcohol

2-Methylphenol

3- and 4-Methylphenol\*

2-Nitrophenol

2,4-Dimethylphenol

Benzoic Acid

2,6-Dinitrotoluene

Diethyl Phthalate

4-Chlorophenyl Phenyl Ether

Fluorene

4-Nitroaniline

N-Nitrosodiphenylamine

4-Bromophenyl Phenyl Ether

Hexachlorobenzene

Phenanthrene

Anthracene

ND (10)

ND (40)

ND (10)

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CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

JW846 METHOD 8270

	91FRGW15WA	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA
SAMPLE NUMBER:	FR-2	WELL-3	WELL-3	WELL-3
LOCATION:	147.56	---	---	---
SAMPLE DEPTH:	WATER	WATER	WATER	WATER
SAMPLE TYPE:	11/13/91	11/13/91	11/13/91	11/13/91
DATE OF SAMPLING:	11/14/91	11/14/91	11/14/91	11/14/91
DATE SHIPPED:	NPD	NPD	NET	NPD
TESTING LABORATORY:	1318	1319	105415	1320
LABORATORY SAMPLE #:	11/18/91	11/18/91	11/18/91	11/18/91
DATE RECEIVED:	12/29/91	12/29/91	11/21/91	12/29/91
DATE ANALYZED:	11/20/91	11/20/91	11/20/91	11/20/91
DATE EXTRACTED:	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
Di-n-butyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Butylbenzyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
3,3'-Dichlorobenzidine	ND (40)	ND (40)	ND (20)	ND (40)
Benzo(a)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Bis(2-ethylhexyl) Phthalate	21.7	ND (10)	ND (10)	ND (10)
Chrysene	ND (10)	ND (10)	ND (10)	ND (10)
Di-n-octyl Phthalate	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(b)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(k)fluoranthene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(a)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Indeno(1,2,3-c,d)pyrene	ND (10)	ND (10)	ND (10)	ND (10)
Dibenzo(a,h)anthracene	ND (10)	ND (10)	ND (10)	ND (10)
Benzo(g,h,i)perylene	ND (10)	ND (10)	ND (10)	ND (10)
2,4-Dichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
4-Chloro-3-methylphenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,6-Trichlorophenol	ND (10)	ND (10)	ND (10)	ND (10)
2,4,5-Trichlorophenol	ND (10)	ND (10)	ND (50)	ND (10)
2,4-Dinitrophenol	ND (100)	ND (100)	ND (50)	ND (100)
4-Nitrophenol	ND (100)	ND (100)	ND (50)	ND (100)
2-Methyl-4,6-dinitrophenol	ND (40)	ND (40)	ND (50)	ND (40)
Pentachlorophenol	ND (60)	ND (60)	ND (50)	ND (60)
NUMBER OF TICs:	1	1	0	0
TOTAL CONCENTRATION:	32	22	0	0

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 ORGANOPHOSPHOROUS PESTICIDES  
 SW846 METHOD 8140

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW06WA
LOCATION:	ADFG C	ADFG E	ADFG K	TW-1
SAMPLE DEPTH:	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/06/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6535-6
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/08/91
DATE ANALYZED:	11/13/91	11/13/91	11/13/91	11/13/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 ORGANOPHOSPHOROUS PESTICIDES  
 3W846 METHOD 8140

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION:	A-6	W-B	FR-1	FR-3
SAMPLE DEPTH:	7.74	98.16	131.31	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6565-2	K6769-2	K6769-4
DATE RECEIVED:	11/09/91	11/09/91	11/19/91	11/19/91
DATE ANALYZED:	11/13/91	11/13/91	12/11/91	12/11/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-0	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 ORGANOPHOSPHOROUS PESTICIDES  
 SW846 METHOD 8140

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW14WA	91FRGW15WA
LOCATION:	FR-3	OTTER	WELL-1	FR-2
SAMPLE DEPTH:	142.86	---	---	147.56
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-5	K6769-7	K6769-9	K6769-11
DATE RECEIVED:	11/19/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	12/11/91	12/11/91	12/11/91	12/11/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND				
Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-0	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Naled	ND (1)	ND (1)	ND (1)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (2)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## ORGANOPHOSPHOROUS PESTICIDES

SW846 METHOD 8140

SAMPLE NUMBER:	91FRGW13WA	91FRGW16WA	91FRGW16WA	91FRGW17WA
LOCATION:	AK-2127	WELL-3	WELL-3	WELL-3
SAMPLE DEPTH:	78.52	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	CAS	CAS	NET	CAS
LABORATORY SAMPLE #:	K6769-12	K6769-13	105415	K6769-14
DATE RECEIVED:	11/19/91	11/19/91	11/18/91	11/19/91
DATE ANALYZED:	12/12/91	12/12/91	11/23/91	12/12/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Azinphos Methyl	ND (0.5)	ND (0.5)	ND (0.07)	ND (0.5)
Bolstar	ND (0.5)	ND (0.5)	----	ND (0.5)
Chlorpyrifos	ND (0.5)	ND (0.5)	ND (0.3)	ND (0.5)
Coumaphos	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Demeton-O	ND (0.5)	ND (0.5)	----	ND (0.5)
Demeton-S	ND (0.5)	ND (0.5)	----	ND (0.5)
Diazinon	ND (0.5)	ND (0.5)	ND (0.3)	ND (0.5)
Dichlorvos	ND (0.5)	ND (0.5)	ND (0.2)	ND (0.5)
Disulfoton	ND (0.5)	ND (0.5)	ND (0.15)	ND (0.5)
Ethoprop	ND (0.5)	ND (0.5)	ND (0.2)	ND (0.5)
Fensulfothion	ND (0.5)	ND (0.5)	ND (0.2)	ND (0.5)
Fenthion	ND (0.5)	ND (0.5)	----	ND (0.5)
Merphos	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)
Mevinphos	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)
Naled	ND (1)	ND (1)	ND (0.2)	ND (1)
Parathion Methyl	ND (0.5)	ND (0.5)	ND (0.05)	ND (0.5)
Phorate	ND (0.5)	ND (0.5)	ND (0.2)	ND (0.5)
Ronnel	ND (0.5)	ND (0.5)	ND (0.2)	ND (0.5)
Stirophos	ND (0.5)	ND (0.5)	----	ND (0.5)
Tokuthion (Prothiofos)	ND (2)	ND (2)	ND (1.0)	ND (2)
Trichloronate	ND (2)	ND (2)	ND (0.1)	ND (2)
Malathion	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

PCBs &amp; PESTICIDES

SW846 METHOD 8080

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW13WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	---	---	---	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/15/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1269	1270	1271	1316
DATE RECEIVED:	11/07/91	11/07/91	11/07/91	11/18/91
DATE ANALYZED:	01/07/92	01/07/92	01/07/92	01/07/92
	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$

## COMPOUND

Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

PCBs &amp; PESTICIDES

3W846 METHOD 8080

SAMPLE NUMBER:	91FRGW04WA	91FRGW07WA	91FRGW15WA	QC DUP 91FRGW09WA
LOCATION:	A-6	FR-1	FR-2	FR-3
SAMPLE DEPTH:	7.74	131.31	147.56	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1312	1318	1313
DATE RECEIVED:	11/08/91	11/18/91	11/18/91	11/18/91
DATE ANALYZED:	01/07/92	01/07/92	01/07/92	01/07/92
	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$

COMPOUND				
Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

PCBs &amp; PESTICIDES

SW846 METHOD 8080

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW06WA	91FRGW14WA
LOCATION:	FR-3	OTTER	TW-1	WELL-1
SAMPLE DEPTH:	142.86	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/05/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/06/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1314	1315	1272	1317
DATE RECEIVED:	11/18/91	11/18/91	11/07/91	11/18/91
DATE ANALYZED:	01/07/92	01/07/92	01/07/92	01/07/92
	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$	$\mu\text{g/l(ppb)}$

COMPOUND				
Aldrin	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.08)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.04)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.83)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (1.76)	ND (1.76)	ND (1.76)
Toxapnene	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

PCBs &amp; PESTICIDES

3W846 METHOD 8080

	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA	91FRGW12WA
SAMPLE NUMBER:	WELL-3	WELL-3	WELL-3	W-B
LOCATION:	---	---	---	98.16
SAMPLE DEPTH:	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/06/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/07/91
TESTING LABORATORY:	NPD	NET	NPD	NPD
LABORATORY SAMPLE #:	1319	105415	1320	1305
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/08/91
DATE ANALYZED:	01/07/92	12/03/91	01/07/92	01/07/92
	µg/l(ppb)	µg/l(ppb)	µg/l(ppb)	µg/l(ppb)

## COMPOUND

Aldrin	ND (0.04)	ND (0.02)	ND (0.04)	ND (0.04)
alpha-BHC	ND (0.08)	ND (0.005)	ND (0.08)	ND (0.08)
beta-BHC	ND (0.08)	ND (0.005)	ND (0.08)	ND (0.08)
delta-BHC	ND (0.08)	ND (0.005)	ND (0.08)	ND (0.08)
gamma-BHC (Lindane)	ND (0.08)	ND (0.02)	ND (0.08)	ND (0.08)
Chlordane (technical)	ND (0.10)	ND (0.4)	ND (0.10)	ND (0.10)
4,4'-DDD	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
4,4'-DDE	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
4,4'-DDT	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
Dieldrin	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
Endosulfan I	ND (0.04)	ND (0.05)	ND (0.04)	ND (0.04)
Endosulfan II	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
Endosulfan Sulfate	ND (0.16)	ND (0.05)	ND (0.16)	ND (0.16)
Endrin	ND (0.08)	ND (0.05)	ND (0.08)	ND (0.08)
Endrin aldehyde	ND (0.23)	ND (0.05)	ND (0.23)	ND (0.23)
Heptachlor	ND (0.04)	ND (0.05)	ND (0.04)	ND (0.04)
Heptachlor epoxide	ND (0.83)	ND (0.05)	ND (0.83)	ND (0.83)
Methoxychlor	ND (1.76)	ND (0.08)	ND (1.76)	ND (1.76)
Toxaphene	ND (6.0)	ND (1.0)	ND (6.0)	ND (6.0)
Aroclor-1016	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)
Aroclor-1221	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)
Aroclor-1232	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)
Aroclor-1242	ND (0.8)	ND (0.6)	ND (0.8)	ND (0.8)
Aroclor-1248	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)
Aroclor-1254	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)
Aroclor-1260	ND (0.8)	ND (0.5)	ND (0.8)	ND (0.8)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

PCBs &amp; PESTICIDES

SW846 METHOD 8080

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

---

COMPOUND

Aldrin

alpha-BHC

beta-BHC

delta-BHC

gamma-BHC (Lindane)

Chlordane (technical)

4,4'-DDD

4,4'-DDE

4,4'-DDT

Dieldrin

Endosulfan I

Endosulfan II

Endosulfan Sulfate

Endrin

Endrin aldehyde

Heptachlor

Heptachlor epoxide

Methoxychlor

Toxaphene

Aroclor-1016

Aroclor-1221

Aroclor-1232

Aroclor-1242

Aroclor-1248

Aroclor-1254

Aroclor-1260

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW13WA
LOCATION	ADFG C	ADFG E	ADFG K	AK-2127
DEPTH OF WATER(ft):	---	---	---	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/15/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1269	1270	1271	1316
DATE RECEIVED:	11/07/91	11/07/91	11/07/91	11/18/91
DATE ANALYZED:	12/11/91	12/11/91	12/11/91	12/11/91
	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$

## COMPOUND

Diesel fuel no. 2	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Gasoline	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Jet fuel	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Kerosene	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Bunker oil (diesel fuel no. 6)	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Miscellaneous fuel*	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)

\* Quantitated using diesel fuel standards

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	91FRGW04WA	91FRGW07WA	91FRGW15WA	91FRGW09WA
LOCATION	A-6	FR-1	FR-2	FR-3
DEPTH OF WATER(ft):	7.74	131.31	147.56	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1312	1318	1313
DATE RECEIVED:	11/08/91	11/18/91	11/18/91	11/18/91
DATE ANALYZED:	12/11/91	12/11/91	12/11/91	12/11/91
	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$

## COMPOUND

Diesel fuel no. 2	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Gasoline	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Jet fuel	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Kerosene	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Bunker oil (diesel fuel no. 6)	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)
Miscellaneous fuel*	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 METHOD 8015 MODIFIED

WEL IDENTIFICATION	QA DUP	QC DUP		
SAMPLE NUMBER:	91FRGW09WA	91FRGW10WA	91FRGW11WA	91FRGW06WA
LOCATION	FR-3	FR-3	OTTER	TW-1
DEPTH OF WATER(ft):	142.86	142.86	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/15/91	11/13/91	11/05/91
DATE SHIPPED:	11/15/91	11/15/91	11/14/91	11/06/91
TESTING LABORATORY:	NET	NPD	NPD	NPD
LABORATORY SAMPLE #:	105238	1314	1315	1272
DATE RECEIVED:	11/16/91	11/18/91	11/18/91	11/07/91
DATE ANALYZED:	11/21/91	12/11/91	12/11/91	12/11/91
	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$

COMPOUND				
Diesel fuel no. 2	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)
Gasoline	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)
Jet fuel	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)
Kerosene	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)
Bunker oil (diesel fuel no. 6)	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)
Miscellaneous fuel*	ND (100.0)	ND (50.0)	ND (50.0)	ND (50.0)

\* Quantitated using diesel fuel standards

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	91FRGW14WA	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA
LOCATION	WELL-1	WELL-3	WELL-3	WELL-3
DEPTH OF WATER(ft):	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NET	NPD
LABORATORY SAMPLE #:	1317	1319	105415	1320
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91
DATE ANALYZED:	12/11/91	12/11/91	12/11/91	12/11/91
	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$	$\mu\text{g/L(ppb)}$

## COMPOUND

Diesel fuel no. 2	ND (50.0)	ND (50.0)	ND (100)	ND (50.0)
Gasoline	ND (50.0)	ND (50.0)	ND (100)	ND (50.0)
Jet fuel	ND (50.0)	ND (50.0)	ND (100)	ND (50.0)
Kerosene	ND (50.0)	ND (50.0)	ND (100)	ND (50.0)
Bunker oil (diesel fuel no. 6)	ND (50.0)	ND (50.0)	530	ND (50.0)
Miscellaneous fuel*	ND (50.0)	ND (50.0)	ND (100)	ND (50.0)

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## TABLE A.V

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

METHOD 8015 MODIFIED

FUEL IDENTIFICATION

SAMPLE NUMBER: 91FRGW12WA

LOCATION W-B

DEPTH OF WATER(ft): 98.16

SAMPLE TYPE: WATER

DATE OF SAMPLING: 11/06/91

DATE SHIPPED: 11/07/91

TESTING LABORATORY: NPD

LABORATORY SAMPLE #: 1305

DATE RECEIVED: 11/08/91

DATE ANALYZED: 12/11/91

 $\mu\text{g/L(ppb)}$ 

## COMPOUND

Diesel fuel no. 2 ND (100)

Gasoline ND (100)

Jet fuel ND (100)

Kerosene ND (100)

Bunker oil (diesel fuel no. 6) ND (100)

Miscellaneous fuel\* ND (100)

\* Quantitated using diesel fuel standards

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 DISSOLVED METALS  
 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW06WA
LOCATION:	ADFG C	ADFG E	ADFG K	TW-1
SAMPLE DEPTH:	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/06/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6535-6
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/08/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	5	ND (5)	ND (5)	5
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	ND (5)	ND (5)	ND (5)	ND (5)
Lead	ND (2)	52	2	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION:	A-6	W-B	FR-1	FR-3
SAMPLE DEPTH:	7.74	98.16	131.31	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6565-2	K6769-2	K6769-4
DATE RECEIVED:	11/09/91	11/09/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	6	6	8	10
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	ND (5)	ND (5)	ND (5)	ND (5)
Lead	ND (2)	ND (2)	ND (2)	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991

## DISSOLVED METALS

## 7000 SERIES

## QC DUP

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW14WA	91FRGW15WA
LOCATION:	FR-3	OTTER	WELL-1	FR-2
SAMPLE DEPTH:	142.86	---	---	147.56
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-5	K6769-7	K6769-9	K6769-11
DATE RECEIVED:	11/19/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	12	9	ND (5)	12
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	ND (5)	ND (5)	ND (5)	ND (5)
Lead	ND (2)	ND (2)	ND (2)	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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 NOVEMBER 1991

DISSOLVED METALS

7000 SERIES

			QA DUP	QC DUP
SAMPLE NUMBER:	91FRGW13WA	91FRGW16WA	91FRGW16WA	91FRGW17WA
LOCATION:	AK-2127	WELL-3	WELL-3	WELL-3
SAMPLE DEPTH:	78.52	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	CAS	CAS	NET	CAS
LABORATORY SAMPLE #:	K6769-12	K6769-13	105415	K6769-14
DATE RECEIVED:	11/19/91	11/19/91	11/18/91	11/19/91
DATE ANALYZED:	----	----	12/04/91	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

COMPOUND

Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	7	ND (5)	ND (20)	ND (5)
Cadmium	ND (3)	ND (3)	ND (20)	ND (3)
Chromium	ND (5)	ND (5)	ND (20)	ND (5)
Lead	ND (2)	ND (2)	ND (2)	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (20)	ND (10)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW13WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	---	---	---	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/15/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6769-12
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/19/91
DATE ANALYZED:	----	----	----	----

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	5	5	ND (5)	8
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	ND (5)	ND (5)	ND (5)	ND (5)
Lead	3	2	4	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW04WA	91FRGW07WA	91FRGW15WA	91FRGW09WA
LOCATION:	A-6	FR-1	FR-2	FR-3
SAMPLE DEPTH:	7.74	131.31	147.56	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6769-2	K6769-11	K6769-4
DATE RECEIVED:	11/09/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Arsenic	ND (5)	13	19	12
Barium	7	111	120	193
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	ND (5)	43	32	61
Lead	ND (2)	18	19	25
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW06WA	91FRGW14WA
LOCATION:	FR-3	OTTER	TW-1	WELL-1
SAMPLE DEPTH:	142.86	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/05/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/06/91	11/14/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-5	K6769-7	K6535-6	K6769-9
DATE RECEIVED:	11/19/91	11/19/91	11/08/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Arsenic	16	ND (5)	ND (5)	ND (5)
Barium	288	8	5	ND (5)
Cadmium	ND (3)	ND (3)	ND (3)	ND (3)
Chromium	89	ND (5)	ND (5)	ND (5)
Lead	43	5	ND (2)	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (10)	ND (10)	ND (10)

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## TABLE XVII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## TOTAL METALS

## 7000 SERIES

		QA DUP	QC DUP	
SAMPLE NUMBER:	91FRGW16WA	91FRGW16WA	91FRGW17WA	91FRGW12WA
LOCATION:	WELL-3	WELL-3	WELL-3	W-B
SAMPLE DEPTH:	---	---	---	98.16
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/06/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/07/91
TESTING LABORATORY:	CAS	NET	CAS	CAS
LABORATORY SAMPLE #:	K6769-13	105415	K6769-14	K6565-2
DATE RECEIVED:	11/19/91	11/18/91	11/19/91	11/09/91
DATE ANALYZED:	----	12/04/91	----	----

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic	ND (5)	ND (5)	ND (5)	ND (5)
Barium	ND (5)	ND (20)	ND (5)	6
Cadmium	ND (3)	ND (20)	ND (3)	ND (3)
Chromium	ND (5)	ND (20)	ND (5)	ND (5)
Lead	ND (2)	ND (2)	ND (2)	ND (2)
Mercury	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Selenium	ND (5)	ND (5)	ND (5)	ND (5)
Silver	ND (10)	ND (20)	ND (10)	ND (10)

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## TABLE XVIII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW06WA
LOCATION	ADFG C	ADFG E	ADFG K	TW-1
DEPTH OF WATER(ft):	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/06/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1269	1270	1271	1272
DATE RECEIVED:	11/07/91	11/07/91	11/07/91	11/07/91

## PARAMETER

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	46.6	46.3	46.4	120
Chloride (mg/L)	0.93	0.8	0.8	4
Corrosivity, Langelier Index	-1.92	-1.93	-1.95	-0.74
Methylene blue Active substances (MBAS). AS LAS*	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
pH	6.95	6.87	6.99	7.46
Solids, total dissolved, dried at 180 C (mg/L)	92	89.5	162	160
Sulfate (mg/L)	22	23	23	18
Turbidity (NTU)	0.23	0.31	0.24	0.22

\* LAS = linear alkyl sulfonate

\*\* The calcium concentration used in the Langeliers  
Index computation included calcium from sediment.

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## TABLE 70.11

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION	A-6	W-B	FR-1	FR-3
DEPTH OF WATER(ft):	7.74	98.16	131.31	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1305	1312	1313
DATE RECEIVED:	11/08/91	11/08/91	11/18/91	11/18/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	52.3	171	159	193
Chloride (mg/L)	1.2	2.7	9.1	4
Corrosivity, Langelier Index	-2.25	-0.44	-0.64	-0.42
Methylene blue Active substances (MBAS), AS LAS*	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
pH	6.54	7.51	7.32	7.41
Solids, total dissolved, dried at 180 C (mg/L)	87	196	207	181
Sulfate (mg/L)	20.5	18	21	14
Turbidity (FTU)	3.4	0.44	220	5900

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TABLE XVIII

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
LOCATION	FR-3	OTTER	AK-2127	WELL-1
DEPTH OF WATER(ft):	142.86	---	78.52	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/15/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/15/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1314	1315	1316	1317
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	173	165	107	105
Chloride (mg/L)	5.4	1.1	3	1.5
Corrosivity, Langelier Index	-0.57	-0.7	-1.26	-0.81
Methylene blue Active substances (MBAS). AS LAS*	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
pH	7.38	7.22	7.1	7.41
Solids, total dissolved, dried at 180 C (mg/L)	196	208	177	119
Sulfate (mg/L)	14.5	13	15.5	18
Turbidity (NTU)	390	0.38	1.1	0.24

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## TABLE XVIII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW15WA	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA
LOCATION	FR-2	WELL-3	WELL-3	WELL-3
DEPTH OF WATER(ft):	147.56	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NET	NPD
LABORATORY SAMPLE #:	1318	1319	105415	1320
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91

## PARAMETER

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	167	98	110	99.4
Chloride (mg/L)	10	2.1	1.6	2.7
Corrosivity, Langelier Index	-0.72	-0.67	0.030	-0.7
Methylene blue Active substances (MBAS), AS LAS*	ND (0.025)	ND (0.025)	ND (0.05)	ND (0.025)
pH	7.16	7.66	7.9	7.63
Solids, total dissolved, dried at 180 C (mg/L)	257	171	140	164
Sulfate (mg/L)	21	18.5	16	18
Turbidity (FTU)	210	0.34	0.085	0.29

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Index computation included calcium from sediment.

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ENCLOSURE 2

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## VOLATILE ORGANICS COMPOUNDS

SW846 METHOD 8240

SAMPLE NUMBER:

LOCATION:

SAMPLE DEPTH:

SAMPLE TYPE:

DATE OF SAMPLING:

DATE SHIPPED:

TESTING LABORATORY:

LABORATORY SAMPLE #:

DATE RECEIVED:

DATE ANALYZED:

9120FRGW015WA	9120FRL016WA	9120FRGW013WA	91FRGW04WA	9120FRGW014WA
AK-2127	AP-3014	A-1	WELL-1	W-B
75	21	39.7	-----	98
WATER	WATER	WATER	WATER	WATER
05/14/91	05/15/91	05/14/91	04/30/91	05/14/91
05/15/91	05/16/91	05/15/91	05/01/91	05/15/91
CAS	ARDL	CAS	CAS	CAS
K2709-6	919-1	K2709-4	K2400-4	K2709-5
05/17/91	05/18/91	05/17/91	05/03/91	05/17/91
05/25/91	05/28/91	05/28/91	05/13/91	05/25/91
µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)

## COMPOUND

Chloromethane

43

Methylene Chloride

4 JB

2-Butanone (MEK)

13

Toluene

7.1

1.2

1.4

4.4

NUMBER OF TICs:

0

2

0

0

0

TOTAL TIC CONCENTRATION:

0

23

0

0

0

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

JW846 METHOD 8270

SAMPLE NUMBER:	9120FRL016WA	9118FRL02WA	9118FRL01WA
LOCATION:	AP-3014	FR-1	FR-3
SAMPLE DEPTH:	21	-----	130
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	05/15/91	05/06/91	05/06/91
DATE SHIPPED:	05/16/91	05/07/91	05/07/91
TESTING LABORATORY:	ARDL	CAS	CAS
LABORATORY SAMPLE #:	919-1	K2400-10	K2400-9
DATE RECEIVED:	05/18/91	05/09/91	05/09/91
DATE ANALYZED:	06/13/91	05/14/91	05/14/91
DATE EXTRACTED:	05/21/91	05/22/91	05/22/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Bis(2-ethylhexyl) Phthalate

NUMBER OF TICs:	2	20	15
TOTAL TIC CONCENTRATION:	635	1503	550

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## TABLE 1

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

METHOD 8015 MODIFIED

## FUEL IDENTIFICATION

SAMPLE NUMBER:	9118FRL01WA	9118FRL02WA
LOCATION:	FR-3	FR-1
SAMPLE DEPTH:	130	-----
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	05/06/91	05/06/91
DATE SHIPPED:	05/07/91	05/07/91
TESTING LABORATORY:	CAS	CAS
LABORATORY SAMPLE #:	K2400-9	K2400-10
DATE RECEIVED:	05/09/91	05/09/91
DATE ANALYZED:	05/30/91	05/30/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND		
Oil*	**5,600	**5,500

\* Quantitated using hydraulic oil as standard.

\*\* Blank contaminated with oil

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J means Identified Below Detection Limit

B means Found in Lab Blank



## TABLE VI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9118FRL103WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0742	0766
DATE RECEIVED:	05/02/91	05/02/91	05/02/91	05/10/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved				240
Arsenic, dissolved				
Barium, dissolved	13			19
Calcium, dissolved	1600	1600	2700	4100
Chromium, dissolved				
Copper, dissolved				
Iron, dissolved	20	20	10	600
Lead, dissolved				
Magnesium, dissolved	3000	3200	3200	3600
Manganese, dissolved	50	50	40	120
Nickel, dissolved				
Potassium, dissolved				730
Sodium, dissolved	3700	1900	1400	2700
Zinc, dissolved	12	15		16

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## TABLE VI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW015WA	9119FRL108WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER (ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0779	0807	0808
DATE RECEIVED:	05/16/91	05/13/91	05/17/91	05/17/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved		110	120	
Arsenic, dissolved				
Barium, dissolved	11	17	19	16
Calcium, dissolved	1,900	5,600	5,500	23,000
Chromium, dissolved				
Copper, dissolved				23
Iron, dissolved	10	490	140	730
Lead, dissolved				
Magnesium, dissolved	6,300	29,000	3,700	10,000
Manganese, dissolved	40	140	860	130
Nickel, dissolved				
Potassium, dissolved	590	1,200	2,200	870
Sodium, dissolved	2,800	3,100	4,200	2,300
Zinc, dissolved	10	11		26

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TABLE VI  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
DISSOLVED METALS  
7000 SERIES

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL102WA	9118FRL101WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER (ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0758	0756
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved			26,000	1,700
Arsenic, dissolved			6.2	.
Barium, dissolved			150	36
Calcium, dissolved	800	1,800	58,000	8,400
Chromium, dissolved			46	
Copper, dissolved				
Iron, dissolved	40	60	22,000	3,100
Lead, dissolved			26	
Magnesium, dissolved	4,300	3,300	7,200	4,100
Manganese, dissolved	40	60	850	80
Nickel, dissolved			63	
Potassium, dissolved			2,800	1,400
Sodium, dissolved	2,400	2,100	3,200	1,900
Zinc, dissolved			1,300	

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TABLE VI  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
DISSOLVED METALS  
7000 SERIES

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Aluminum, dissolved		130		
Arsenic, dissolved				
Barium, dissolved	14			
Calcium, dissolved	14,000	3,100	12,000	28,000
Chromium, dissolved				
Copper, dissolved	14		12	28
Iron, dissolved	60	660	30	50
Lead, dissolved				
Magnesium, dissolved	6,800	6,600	3,100	5,000
Manganese, dissolved	70	70	40	30
Nickel, dissolved				
Potassium, dissolved	620	650		
Sodium, dissolved	1,700	2,700	3,200	3,400
Zinc, dissolved	370		19	

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TABLE VI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER (ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND			
Aluminum, dissolved			
Arsenic, dissolved			
Barium, dissolved			
Calcium, dissolved	8600	3,800	1,600
Chromium, dissolved			
Copper, dissolved			
Iron, dissolved	30	10	60
Lead, dissolved			
Magnesium, dissolved	5,000	5,300	14,000
Manganese, dissolved	30	30	40
Nickel, dissolved			
Potassium, dissolved			960
Sodium, dissolved	2,800	3,100	3,100
Zinc, dissolved			

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## TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	9118FRL03WA	91FRGW03WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/07/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/07/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0765	0742
DATE RECEIVED:	05/02/91	05/02/91	05/10/91	05/02/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	96		410	
Arsenic, total				
Barium, total				
Beryllium, total	2			
Calcium, total	23,000	26,000	18,000	24,000
Chromium, total				
Copper, total	23	26	18	24
Iron, total	660	700	1,100	540
Lead, total				
Magnesium, total	4400	4300	5,400	4100
Manganese, total	1440	1300	990	1000
Mercury, total				
Nickel, total				
Potassium, total			890	
Sodium, total		2000	4,500	2400
Vanadium, total				
Zinc, total	79	42	42	31

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TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW015WA	9119FRL008WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER (ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0778	0807	0808
DATE RECEIVED:	05/16/91	05/08/91	05/17/91	05/17/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total		500		990
Arsenic, total				
Barium, total		27	14	15
Beryllium, total				
Calcium, total	23,000	21,000	20,000	20,000
Chromium, total				
Copper, total	23	21	20	20
Iron, total	730	1,500	1,100	1,700
Lead, total				
Magnesium, total	7500	34,000	4,900	12,000
Manganese, total	540	700	1,600	720
Mercury, total				
Nickel, total		11		
Potassium, total	720	1,400	2,500	990
Sodium, total	4,100	4,300	5,400	3,400
Vanadium, total				
Zinc, total	26	37	32	57

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## TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER (ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0757	0755
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total			50,000	91,000
Arsenic, total			6.7	8.8
Barium, total		10	340	480
Beryllium, total				
Calcium, total	20,000	23,000	94,000	110,000
Chromium, total			72	82
Copper, total	20	24	94	110
Iron, total	790	890	81,000	96,000
Lead, total			29	36
Magnesium, total	6300	4700	32,000	36,000
Manganese, total	560	570	2,100	2,200
Mercury, total				0.23
Nickel, total			65	130
Potassium, total	640		7,000	10,000
Sodium, total	2800	3300	6,500	5,500
Vanadium, total			130	160
Zinc, total	32	33	1,600	1,900

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TABLE VII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER (ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
COMPOUND				
Aluminum, total	170	84		
Arsenic, total				
Barium, total	29	19		
Beryllium, total				
Calcium, total	34,000	24,000	41000	55,000
Chromium, total	8.6			
Copper, total	34	24	41	55
Iron, total	1,000	1900	770	710
Lead, total				
Magnesium, total	8,200	8300	6300	6300
Manganese, total	530	620	1100	1100
Mercury, total				
Nickel, total				
Potassium, total	810	820	570	620
Sodium, total	2,800	3600	2400	2600
Vanadium, total				
Zinc, total	480	37	41	47

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

MAY 1991

## TOTAL METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER (ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91

	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$	$\mu\text{g/L(ppm)}$
<hr/>			
COMPOUND			
Aluminum, total			
Arsenic, total			
Barium, total			
Beryllium, total			
Calcium, total	32,900	30,000	24,000
Chromium, total			
Copper, total	33	30	24
Iron, total	800	790	800
Lead, total			
Magnesium, total	6400	6600	17,000
Manganese, total	1200	1200	570
Mercury, total			
Nickel, total			73
Potassium, total	580	610	1100
Sodium, total	2200	2300	42000
Vanadium, total		15	
Zinc, total	39	60	25

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TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	9118FRL03WA	91FRGW03WA
LOCATION:	ADFG C	ADFG E	ADFG K	ADFG K
DEPTH OF WATER(ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/07/91	04/30/91
DATE SHIPPED:	05/01/91	05/01/91	05/07/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0740	0741	0765	0742
DATE RECEIVED:	05/02/91	05/02/91	05/10/91	05/02/91
<hr/>				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	55.7	53.8	152.7	52.0
Chloride (mg/L)	2.4	1.5	16.3	1.3
Corrosivity, Langelier Index	-2.84	-2.82	----	-2.57
pH	6.68	6.72	----	6.75
Solids, total dissolved, dried at 180 C (mg/L)	96	94	234	93
Sulfate (mg/L)	17	17	13	17
Turbidity <sup>N</sup> (FTU)	0.07	0.03	0.36	0.04

TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW015WA	9119FRL008WA	9120FRL116WA	9120FRL117WA
LOCATION:	AK-2127	AP-3010	AP-3014	AP-3015
DEPTH OF WATER(ft):	75	-----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/09/91	05/15/91	05/15/91
DATE SHIPPED:	05/15/91	05/11/91	05/16/91	05/16/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0806	0778	0807	0808
DATE RECEIVED:	05/16/91	05/08/91	05/17/91	05/17/91
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	94.7	304.3	80.5	186
Chloride (mg/L)	2.1	2.0	7.0	8.5
Corrosivity, Langelier Index	-1.89	----	----	----
pH	7.34	----	----	----
Solids, total dissolved, dried at 180 C (mg/L)	125	35	122	251
Sulfate (mg/L)	12	11	13	14
Turbidity (FTU)	0.33	3.7	0.81	7.3

TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
DEPTH OF WATER(ft):	39.7	7.2	-----	130
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0804	0803	0757	0755
DATE RECEIVED:	05/16/91	05/16/91	05/08/91	05/06/91
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	91.2	53.9	169	173.2
Chloride (mg/L)	1.7	3.2	8.8	7.0
Corrosivity, Langelier Index	-1.99	-2.93	0.17	0.17
pH	7.62	6.53	7.48	7.42
Solids, total dissolved, dried at 180 C (mg/L)	108	58	173	200
Sulfate (mg/L)	14	16	4	5
Turbidity <sup>N</sup> (FTU)	0.61	0.53	660	670

TABLE VIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
DEPTH OF WATER(ft):	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	0801	0802	0743	0744
DATE RECEIVED:	05/16/91	05/16/91	05/02/91	05/02/91

Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	158.9	120.1	100.6	96.1
Chloride (mg/L)	10	3.2	2.8	2.5
Corrosivity, Langelier Index	-0.54	-1.20	-1.00	-0.65
pH	7.62	7.72	7.43	7.42
Solids, total dissolved, dried at 180 C (mg/L)	177	127	147	145
Sulfate (mg/L)	9	12	18	16
Turbidity (FTU)	0.62	7.8	0.04	0.15

TABLE VIII

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 MAY 1991  
 NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
DEPTH OF WATER(ft):	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	NPD	NPD	NPD
LABORATORY SAMPLE #:	0745	0746	0805
DATE RECEIVED:	05/02/91	05/02/91	05/16/91
<hr/>			
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	101.1	97.0	163.1
Chloride (mg/L)	3.0	2.0	2.8
Corrosivity, Langelier Index	-1.05	-1.67	-1.49
pH	7.52	7.25	7.62
Solids, total dissolved, dried at 180 C (mg/L)	145	140	178
Sulfate (mg/L)	15	14	13
Turbidity ( <sup>N</sup> FTU)	0.06	0.04	0.42

TABLE A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	9120FRGW015WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	-----	-----	-----	75
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-1	K2400-2	K2400-3	K2709-6
DATE RECEIVED:	05/03/91	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/09/92	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>				
COMPOUND				
Chemical Oxygen Demand (COD)				
Cyanide	----	----	----	----
Nitrogen, Ammonia				
Nitrogen, Nitrate & Nitrite	0.7	0.4	0.4	0.7
Nitrogen, Total Kjeldahl	0.7	0.3	0.5	0.2
Total Organic Carbon (TOC)	0.5		0.8	0.8

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

— means not tested or measured.



TABLE 1A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	9119FRL008WA	9119FRL003WA	9120FRL016WA	9120FRL017WA
LOCATION:	AP-3010	AP-3013	AP-3014	AP-3015
SAMPLE DEPTH:	----	----	21	117
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/09/91	05/08/91	05/15/91	05/15/91
DATE SHIPPED:	05/11/91	05/09/91	05/16/91	05/16/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2645-1	K2607-1	K2729-1	K2729-2
DATE RECEIVED:	05/15/91	05/14/91	05/18/91	05/18/91
DATE ANALYZED:	06/01/91	05/31/91	05/31/91	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
COMPOUND				
Chemical Oxygen Demand (COD)	10	7	12	
Cyanide				
Nitrogen, Ammonia				
Nitrogen, Nitrate & Nitrite	0.3	122	136	0.8
Nitrogen, Total Kjeldahl	0.6	0.4	----	----
Total Organic Carbon (TOC)	0.9	1.0	2.8	0.6

CAS means Columbia Analytical Services, Kelso, WA  
NET means National Environmental Testing Santa Rosa.  
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NPD means North Pacific Division Laboratory  
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---- means not tested or measured.

TABLE 1A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	9120FRGW013WA	9120FRGW012WA	9118FRL02WA	9118FRL01WA
LOCATION:	A-1	A-6	FR-1	FR-3
SAMPLE DEPTH:	39.7	7.2	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	05/06/91	05/06/91
DATE SHIPPED:	05/15/91	05/15/91	05/07/91	05/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-4	K2709-3	K2400-10	K2400-9
DATE RECEIVED:	05/17/91	05/17/91	05/09/91	05/09/91
DATE ANALYZED:	05/31/91	05/31/91	05/21/91	05/21/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
COMPOUND				
Chemical Oxygen Demand (COD)	9	26	139	101
Cyanide	-----	-----		
Nitrogen, Ammonia		0.07		
Nitrogen, Nitrate & Nitrite		0.6	150	119
Nitrogen, Total Kjeldahl	0.4	0.4	0.2	
Total Organic Carbon (TOC)		6.6	7.0	5.1

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa.

ARDL means ARDL, Inc. Mt. Vernon, IL

VPD means North Pacific Division Laboratory

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----- means not tested or measured.

TABLE IX  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	9120FRGW010WA	9120FRGW011WA	91FRGW04WA	91FRGW05WA
LOCATION:	OTTER	TW-1	WELL-1	WELL-1
SAMPLE DEPTH:	-----	-----	-----	-----
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	05/14/91	05/14/91	04/30/91	04/30/91
DATE SHIPPED:	05/15/91	05/15/91	05/01/91	05/01/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2709-1	K2709-2	K2400-4	K2400-5
DATE RECEIVED:	05/17/91	05/17/91	05/03/91	05/03/91
DATE ANALYZED:	05/31/91	05/31/91	05/09/92	05/09/92
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>				
COMPOUND				
Chemical Oxygen Demand (COD)	8			
Cyanide	0.07	----	----	----
Nitrogen, Ammonia	0.4			
Nitrogen, Nitrate & Nitrite	0.4	0.4	0.4	0.4
Nitrogen, Total Kjeldahl	0.3	0.5	0.2	0.3
Total Organic Carbon (TOC)	0.7			

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---- means not tested or measured.

TABLE 1A  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
MAY 1991  
INORGANIC PARAMETERS

SAMPLE NUMBER:	91FRGW06WA	91FRGW07WA	9120FRGW014WA
LOCATION:	WELL-1	WELL-3	W-B
SAMPLE DEPTH:	-----	-----	98
SAMPLE TYPE:	WATER	WATER	WATER
DATE OF SAMPLING:	04/30/91	04/30/91	05/14/91
DATE SHIPPED:	05/01/91	05/01/91	05/15/91
TESTING LABORATORY:	CAS	CAS	CAS
LABORATORY SAMPLE #:	K2400-6	K2400-7	K2709-5
DATE RECEIVED:	05/03/91	05/03/91	05/17/91
DATE ANALYZED:	05/09/92	05/09/92	05/31/91
	mg/L(ppm)	mg/L(ppm)	mg/L(ppm)
<hr/>			
COMPOUND			
Chemical Oxygen Demand (COD)			
Cyanide	----	----	----
Nitrogen, Ammonia			
Nitrogen, Nitrate & Nitrite	0.4	0.5	0.5
Nitrogen, Total Kjeldahl	0.2	0.2	0.3
Total Organic Carbon (TOC)			
<hr/>			

CAS means Columbia Analytical Services, Kelso WA

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JPD means North Pacific Division Laboratory

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— means not tested or measured

GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 VOLATILE ORGANICS COMPOUNDS  
 SW846 METHODS 8240/8260

	8240	8240
SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA
LOCATION:	ADFG C	ADFG E
SAMPLE DEPTH:	---	---
SAMPLE TYPE:	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91
TESTING LABORATORY:	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2
DATE RECEIVED:	11/08/91	11/08/91
DATE ANALYZED:	11/19/91	11/19/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND		
Trichlorotrifluoroethane (Freon 113)	64	67
Methylene Chloride		
cis-1,2-Dichloroethene		
Chloroform		
1,1,1-Trichloroethane (TCA)		
Toluene		

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GROUND WATER MONITORING  
 FT. RICHARDSON, ALASKA  
 NOVEMBER 1991  
 SEMIVOLATILE ORGANIC COMPOUNDS  
 SW846 METHOD 8270

SAMPLE NUMBER:	91FRGW06WA	91FRGW04WA	91FRGW07WA	91FRGW15WA
LOCATION:	TW-1	A-6	FR-1	FR-2
SAMPLE DEPTH:	---	7.74	131.31	147.56
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/06/91	11/13/91	11/13/91
DATE SHIPPED:	11/06/91	11/07/91	11/14/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1272	1304	1312	1318
DATE RECEIVED:	11/07/91	11/08/91	11/18/91	11/18/91
DATE ANALYZED:	12/28/91	12/28/91	12/29/91	12/29/91
DATE EXTRACTED:	11/08/91	11/13/91	11/20/91	11/20/91
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Benzoic Acid		370		
Bis(2-ethylhexyl) Phthalate			49.6	21.7
NUMBER OF TICs:	7	2	1	1
TOTAL CONCENTRATION:	867	215	12	32

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

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## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## SEMIVOLATILE ORGANIC COMPOUNDS

SW846 METHOD 8270

SAMPLE NUMBER: 91FRGW16WA

LOCATION: WELL-3

SAMPLE DEPTH: ---

SAMPLE TYPE: WATER

DATE OF SAMPLING: 11/13/91

DATE SHIPPED: 11/14/91

TESTING LABORATORY: NPD

LABORATORY SAMPLE #: 1319

DATE RECEIVED: 11/18/91

DATE ANALYZED: 12/29/91

DATE EXTRACTED: 11/20/91

 $\mu\text{g/L (ppb)}$ 

---

COMPOUND

Benzoic Acid

Bis(2-ethylhexyl) Phthalate

NUMBER OF TICs: 1

TOTAL CONCENTRATION: 22

---

CAS means Columbia Analytical Services, Kelso, WA

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## TABLE XV

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

METHOD 8015 MODIFIED

FUEL IDENTIFICATION

SAMPLE NUMBER: 91FRGW09WA

LOCATION: FR-3

SAMPLE DEPTH: 130

SAMPLE TYPE: WATER

DATE OF SAMPLING: 05/06/91

DATE SHIPPED: 05/07/91

TESTING LABORATORY: NET

LABORATORY SAMPLE #: K2400-9

DATE RECEIVED: 05/09/91

DATE ANALYZED: 05/30/91

---

 $\mu\text{g/L (ppm)}$ 

## COMPOUND

BUNKER C(diesel 6) 530

---

\* Quantitated using hydraulic oil as standard.

\*\* Blank contaminated with oil

CAS means Columbia Analytical Services, Kelso, WA

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NPD means North Pacific Division Laboratory

ND means "Not Detected".

— means not tested or measured.



## TABLE XVI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## DISSOLVED METALS

## 7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW06WA
LOCATION:	ADFG C	ADFG E	ADFG K	TW-1
SAMPLE DEPTH:	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/06/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6535-6
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/08/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Barium	5			5
Chromium				
Lead		52	2	

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## TABLE XVI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## DISSOLVED METALS

## TC000 SERIES

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION:	A-6	W-B	FR-1	FR-3
SAMPLE DEPTH:	7.74	98.16	131.31	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6565-2	K6769-2	K6769-4
DATE RECEIVED:	11/09/91	11/09/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Barium	6	6	8	10
Chromium				
Lead				

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TABLE XVI

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

## DISSOLVED METALS

7000 SERIES

	QC DUP.			
SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW15WA	91FRGW13WA
LOCATION:	FR-3	OTTER	FR-2	AK-2127
SAMPLE DEPTH:	142.86	---	147.56	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/15/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-5	K6769-7	K6769-11	K6769-12
DATE RECEIVED:	11/19/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$

## COMPOUND

Barium	12	9	12	7
Chromium				
Lead				

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TABLE XVII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
TOTAL METALS  
7000 SERIES

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW13WA
LOCATION:	ADFG C	ADFG E	ADFG K	AK-2127
SAMPLE DEPTH:	---	---	---	78.52
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/15/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6535-1	K6535-2	K6535-4	K6769-12
DATE RECEIVED:	11/08/91	11/08/91	11/08/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic				
Barium	5	5		8
Chromium				
Lead	3	2	4	

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TABLE XVII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
TOTAL METALS  
7000 SERIES

SAMPLE NUMBER:	91FRGW04WA	91FRGW07WA	91FRGW15WA	91FRGW09WA
LOCATION:	A-6	FR-1	FR-2	FR-3
SAMPLE DEPTH:	7.74	131.31	147.56	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/13/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/14/91	11/14/91	11/15/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6565-1	K6769-2	K6769-11	K6769-4
DATE RECEIVED:	11/09/91	11/19/91	11/19/91	11/19/91
DATE ANALYZED:	----	----	----	----
	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic		13	19	12
Barium	7	111	120	193
Chromium		43	32	61
Lead		18	19	25

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TABLE XVII

## GROUND WATER MONITORING

FT. RICHARDSON, ALASKA

NOVEMBER 1991

TOTAL METALS

7000 SERIES

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW06WA	91FRGW12WA
LOCATION:	FR-3	OTTER	TW-1	W-B
SAMPLE DEPTH:	142.86	---	---	98.16
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/05/91	11/06/91
DATE SHIPPED:	11/15/91	11/14/91	11/06/91	11/07/91
TESTING LABORATORY:	CAS	CAS	CAS	CAS
LABORATORY SAMPLE #:	K6769-5	K6769-7	K6535-6	K6565-2
DATE RECEIVED:	11/19/91	11/19/91	11/08/91	11/09/91
DATE ANALYZED:	----	----	----	----

	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$	$\mu\text{g/L (ppb)}$
COMPOUND				
Arsenic	16			
Barium	288	8	5	6
Chromium	89			
Lead	43	5		

---

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TABLE XVIII

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW01WA	91FRGW02WA	91FRGW03WA	91FRGW06WA
LOCATION	ADFG C	ADFG E	ADFG K	TW-1
DEPTH OF WATER(ft):	---	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/05/91	11/05/91	11/05/91	11/05/91
DATE SHIPPED:	11/06/91	11/06/91	11/06/91	11/06/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1269	1270	1271	1272
DATE RECEIVED:	11/07/91	11/07/91	11/07/91	11/07/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	46.6	46.3	46.4	120
Chloride (mg/L)	0.93	0.8	0.8	4
Corrosivity, Langelier Index	-1.92	-1.98	-1.95	-0.74
pH	6.95	6.87	6.99	7.46
Solids, total dissolved, dried at 180 C (mg/L)	92	89.5	162	160
Sulfate (mg/L)	22	23	23	18
Turbidity (FTU)	0.23	0.31	0.24	0.22

\* LAS = linear alkyl sulfonate

\*\* The calcium concentration used in the Langeliers  
Index computation included calcium from sediment.

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa, CA

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

--- means not tested or measured.

## TABLE VIII

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW04WA	91FRGW12WA	91FRGW07WA	91FRGW09WA
LOCATION	A-6	W-B	FR-1	FR-3
DEPTH OF WATER(ft):	7.74	98.16	131.31	142.86
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/06/91	11/06/91	11/13/91	11/15/91
DATE SHIPPED:	11/07/91	11/07/91	11/14/91	11/15/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1304	1305	1312	1313
DATE RECEIVED:	11/08/91	11/08/91	11/18/91	11/18/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	52.3	171	159	193
Chloride (mg/L)	1.2	2.7	9.1	4
Corrosivity, Langelier Index	-2.25	-0.44	-0.64	-0.42
pH	6.54	7.51	7.32	7.41
Solids, total dissolved, dried at 180 C (mg/L)	87	196	207	181
Sulfate (mg/L)	20.5	18	21	14
Turbidity (FTU)	3.4	0.44	220	5900

\* LAS = linear alkyl sulfonate

\*\* The calcium concentration used in the Langeliers  
Index computation included calcium from sediment.

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa,

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

— means not tested or measured.



## TABLE XVIII

GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW10WA	91FRGW11WA	91FRGW13WA	91FRGW14WA
LOCATION	FR-3	OTTER	AK-2127	WELL-1
DEPTH OF WATER(ft):	142.86	---	78.52	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/15/91	11/13/91	11/15/91	11/13/91
DATE SHIPPED:	11/15/91	11/14/91	11/15/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NPD	NPD
LABORATORY SAMPLE #:	1314	1315	1316	1317
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	173	165	107	105
Chloride (mg/L)	5.4	11	3	1.5
Corrosivity, Langelier Index	-0.57	-0.7	-1.26	-0.81
pH	7.38	7.22	7.1	7.41
Solids, total dissolved, dried at 180 C (mg/L)	196	208	177	119
Sulfate (mg/L)	14.5	13	15.5	18
Turbidity <sup>N</sup> / <sub>FTU</sub>	390	0.38	1.1	0.24

\* LAS = linear alkyl sulfonate

\*\* The calcium concentration used in the Langeliers

Index computation included calcium from sediment.

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa,

ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

--- means not tested or measured.

TABLE XVIII  
GROUND WATER MONITORING  
FT. RICHARDSON, ALASKA  
NOVEMBER 1991  
NON METALLIC PARAMETERS

SAMPLE NUMBER:	91FRGW15WA	91FRGW16WA	QA DUP 91FRGW16WA	QC DUP 91FRGW17WA
LOCATION	FR-2	WELL-3	WELL-3	WELL-3
DEPTH OF WATER(ft):	147.56	---	---	---
SAMPLE TYPE:	WATER	WATER	WATER	WATER
DATE OF SAMPLING:	11/13/91	11/13/91	11/13/91	11/13/91
DATE SHIPPED:	11/14/91	11/14/91	11/14/91	11/14/91
TESTING LABORATORY:	NPD	NPD	NET	NPD
LABORATORY SAMPLE #:	1318	1319	105415	1320
DATE RECEIVED:	11/18/91	11/18/91	11/18/91	11/18/91

PARAMETER				
Alkalinity, to pH 4.5, as CaCO <sub>3</sub> (mg/L)	167	98	110	99.4
Chloride (mg/L)	10	2.1	1.6	2.7
Corrosivity, Langelier Index	-0.72	-0.67	0.030	-0.7
pH	7.16	7.66	7.9	7.63
Solids, total dissolved, dried at 180 C (mg/L)	257	171	140	164
Sulfate (mg/L)	21	18.5	16	18
Turbidity (FTU)	210	0.34	0.085	0.29

\* LAS = linear alkyl sulfonate

\*\* The calcium concentration used in the Langeliers  
Index computation included calcium from sediment.

CAS means Columbia Analytical Services, Kelso, WA

NET means National Environmental Testing Santa Rosa.

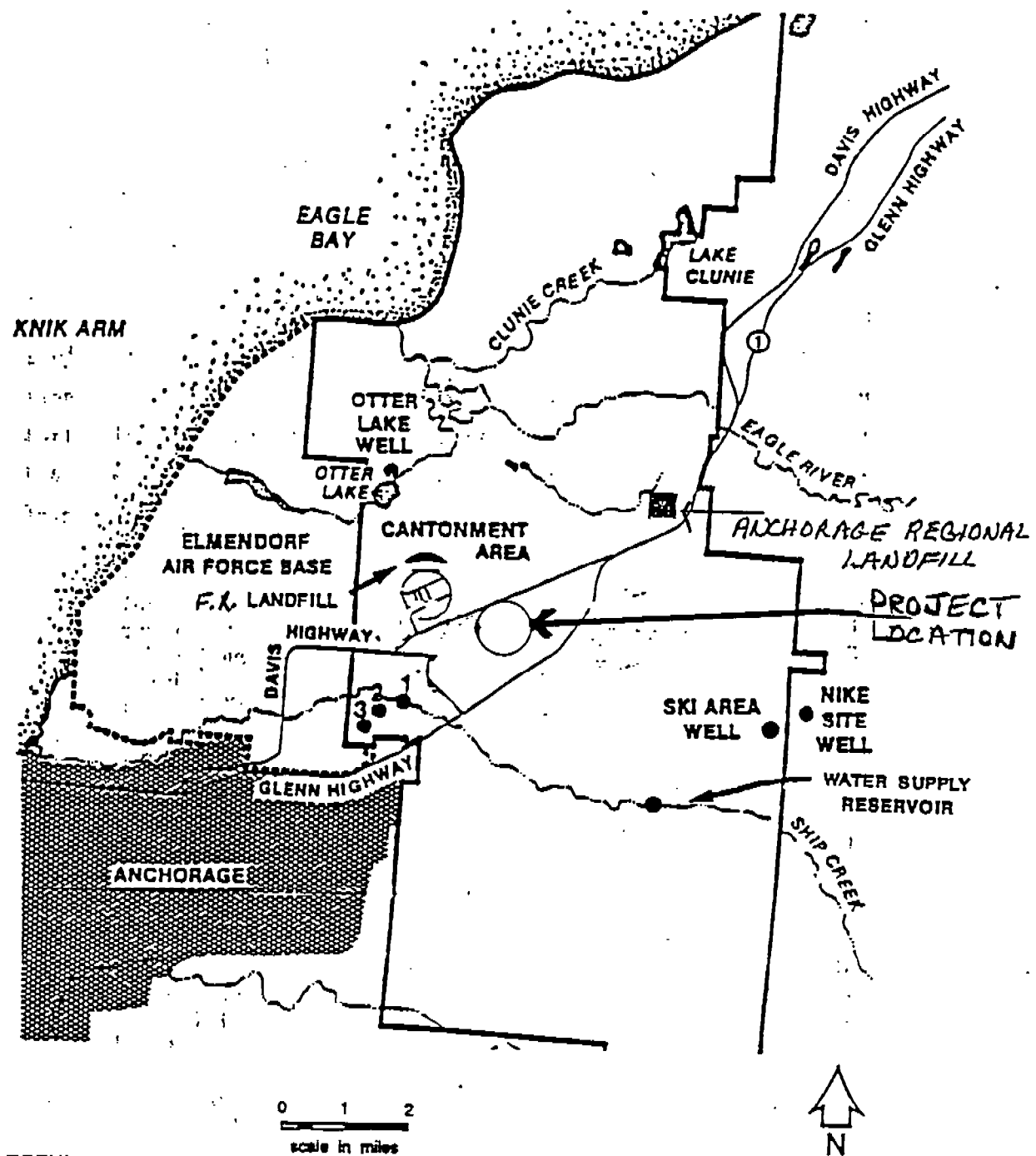
ARDL means ARDL, Inc. Mt. Vernon, IL

NPD means North Pacific Division Laboratory

ND means "Not Detected".

--- means not tested or measured.

ENCLOSURE 3



## LEGEND

- Reservation boundary
- Highways
- Streams, creeks
- XXXXXX Towns, cities
- Well

ecology & environment, inc.	
Job: KN1040	FORT RICHARDSON
Drawn by: D. P.	Date: Dec. 14, 1989

Enclosure 3  
Location Map

ENCLOSURE 4

ENCLOSURE 5



DEPARTMENT OF THE ARMY  
NORTH PACIFIC DIVISION MATERIALS LABORATORY  
CORPS OF ENGINEERS  
1491 N.W. GRAHAM AVENUE  
TROUTDALE, OREGON 97060-9503

CENPD-PE-GT-L (1110-1-8100c)

13 Aug 91

MEMORANDUM FOR Commander, Alaska District, ATTN: CENPA-EN-GM-HW (Pekar)

SUBJECT: W.O. 90-HM-241a, Results of Chemical Analyses

Project: FT. RICHARDSON LANDFILL AND GROUNDWATER MONITORING  
 Intended Use: Evaluate site  
 Source of Material: Reference Chain of Custody Records  
 Submitted by: Ecology and Environment, Inc.  
 Date Sampled: 30 Apr, 6-9, 15, 16 and 21 May 91  
 Date Received: 2, 8-10, 13-18, 20 and 24 May 91  
 Method of Test: Reference Enclosure 1  
 Reference: DD Form 448 currently being processed

1. Enclosed are results of analyses and quality assurance data for environmental samples collected from the above site. Included are:

- a. Enclosure 1, Chemical Quality Assurance Report.
- b. Enclosure 2, Report numbers K912400, K912729, K912645, K912709, K912880, and K912607 from Columbia Analytical Services, Inc.,
- c. Enclosure 3, Report number 919 from ARDL, Inc.
- d. Enclosure 4, Report dated 16 Jul 91 from North Pacific Division Laboratory.
- e. Enclosure 5, Chain of Custody and Cooler Receipt forms.
- f. Enclosure 6, Diskettes with all reported data.

2. This completes all work requested for this site.

Enclosures

*Timothy J. Seeman*  
TIMOTHY J. SEEMAN  
Director

Copy Furnished: CENPD-PE-GT  
CEMRD-EP-EC  
CEMP-RT

MFR: Insufficient numbers of QA samples were submitted for the Landfill project, and no QA or blind duplicate samples were submitted for the Groundwater Monitoring project. Project data were evaluated based on the project laboratories' internal QC data. Complete data in office file.

CENPD-PE-GT-L (90-HM-241a)

## CHEMICAL QUALITY ASSURANCE REPORT

### FT. RICHARDSON LANDFILL AND GROUNDWATER MONITORING

#### 1. SUMMARY:

a. Project data of the Landfill project were evaluated based on the project laboratories' internal QC data, except for volatile and semi-volatile organics and pesticides/PCB's, where QA data were available.

b. All Groundwater Monitoring data were evaluated based on the project laboratories' internal QC data.

c. Blind duplicates for both the projects were missing, and no QA samples for any parameters of interest were submitted with the Groundwater Monitoring project.

d. All project data of both the projects are acceptable, except for the methylene chloride and chloromethane data due to their presence in the trip blanks.

e. Project and QA data of the Landfill project, in Tables II-1 through II-3, agree and are acceptable.

2. BACKGROUND: The samples were collected on April 30, May 6-9, 15, 16 and 21, 1991 and were received by the analytical laboratories on May 2, 8-10, 13-18, 20 and 24, 1991.

#### 3. OBJECTIVES:

a. Twenty-one water samples were collected to determine the extent of chemical contamination on the site.

b. One quality assurance (QA) sample and six trip blanks were submitted to evaluate the project laboratories' data.

#### 4. PROJECT ORGANIZATION:

a. The samples were collected by Ecology and Environment, Inc., Anchorage, Alaska.

b. The project samples were analyzed by North Pacific Division Laboratory, Troutdale, Oregon and Columbia Analytical Services, Inc. (CAS), Kelso, Washington.

c. The QA sample was analyzed by ARDL, Inc., Mt. Vernon, Illinois.



CENPD-PE-GT-L (90-HM-241a)  
Table II

3. Method: Pesticides/PCB's (EPA 8080)  
Project Laboratory: CENPD-PE-GT-L

<u>Analyte Detected</u>	<u>Project Lab</u>	<u>Detection Limits</u>	<u>QA Lab</u>	<u>Detection Limits</u>
	ND	0.04-1.76	ND	0.03-2.40

SUMMARY: The project and QA data agree for all 27 targeted analytes and are acceptable.

CENPD-PE-GT-L (90-HM-241a)

## COMPARISON OF PROJECT AND QA RESULTS

TABLE II

Project: Ft. Richardson Landfill and Groundwater Monitoring  
 Matrix: water Sample Number: 9120FRL016WA Units: ug/L (ppb)  
 QA Laboratory: ARDL, Inc.

1. Method: Volatile Organics (EPA 8240)  
 Project Laboratory: CAS

<u>Analyte Detected</u>	<u>Project Lab</u>	<u>Detection Limits</u>	<u>QA Lab</u>	<u>Detection Limits</u>
Methylene chloride	ND	10	4JB	--

Tentatively Identified Compounds

Unknowns	ND	2 @ 4 & 19
----------	----	------------

ND = None detected

-- = Not reported

J = Analyte detected below method detection limit

B = Analyte detected in blank as well as sample

SUMMARY: The project and QA data agree for all 35 targeted analytes and are acceptable. The methylene chloride detected in the QA trip blank was below detection limits and not significant.

2. Method: Semi-Volatile Organics (EPA 8270)  
 Project Laboratory: CAS

<u>Analyte Detected</u>	<u>Project Lab</u>	<u>Detection Limits</u>	<u>QA Lab</u>	<u>Detection Limits</u>
	ND	5-20	ND	10-50

Tentatively Identified Compounds

Unknowns	ND	2 @ 15 & 620
----------	----	--------------

SUMMARY: The project and QA data agree for all 65 targeted analytes and are acceptable.

CENPD-PE-GT-L (90-HM-241a)

f. Trip Blanks: The trip blank is shown in Table I. Methylene chloride and chloromethane were found. These data should be treated with caution.

g. Blind Duplicates: Not submitted for any parameters of interest.

h. Overall Evaluation of the Project Groundwater Monitoring: All data are acceptable except for data of methylene chloride and chloromethane due to their presence in the trip blank.

#### 7. QA/QC Comparisons:

I. Landfill: Comparisons are given in Tables II-1 through II-3. Data in these tables agree and are acceptable. The Organophosphorous pesticide comparisons were not possible due to the QA laboratory's subcontract laboratory's lab accident. See Case Narrative of ARDL report 919. No QA or QC samples were collected other than volatiles, semi-volatiles, chlorinated pesticides/PCB's and organic phosphorus pesticides.

II. Groundwater Monitoring: No QA/QC samples were collected for any parameter of interest. Therefore, no comparisons were made.

#### 9. Lessons Learned/Problems Encountered:

a. Sediments were found in filtered samples of dissolved metals, indicating incomplete filtration.

b. No blind duplicates were collected with either Landfill or Groundwater Monitoring sampling rounds.

c. Only a limited number of QA samples were collected with the Landfill sampling.

d. No QA samples were collected with the Groundwater Monitoring sampling.

CENPD-PE-6T-L (90-HM-241a)

## PROJECT TRIP BLANKS

TABLE 1

Project: FT. RICHARDSON LANDFILL AND GROUNDWATER MONITORING Matrix: water Sample Prefix: 91  
 Project Laboratory: Southwest Lab of Oklahoma QA Laboratory: \* Units: ug/L (ppb)  
 Method: Volatile Organics (EPA 8240)

Analytes Detected	-19FRL200WA	-19FRL201WA	-19FRL202WA	-20FRGW203WA	-20FRL204WA	-21FRL205WA	Detection Limits
Carbon tetrachloride	ND	1.1	ND	ND	ND	ND	1.0
1,2-Dichloropropane	ND	1.2	ND	ND	ND	ND	1.0
Methylene chloride	ND	ND	ND	37	35	42	10
Chloromethane	--	--	--	300	--	--	

Tentatively Identified Compounds

ND ND ND ND ND ND

\* = No trip blanks were submitted to the QA laboratory

ND = None detected

-- = Not reported

SUMMARY: Methylene chloride was found in three out of six trip blanks, which could be due to field contamination, as the project laboratory volatile laboratory blanks were free from methylene chloride. The chloromethane found in sample FRGW203WA could have been encountered during sample dilution in the laboratory. The other two analytes found in one trip blank are close to laboratory detection limits and are not significant.



DEPARTMENT OF THE ARMY  
NORTH PACIFIC DIVISION MATERIALS LABORATORY  
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TROUTDALE, OREGON 97060-9503

CENPD-PE-GT-L (1110-1-8100C)

6 Mar 92

MEMORANDUM FOR Commander, Alaska District, ATTN: CENPA-EN-G-M (Pekar)

SUBJECT: W.O. 91-HM-517, Results of Chemical Analyses

Project FT. RICHARDSON GROUNDWATER MONITORING  
 Intended Use: Evaluate site  
 Source of Material: Reference Chain of Custody Records  
 Submitted by: America North, Inc.  
 Date Sampled: 5-7, 13-15 Nov 91 Date Received: 7, 8 and 18 Nov 91  
 Method of Test: Reference Enclosure 1  
 Reference: DD Form 448, MIPR No. E87-91-0068, dated 28 Sep 91

1. Enclosed are results of analyses and quality assurance data for environmental samples collected from the above site. Included are:

- a. Enclosure 1, Chemical Quality Assurance Report.
- b. Enclosure 2, Report numbers K916535, K916565, K916769 and an addendum dated 28 Feb 92 from Columbia Analytical Services, Inc.
- c. Enclosure 3, Report dated 10 Jan 92 from CENPD-PE-GT-L.
- d. Enclosure 4, Report numbers 91.0718 and 91.0736 from NET Pacific, Inc.
- e. Enclosure 5, Chain of Custody and Cooler Receipt forms.

2. This completes all work requested for this site.

Enclosures

*Timothy J. Seeman*  
TIMOTHY J. SEEMAN  
Director

Copy Furnished: CENPD-PE-GT  
CEMRD-EP-EC  
CEMP-RT

MFR: Up to 370, 288 and 52 ppb of semi-volatiles, total and dissolved metals were found, respectively. Most project and QA data agree except for one fuel comparison and three physical parameter comparisons, including turbidity, Langlier's' index and chemical oxygen demand. Complete copy in office files.

CENPD-PE-GT-L (91-HM-517)

4 Mar 92

CHEMICAL QUALITY ASSURANCE REPORT  
FT. RICHARDSON GROUNDWATER MONITORING

## 1. SUMMARY:

a. Up to 370, 288 and 52 ppb of semi-volatiles (BNA), total and dissolved metals were found, respectively. Non-metallics ranged to a maximum of 10, 21, 0.7, 132 and 39.1 ppm chloride, sulfate, total Kjeldahl nitrogen, chemical oxygen demand (COD) and total organics, respectively. Most project data are acceptable based on blind duplicate agreement and acceptable internal quality control (QC).

b. Project and quality assurance (QA) comparisons are shown in Tables III and IV. All data agree except fuel in Table III-5, turbidity in Table III-8, Langlier's index in Tables III-8 and IV-8 and COD in Table III-8. See respective tables and Item 8 for details.

2. BACKGROUND: The samples were collected on November 5-7, and 13-15, 1991 and were received by the analytical laboratories on November 7, 8 and 18, 1991.

## 3. OBJECTIVES:

a. Thirteen groundwater samples, including two blind duplicates, were collected from various locations on the site.

b. Two QA samples, eleven trip blanks and two rinsate samples were submitted to evaluate the project laboratory's data.

## 4. PROJECT ORGANIZATION:

a. The samples were collected by America North, Inc., Fairbanks, Alaska.

b. The project samples were analyzed by North Pacific Division Laboratory, Troutdale, Oregon and Columbia Analytical Services, Inc. (CAS), Kelso, Washington.

c. The QA samples were analyzed by NET Pacific, Inc., Santa Rosa, California.

CENPD-PE-GT-L (91-HM-517)

## 5. ANALYTICAL REFERENCES:

<u>Number</u>	<u>Title</u>	<u>Date</u>
a. CENPD-PE-GT-L Proposed Modified Method 8015	Fuel Quantitation and Identification	1989
1) Method D-3328-78	Annual Book of ASTM Standards, Part 31	1980
2) Method D-2600	Annual Book of ASTM Standards, Part 24	1980
b. EPA-600/4-79-020	Methods for Chemical Analysis of Water and Wastes	3/83

## 6. PROJECT LABORATORIES' DATA:

a. Volatile Organics (VOCs): No targeted VOC analytes were found significantly above detection limits except for freon in samples -01AWA and -02AWA, due to laboratory contamination. Freon, cis 1,2-dichloroethene, chloroform and 1,1,1-trichloroethane were found in trip blank -02AWA due, in part, to laboratory contamination and contaminated deionized water used. As no other analytes were detected in the samples or laboratory blanks, data were not adversely affected. Up to 33 ppb of methylene chloride was found in three out of nine trip blanks but was not considered significant as this analyte was not found in any sample or laboratory blank.

b. BNA, Chlorinated Pesticides/PCBs and Organophosphorous Pesticides: 370 ppb of benzoic acid was found in sample -04WA, and 49.6 and 21.7 ppb of bis(2-Ethylhexyl)phthalate in samples -07WA and -15WA, respectively. No other targeted analytes were detected in any other sample.

c. Fuel Identification and Quantitation: No fuel was found in any sample. Some unknown organics were found in the region of diesel fuel #6, but the pattern did not match any of the five targeted fuels.

d. RCRA Metals:

1) Total Metals: Up to 19, 288, 89 and 43 ppb of arsenic, barium, chromium and lead were found, respectively. No other RCRA metals were detected in any sample.

2) Dissolved Metals: Up to 12 ppb of barium was found. No other RCRA metals were detected in any filtered sample except 52 and 2 ppb of lead in samples -02WA and -03WA, respectively. The high level of lead in -02WA is probably due to incomplete filtration, laboratory contamination or analytical variations.

CENPD-PE-GT-L (91-HM-517)

e. Non-Metallics: Up to 10, 21, 0.7, 132 and 39.1 ppm of chloride, sulfate, total Kjeldahl nitrogen, COD and total organic carbon (TOC) were found, respectively.

f. Physical Parameters: pH ranged from 5.52 through 6.9, alkalinity from 46.3 through 193 ppm, Langlier's index from -5.38 through -0.4, total dissolved solids (TDS) from 1 through 257 ppm and turbidity to a maximum of 5900 FTU.

#### 7. EVALUATION OF THE PROJECT LABORATORIES' DATA:

a. Surrogates: One surrogate, identical to analytes of respective methods, was used in Methods 8080, 8140 and Modified 8015; three in Method 8240 and six in Method 8270. Surrogate recoveries of pesticides/PCBs, VOCs, and Modified 8015 were within QC limits except pesticides/PCBs of sample -07WA, which was marginally below QC limits but acceptable. The surrogate recoveries of organophosphorous pesticides analyses were within QC limits except for the following samples: -07WA, -11WA and -15WA, where recoveries were marginally above QC limits. Data were accepted as no targeted analytes were detected. All surrogate recoveries in BNA analysis were within QC limits except one of six recoveries in samples -06WA, and -14WA through -16WA was outside QC limits. Data were accepted based on other acceptable surrogate recoveries.

b. Matrix Spike (MS) and Matrix Spike Duplicates (MSD): MS and MSD of all methods were within QC limits except for the following: MS and MSD of endrin sulfate and aldehyde were above QC limits, data were not affected as no targeted analytes were detected. No MS or MSD were submitted in CAS reports K916535 and K916565 for organophosphorous pesticides, data were accepted based on acceptable surrogate and laboratory control recoveries. MS recoveries of metals and non-metallics were within QC limits except no MS recoveries were submitted for ammonia nitrogen, total Kjeldahl nitrogen or COD, data were accepted based on acceptable duplicate analysis.

c. Blind Duplicates: Blind duplicate data are shown in Tables III and IV. All data agree.

d. Laboratory Duplicates: The relative percent differences (RPDs) of all methods were within QC limits except five out of six RPDs of organophosphorous were above QC limits. Data were not adversely affected as no targeted analytes were detected in any sample.

e. Laboratory Blanks: All laboratory blanks were free from targeted analytes except freon was suspected in the VOC laboratory blank.



CENPD-PE-GT-L (91-HM-517)

f. Trip Blanks: Trip blanks are shown in Tables Ia and Ib. Up to 33 ppb of methylene chloride was detected in three out of nine trip blanks, 24 ppb of freon and up to 6 ppb of three other VOC analytes in trip blank -02WA. As no analytes, except freon, were detected in any sample or laboratory blanks, data were not adversely affected.

g. Rinsate Blank: Rinsate blank data are shown in Table II. 3 ppb of 1,1,1-trichloroethane was detected, data were not affected as this analyte was not detected in any sample or laboratory blank. No other targeted analytes were detected significantly above detection limits.

h. Holding Times: All analyses were performed within method required holding times except pH, turbidity and MBAS, where holding times were expired during shipment of samples from the field to the Division Laboratory.

i. Detection Limits: All detection limits met method requirements and are acceptable.

j. Overall Evaluation of the Project Laboratories' Data: All data are acceptable based on blind duplicate agreement and acceptable internal QC.

8. PROJECT AND QA DATA COMPARISONS: All project and QA comparisons are shown in Tables III and IV. Fuel data in Table III-5 did not agree, where the QA laboratory quantitated some unknown organic as bunker C. Langlier's Index data in Tables III-8 and IV-8 did not agree due, in part, to expiration of holding time for pH measurement and varying degrees of particulates found in the project blind duplicate and QA samples. Turbidity and COD data in Table III-8 did not agree due to the same reason.

#### 9. LESSONS LEARNED/PROBLEMS ENCOUNTERED:

a. Air bubbles were found in the VOC vials of samples -02WA, -04WA, -06WA, -07WA, -11WA and -14WA through -16WA. VOCs may have partitioned in the available headspace in these sample vials.

b. Recommend listing trip, rinsate and background samples in the quality assurance sample sheet.

c. Sample containers of -13WA were present in the sample cooler but were not listed on the Chain of Custody Record.

d. Some dissolved metal samples were not filtered and acidified in the field.

e. Recommend doing pH and turbidity measurements in the field.

CENPD-FE-GT-L (91-HM-517)

## COMPARISON OF PROJECT AND QA RESULTS

TABLE 1a

## TRIP BLANKS

Project: FT. RICHARDSON GROUNDWATER MONITORING Matrix: water Prefix: 91FRGW  
 Project Laboratory: CAS QA Laboratory: NET Pacific  
 Method: Volatile Organics (EPA 8240/8260) Units: ug/L (ppb)

Analytes Detected	Project Lab					Detection Limits	QA Lab	Detection Limits
	-02AWA	-03AWA	-04AWA	-06AWA	-07AWA		-09AWA	
Trichlorotrifluoro-ethane	24	ND	ND	ND	ND	10	ND	5
cis-1,2-dichloro-ethene	3	ND	ND	ND	ND	1	ND	5
Chloroform	6	7	ND	6	ND	1	ND	5
1,1,1-trichloroethane	2	ND	ND	ND	ND	1	ND	5
Methylene chloride	ND	ND	31	ND	33	10	5.88	5

Tentatively Identified Compounds

ND ND ND ND ND

ND = None detected

B = Analytes detected in blank as well as sample

SUMMARY: The chloroform found in three out of five trip blanks is probably present in the water used for trip blanks, as seen in numerous projects. The methylene chloride found in two trip blanks but not in the samples or laboratory blanks is not considered significant. The contaminants found in trip blank -02AWA could be due, in part, to cross-contamination that occurred during shipping or storage.

CENPD-PE-GT-L (91-HM-517)

## COMPARISON OF PROJECT AND QA RESULTS

TABLE II

## RINSATES

Project: FT. RICHARDSON GROUNDWATER MONITORING  
 Matrix: water Sample Prefix: 91FRGW Units: ug/L (ppb)  
 QA Laboratory: NET Pacific, Inc.

1. Project Method: Volatile Organics (EPA 8260)  
 QA Method: Volatile Organics (EPA 8240)  
 Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab -05WA</u>	<u>Detection Limits</u>	<u>QA Lab -08WA</u>	<u>Detection Limits</u>
1,1,1-trichloroethane	3	1	ND	5.0

Tentatively Identified Compounds

ND

--

ND = None detected

-- = Not reported

SUMMARY: The 1,1,1-trichloroethane found in the project rinsate is not due to laboratory contamination, as this analyte was not detected in samples or laboratory blanks except trip blank -02AWA (Table Ia). The presence of this analyte is probably due to contaminated deionized water used for rinsates and is not due to field or laboratory contamination. The absence of other targeted analytes indicates that cross-contamination did not occur.

2. Method: Semi-Volatile Organics (EPA 8270)  
 Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab -05WA</u>	<u>Detection Limits</u>	<u>QA Lab -08WA</u>	<u>Detection Limits</u>
	ND	10-100	ND	10-50

Tentatively Identified Compounds:

ND

--

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

CENPD-PE-GT-L (91-HM-517)

Table II

3. Method: Pesticides/PCBs (EPA 8080)Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>
	ND	0.04-6.0	ND	0.005-8.0

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

4. Method: Organophosphorous Pesticides (EPA 8140)Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>
	ND	0.5-2.0	ND	0.02-1.0

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

5. Method: Hydrocarbon Scan (Modified 8015)Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>
	ND	50	ND	100

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

6. Method: Total Metals (EPA 6000/7000)Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-OSWA</u>	<u>Detection</u> <u>Limits</u>
Arsenic	ND	5	ND	5
Barium	ND	5	ND	20
Cadmium	ND	3	ND	20
Chromium	ND	5	ND	20
Lead	ND	2	ND	2
Mercury	ND	0.5	ND	0.5
Selenium	ND	5	ND	5
Silver	ND	10	ND	20

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

CENPD-PE-GT-L (91-HM-517)  
Table II

7. Method: Dissolved Metals (EPA 6000/7000)

Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-05WA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-08WA</u>	<u>Detection</u> <u>Limits</u>
Arsenic	ND	5	ND	5
Barium	ND	5	ND	20
Cadmium	ND	3	ND	20
Chromium	ND	5	ND	20
Lead	ND	2	ND	2
Mercury	ND	0.5	ND	0.5
Selenium	ND	5	ND	5
Silver	ND	10	ND	20

SUMMARY: The absence of targeted analytes indicates that complete decontamination procedures were utilized during sampling.

8. Method: Inorganic Parameters

Project Laboratory: CAS

	<u>EPA</u> <u>Method</u>	<u>Units</u>	<u>Project Lab</u> <u>-05WA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-08WA</u>	<u>Detection</u> <u>Limits</u>
pH*	150.1	pH	5.52	--	7.5	--
Corrosivity*	SM203	--	-5.38	--	UTD	--
Langlier's Index						
TDS*	160.1	mg/L	1	1	ND	10
Turbidity*	180.1	FTU/NTU	0.28	--	0.15	0.05
Alkalinity as CaCO <sub>3</sub>	310.1	mg/L	5.99	--	ND	10
Chloride*	300.0	mg/L	ND	0.5	ND	1.0
Sulfate*	300.0	mg/L	ND	1	ND	1.0
Nitrate, Nitrite as N	353.2/1	mg/L	ND	0.2	0.060	0.03
Ammonia as N	350.3/1	mg/L	ND	0.05	ND	0.05
Total Kjeldahl nitrogen	351.4/2	mg/L	0.2	0.1	ND	0.1
TOC	415.1M	mg/L	ND	0.5	0.16	1.0
COD	410.4	mg/L	ND	5	ND	10
MBAS, as LAS*	425.1	mg/L	ND	0.025	ND	0.05

\* = Project laboratory for this parameter is CENPD-PE-GT-L

UTD = Unable to determine

SUMMARY: The pH of the project and QA samples vary, which could be due, in part, to difficulty in pH measurements for low ionic strength water. The presence of dissolved solids and nitrate as nitrogen, total nitrogen and total organic carbons are natural and are not due to field cross-contamination.

CENPD-PE-GT-L (91-HM-517)  
Table III

3. Method: Pesticides/PCBs (EPA 8080)

Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-09WA</u>	<u>-10WA</u>	<u>Limits</u>	<u>-09WA</u>	<u>Limits</u>
	ND	ND	0.04-6.0	ND	0.005-8.0

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

4. Method: Organophosphorous Pesticides (EPA 8140)

Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-09WA</u>	<u>-10WA</u>	<u>Limits</u>	<u>-09WA</u>	<u>Limits</u>
	ND	ND	0.5-2.0	ND	0.02-1.0

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

5. Method: Hydrocarbon Scan (Modified 8015)

Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-09WA</u>	<u>-10WA</u>	<u>Limits</u>	<u>-09WA</u>	<u>Limits</u>
Diesel fuel #2	ND*	ND*	50	ND	100
Bunker C (diesel #6)	ND	ND	50	530	100

\* = Some anomalous organics were found in the diesel range but did not match with the diesel hydrocarbons

SUMMARY: The project blind duplicate data agree. The project and QA data also agree for all five targeted fuels except for unidentifiable bunker C of the QA laboratory. Chromatograms of the QA laboratory indicate the presence of some unknown organics not related to bunker C hydrocarbons.

CENPD-PE-GT-L (91-HM-S17)  
Table IV

6. Method: Total Metals (EPA 6000/7000)  
Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection Limits</u>	<u>QA Lab</u>	
	<u>-16WA</u>	<u>-17WA</u>		<u>-16WA</u>	<u>Limits</u>
Arsenic	ND	ND	5	ND	5
Barium	ND	ND	5	ND	20
Cadmium	ND	ND	3	ND	20
Chromium	ND	ND	5	ND	20
Lead	ND	ND	2	ND	2
Mercury	ND	ND	0.5	ND	0.5
Selenium	ND	ND	5	ND	5
Silver	ND	ND	10	ND	20

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

7. Method: Dissolved Metals (EPA 6000/7000)  
Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection Limits</u>	<u>QA Lab</u>	
	<u>-16WA</u>	<u>-17WA</u>		<u>-16WA</u>	<u>Limits</u>
Arsenic	ND	ND	5	ND	5
Barium	ND	ND	5	ND	20
Cadmium	ND	ND	3	ND	20
Chromium	ND	ND	5	ND	20
Lead	ND	ND	2	ND	2
Mercury	ND	ND	0.5	ND	0.5
Selenium	ND	ND	5	ND	5
Silver	ND	ND	10	ND	20

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

CENPD-PE-GT-L (91-HM-517)

## COMPARISON OF PROJECT AND QA RESULTS

TABLE IV

Project: FT. RICHARDSON GROUNDWATER MONITORING  
 Matrix: water Sample Prefix: 91FRGW Units: ug/L (ppb)  
 QA Laboratory: NET Pacific, Inc.

1. Project Method: Volatile Organics (EPA 8260)  
 QA Method: Volatile Organics (EPA 8240)  
 Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-16WA -17WA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-16WA</u>	<u>Detection</u> <u>Limits</u>
	ND ND	1-20	ND	5.0-10.0

Tentatively Identified Compounds

ND ND	--
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ND = None detected

-- = Not reported

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

2. Method: Semi-Volatile Organics (EPA 8270)  
 Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab</u> <u>-16WA -17WA</u>	<u>Detection</u> <u>Limits</u>	<u>QA Lab</u> <u>-16WA</u>	<u>Detection</u> <u>Limits</u>
	ND ND	10-100	ND	10-50

Tentatively Identified Compounds:

Unknowns	1 @ ND	--
	22.0	

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.



CENPD-PE-GT-L (91-HM-517)  
Table IV

3. Method: Pesticides/PCBs (EPA 8080)

Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-16WA</u>	<u>-17WA</u>	<u>Limits</u>	<u>-16WA</u>	<u>Limits</u>
	ND	ND	0.04-6.0	ND	0.005-1.0

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

4. Method: Organophosphorous Pesticides (EPA 8140)

Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-16WA</u>	<u>-17WA</u>	<u>Limits</u>	<u>-16WA</u>	<u>Limits</u>
	ND	ND	0.5-2.0	ND	0.02-1.0

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

5. Method: Hydrocarbon Scan (Modified 8015)

Project Laboratory: CENPD-PE-GT-L

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection</u>	<u>QA Lab</u>	<u>Detection</u>
	<u>-16WA</u>	<u>-17WA</u>	<u>Limits</u>	<u>-16WA</u>	<u>Limits</u>
Gasoline	ND	ND	50	ND	100
Kerosene K-1	ND	ND	50	ND	100
Jet fuel A4	ND	ND	50	ND	100
Diesel fuel #2	ND	ND	50	ND	100
Bunker C (diesel #2)	ND	ND	50	ND	100

SUMMARY: The project blind duplicate and QA data agree for all targeted analytes and are acceptable.

CENPD-PE-GT-L (91-HM-517)

Table III

6. Method: Total Metals (EPA 6000/7000)Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection Limits</u>	<u>QA Lab</u>	
	<u>-09WA</u>	<u>-10WA</u>		<u>-09WA</u>	<u>Limits</u>
Arsenic	12	15	5	12	5
Barium	193	288	5	85	20
Cadmium	ND	ND	3	ND	20
Chromium	61	89	5	22	20
Lead	25	43	2	23	2
Mercury	ND	ND	0.5	ND	0.5
Selenium	ND	ND	5	ND	5
Silver	ND	ND	10	ND	20

SUMMARY: The project blind duplicate data agree. The project blind duplicate and QA data also agree except for project sample -10WA for barium and chromium due, in part, to varying degrees of particulates present in the samples.

7. Method: Dissolved Metals (EPA 6000/7000)Project Laboratory: CAS

<u>Analytes Detected</u>	<u>Project Lab</u>		<u>Detection Limits</u>	<u>QA Lab</u>	
	<u>-09WA</u>	<u>-10WA</u>		<u>-09WA</u>	<u>Limits</u>
Arsenic	ND	ND	5	ND	5
Barium	10	12	5	ND	20
Cadmium	ND	ND	3	ND	20
Chromium	ND	ND	5	ND	20
Lead	ND	ND	2	ND	2
Mercury	ND	ND	0.5	ND	0.5
Selenium	ND	ND	5	ND	5
Silver	ND	ND	10	ND	20

SUMMARY: The project blind duplicate and QA data agree within a factor of three to each other or their detection limits and are acceptable.

CENPD-PE-GT-L (91-HM-S17)  
Table III

8. Method: Inorganic Parameters  
Project Laboratory: CAS

	EPA Method	Units	Project Lab -09WA -10WA		Detection Limits	QA Lab -09WA	Detection Limits
pH*	150.1	pH	7.41	7.38	--	7.9	--
Corrosivity*	SM203	--	-0.42	-0.57	--	0.49	--
Langlier's Index							
TDS*	160.1	mg/L	181	196	1	ND	10
Turbidity*	180.1	FTU/NTU	5900	390	--	5.3	0.05
Alkalinity as CaCO <sub>3</sub>	310.1	mg/L	193	173	--	170	10
Chloride*	300.0	mg/L	4	5.4	0.5	3.0	1.0
Sulfate*	300.0	mg/L	14	14.5	1	10	1.0
Nitrate, Nitrite as N	353.2/1	mg/L	0.3	ND	0.2	0.39	0.03
Ammonia as N	350.3/1	mg/L	0.12	ND	0.05	ND	0.05
Total Kjeldahl nitrogen	351.4/2	mg/L	0.3	0.3	0.1	0.52	0.1
TOC	415.1M	mg/L	1.3	1.5	0.5	2.1	1.0
COD	410.4	mg/L	45	33	5	490	10
MBAS, as LAS*	425.1	mg/L	ND	ND	0.025	0.05	0.05

\* = Project laboratory for this parameter is CENPD-PE-GT-L

SUMMARY: The project blind duplicate and QA data agree for all parameters except for Langlier's Index, turbidity and COD. Close examination of the samples indicates varying degrees of sediment in the bottom of the sample vials, which explains some of the discrepancies.