January 21, 1999

Mr. David Bennett, Task Monitor
U.S. Environmental Protection Agency
1200 Sixth Avenue, Mail Stop ECL-115
Seattle, WA 98101

RE: Contract 68-W6-0008
TDD: 97-09-0013

Dear Mr. Bennett:

Please find enclosed revised pages the CANOL Pump Station J Site Inspection Report based on your comments. If you have any questions or comments concerning this document, please do not hesitate to contact me at 624-9537.

Sincerely,

Linda Foster
START Project Leader

Enclosures

cc: Gary Sink, EPA, START Project Officer, Seattle, WA, ECL-116 (letter only)
David Byers, E & E, START Program Manager, Seattle, WA (letter only)
Paul Cooley, E & E, START Project Manager, Anchorage, AK

CANOL Pump Station J
Site Inspection Report
Milepost 1285.5, Alaska Highway, Alaska
TDD: 97-09-0013

Contract: 68-W6-0008
January 1999

Region 10

START

Superfund Technical Assessment and Response Team

Submitted To: David Bennett, Task Monitor
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

CANOL PUMP STATION J SITE INSPECTION REPORT
MILEPOST 1285.5
ALASKA HIGHWAY, ALASKA

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LIST OF ACRONYMS

Acronym	Definition
%R	percent recovery
ADEC	Alaska Department of Environmental Conservation
APPS	Alaska Petroleum Pipeline System
AST	aboveground storage tank
bgs	below ground surface
BLM	Bureau of Land Management
BTEX	benzene, toluene ethylbenzene, and xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
CRDL	contract required detection limit
CRQL	contract required quantitation limit
DL	detection limits
DQO	data quality objectives
DRO	diesel range organic
E & E	Ecology and Environment, Inc.
EPA	U.S. Environmental Protection Agency
GPS	global positioning system
GRO	gasoline range organic
GRO	gasoline range organics
IDW	investigation-derived waste
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
NWR	National Wildlife Refuge
PA	preliminary assessment
pest/PCBs	pesticide/PCB
PCB	polychlorinated biphenyl
PPE	probable point of entry

LIST OF ACRONYMS (CONTINUED)

QA	quality assurance
R	rejected
RPD	relative percent difference
RRO	residual range organic
SI	site inspection
SQAP	sampling quality assurance plan
SQL	sample quantitation limit
START	Superfund Technical Assessment and Response Team
SVOC	Semivolatile Organic Compound
TAL	target analyte list
TCC	Tanana Chiefs Conference
U	not detected
USS	US Survey
UST	underground storage tank
VOC	volatile organic compound
g/L	micrograms per liter

SITE INSPECTION REPORT
CANOL PUMP STATION J
ALASKA HIGHWAY, ALASKA

1. INTRODUCTION

Ecology and Environment, Inc., (E & E) has been tasked by the U.S. Environmental Protection Agency (EPA) to provide technical support for the completion of a site inspection (SI) at the CANOL Pump Station J, located at milepost 1285.5 of the Alaska Highway in Alaska. E & E completed the SI activities under the Technical Direction Document No. 97-09-0013 issued under EPA, Region 10 Superfund Technical Assessment and Response Team (START) Contract Number 68-W6-0008. The primary goals of the SI activities are as follows:

Collect and analyze samples to characterize the potential sources discussed in Section 2.6;

Determine off-site migration of contaminants;

Provide EPA with adequate information to determine whether the site is eligible for placement on the National Priorities List; and

Document any threat or potential threat to public health or the environment posed by the site.

Completion of this investigation included reviewing site information, determining regional characteristics, collecting receptor information within the site's range of influence, conducting a site visit, executing a site-specific sampling plan in July 1998, and producing this report.

This document includes a discussion of site background information (Section 2), a description of sampling activities and analytical protocols (Section 3), a summary of the quality assurance/quality control criteria (Section 4), a summary of results reporting and background locations (Section 5), potential source analytical results (Section 6), a discussion of the migration/exposure pathways and targets and sampling results (Section 7), a summary of investigation findings and conclusions (Section 8), and a list of references (Section 9).

In addition to addressing contaminants regulated by EPA, the SI also addresses potential fuel contamination as part of an EPA agreement with the Alaska Department of Environmental Conservation (ADEC), which regulates fuel contamination in the state of Alaska.

2. SITE BACKGROUND

2.1 SITE LOCATION

Site Name:	CANOL Pump Station J
CERCLIS ID No.:	AK0002021848
Location:	Milepost 1285.5 Alaska Highway, Alaska
Latitude:	63° 13' 45" North
Longitude:	142° 12' 30" West
Legal Description:	Section 32, Township 17N, Range 17E, Copper River Meridian
Congressional District:	Alaska
Site Owner/Contact:	Ms. Ida Joe and Ms. Lucy David c/o Mr. Robert Sattler Tanana Chiefs Conference, Inc. 122 First Avenue, Suite 600 Fairbanks, Alaska 99701-4897

The CANOL Pump Station J site is located at milepost 1285.5 of the Alaska Highway, approximately 19 miles northwest of Northway Junction, Alaska, and approximately 31 miles southeast of Tok, Alaska (Figure 2-1). The site lies on the north side of the Alaska Highway. The site is accessible by the Alaska road system and is not fenced or otherwise secured.

2.2 SITE DESCRIPTION

The CANOL Pump Station J consists of the cement foundations of former buildings and other structures, scattered metal debris, used oil filters, and several 55-gallon drums in various stages of decay scattered over approximately 5.7 acres of land and surface water. The site is not fenced or gated. Legible drum labels indicate that the drums are associated with Fort Richardson and may still contain heavy oil.

2.3 SITE OWNERSHIP HISTORY

The United States War Department acquired the Pump Station J land tract on July 20, 1942, as part of the Alaska Military Highway, CANOL Project No. 4. The land was relinquished to the Bureau of Land Management (BLM) on June 30, 1975. The BLM designated the Pump Station J tract, now a portion

of US Survey (USS) No. 6145, as a native allotment. The property was issued to Donald J. Joe, on April 11, 1988. Ownership was transferred to Ida Joe, the heir of Donald J. Joe. Additional properties that may have been impacted by activities at the CANOL Pump Station J include the native allotment (owned by Lucy David) across the highway and the Tetlin National Wildlife Refuge managed by the United States Fish and Wildlife Service.

2.4 SITE OPERATIONS AND SOURCE CHARACTERISTICS

2.4.1 CANOL Pump Station J

Construction of the CANOL Project No. 4 began on September 14, 1942, and was completed on February 23, 1944 (Barry 1985). A 3-inch pipeline with 14 pump stations was built as a supply line alongside the Alaska Military Highway from the Whitehorse refinery, Yukon Territory, Canada, to Ladd Field in Fairbanks, Alaska (presently Fort Wainwright). Design drawings from the National Archives indicate that Pump Station J consisted of a pumphouse, water facility, electric facility, dispensing facility, living quarters, garage, 100-barrel tank, 300-barrel tank, and two 2,250-barrel tanks. From February 1944 to August 1945, approximately 1.4 million barrels of arctic grade diesel had been pumped in the CANOL No. 4 pipeline (Barry 1985). The pipeline and associated facilities operated until 1945 and were dismantled and removed in the late 1960s (E & E 1993). Specific operational history is unavailable, but hazardous materials potentially stored and used at the pump station include fuel, lubricants, solvents, polychlorinated biphenyl (PCB)-containing oil, herbicides, pesticides, and asbestos.

2.4.2 Other Potential Sources

The CANOL No. 4 pipeline was replaced by the Alaska Petroleum Pipeline System (APPS) Haines to Fairbanks Pipeline. This 8-inch pipeline ran parallel to the CANOL pipeline (USARAL 1958). The pipeline was constructed from 1954 to 1955 and was in operation through 1977. The pipeline carried a variety of fuels including DFA, JP-4, aviation gasoline, and vehicle motor gasoline (E & E 1993).

2.5 SITE CHARACTERIZATION

2.5.1 Previous Inspections

During the summer of 1997, Portage Environmental in conjunction with the Tanana Chiefs Conference (TCC) performed a preliminary assessment (PA) of the former CANOL Pump Station J to document environmental conditions at the site. The report from this survey has not yet been released by Portage Environmental. No other environmental investigations have been performed at the site.

2.5.2 Site Visit

START performed a site visit in anticipation of SI activities on May 5, 1998. All buildings associated with Pump Station J have been removed or otherwise demolished. Miscellaneous debris was scattered over approximately 1 acre of land (Figure 3-1). The site is bounded on the north and northwest by steep terrain, and to the southeast by a wetland. Former structures are located on a flat terrace adjacent to and west of the wetland. Former tanks were located on the hillside to the west. Surface runoff from the site goes directly into the adjacent wetland, which drains to the south through a culvert under the highway. A concrete foundation and well casing associated with the pump station water facility are situated north of the gas filling area on the east side of the complex, adjacent to the wetland. A small pond is north of the well casings at the northeast corner of the site. This pond is part of the wetland adjacent to the site. One rusted 55-gallon drum was observed standing in the pond. Additionally, an oil sheen was observed on the pond water and a petroleum odor was present in the soil surrounding the pond. Several industrial-sized oil filters were scattered on the ground north of the pond and covered approximately 10,000 square feet.

The concrete foundation (20 feet by 90 feet) of the original pump station is located in the center of the pump station complex. South of the pump station foundation is a modern cabin placed by the current property owner. A partially buried 2-inch pipeline runs south from the pump station foundation to an area where the electrical facility is believed to have been located. Midway between the pump station foundation (20 feet by 90 feet) and the suspected electrical facility area, the pipeline branches east to what is believed to be the former garage facility location. Stained soil was observed at this pipeline junction. The current landowner's cabin is northwest of the former garage location.

A bunker containing four 55-gallon drums was located northwest of the pump station foundation. The bunker measured approximately 4 feet wide by 6 feet long by 4 feet deep. The drums are marked *Fort Richardson*. Additionally, a 4-inch pipe vent potentially associated with an underground storage tank (UST) was adjacent to the bunker. Two aboveground storage tank (AST) pads were located west of the pump station complex. No stained soil or odor was associated with these pads. A second bunker containing three 55-gallon drums was located west of the AST pads within the pump station complex. No labels could be identified on these drums.

A pipe vent potentially associated with an UST was just north of the highway on the west side of the entrance south of the cabin. Engines, pumps, building debris, and several rusted 55-gallon drums were observed in a clearing south of the site across the Alaska Highway. No discernible markings were identified on the drums. Stressed vegetation and plow marks indicate that this material was apparently removed from the site and deposited on the south side of the highway. Additionally, several drums and an 8-inch pipeline lying parallel to the highway were observed on the south side of the highway just east of the

pump station debris. The 8-inch pipeline and rusted 55-gallon drums appeared to be part of the Haines-Fairbanks pipeline.

2.6 SUMMARY OF SI INVESTIGATION LOCATIONS

Based on a review of historical and background information, supplemented by the site reconnaissance visit, four areas were identified for inspection during the CANOL Pump Station J SI as potential hazardous substance sources as regulated by EPA, or as petroleum contamination sources regulated by ADEC. In addition, on- and off-site locations were identified as potential receptors of contamination originating from potential sources. Those potential sources and receptors are listed below (Figure 3-1).

Potential Sources:

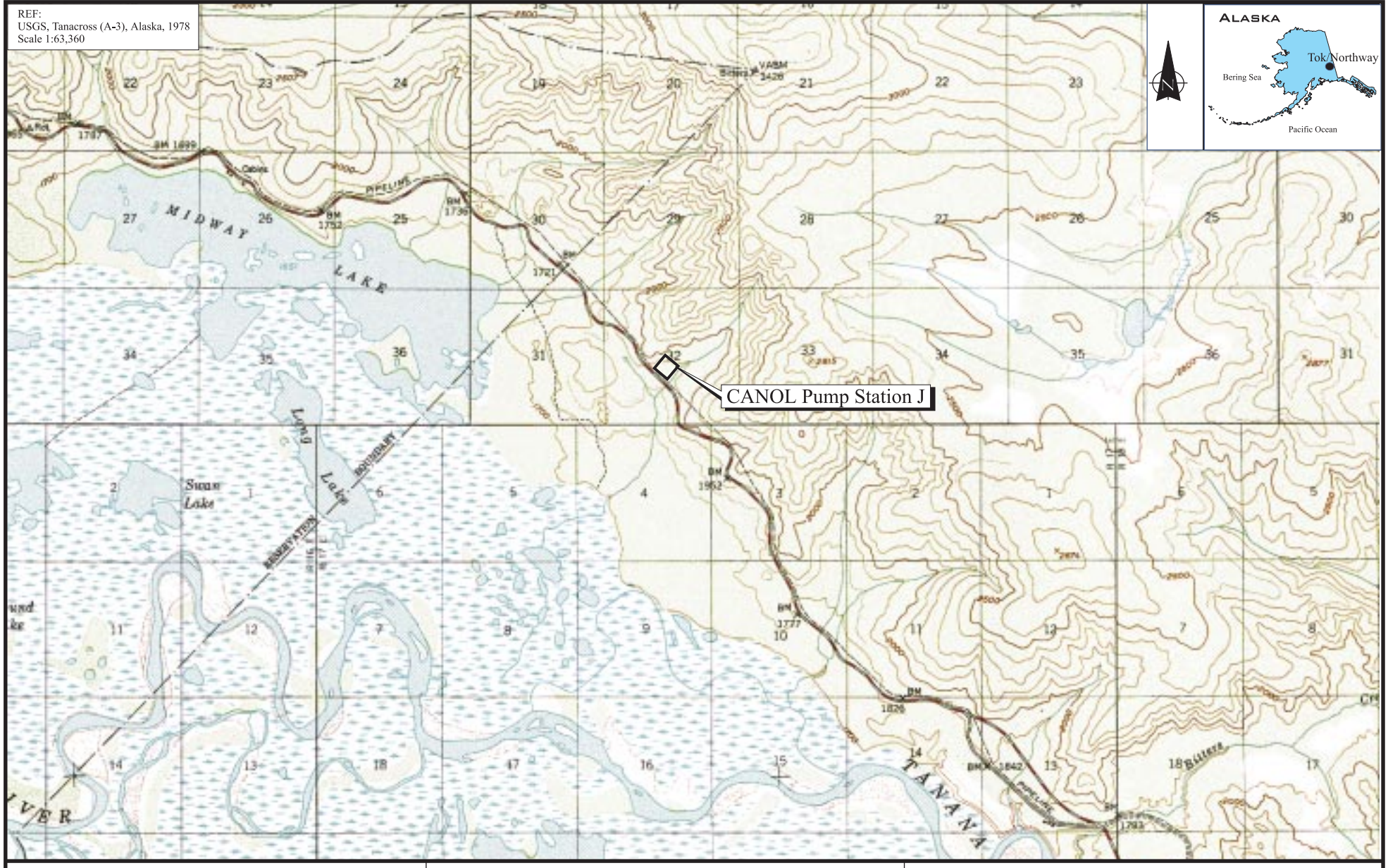
Pump station complex. Wastes deposited at the pump station complex consist mainly of construction and demolition debris scattered throughout the site, empty cans in various stages of decay, used oil filters, and 55-gallon drums. In addition, soils may have been contaminated by spilled fuels, PCBs, solvents, and pesticides during operations.

AST pads. Soils may have been contaminated by leaking ASTs and pipelines.

Debris south of the highway. Wastes deposited on the south side of the Alaska Highway consist mainly of used machinery (i.e., engines and pumps) and building demolition debris.

Potential Receptors:

Wetlands. Site topography indicates that the area drains east from the site into a wetland. Additionally, a 55-gallon drum was observed in the wetland adjacent to the site.



ecology and environment, inc.
International Specialists in the Environment
Anchorage, Alaska

CANOL PUMP STATION J
Milepost 1285.5, Alaska Highway

0 .5 1
Approximate Scale in Miles

Figure 2-1
SITE VICINITY MAP

Drawn:	Date	Job No.	Dwg.No.
AES	1/12/99	BI1301SIT0	BI1301F 2-1

3. FIELD ACTIVITIES AND ANALYTICAL PROTOCOL

A sampling quality assurance plan (SQAP) for the CANOL Pump Station J project was developed by START prior to performing SI field activities. START developed the SQAP based on background and site reconnaissance visit information. The SQAP describes the sampling strategy, sampling methods, and analytical program to investigate potential hazardous substance sources and potential targets. With few exceptions, the SI field activities were conducted in accordance with the approved SQAP (E & E 1998). Deviations from the SQAP were approved by EPA and are described where applicable in the sampling location discussions in Section 6 (source areas) and Section 7 (target areas).

The SI field sampling event was conducted from July 27 to July 30, 1998. A total of 31 samples, including background samples but excluding quality assurance (rinsate and trip blank) samples, were collected from on-site and off-site locations. Sample types and the methods of collection are described below. Table 3-1 is a list of all samples collected for laboratory analysis under the SI. Alphanumeric identification numbers applied by the START to each location (i.e., AC01, PC01, AS01, WL01) are the sample location identifiers used in this report. Sample locations are shown in Figure 3-1 and based on field observations. Photographic documentation of SI field activities is contained in Appendix A.

3.1 SAMPLING METHODS

Grass, leaves, other vegetative material, rocks, and other debris unsuitable for analysis were removed from the sample material before placement into sample containers. The portion of each sample being collected for volatile organic compound (VOC) analysis and gasoline range organics (GRO) analysis was placed directly into sample containers without mixing. Samples collected for GRO analysis were preserved in the field with methanol. Sample material for all other analyses was homogenized in dedicated disposable aluminum pans prior to containerization. Dedicated disposable stainless steel spoons and decontaminated trowels were used to extract, homogenize, and place sampled material into sample containers. Sampling tools (trowels and hand auger bucket) were decontaminated at the start of the SI and after collection of each sample. Samples were stored on ice in coolers continuously maintained under the START's custody.

3.1.1 Surface and Subsurface Soil Samples

A total of 22 soil samples, consisting of 12 surface samples and 10 subsurface samples, were collected during the SI. All soil samples were discrete location grab samples. Surface soil samples were collected from 0 to 6 inches below ground surface (bgs) using stainless steel spoons or stainless steel trowels. Subsurface samples were collected at depths of up to 3 feet bgs using a decontaminated stainless steel hand auger. Soil cuttings were returned to the hole at each boring location.

3.1.2 Sediment Samples

A total of five sediment samples were collected from wetland sediments during the SI. All were collected using a decontaminated, stainless steel hand auger. All sediment samples were collected under water from 0 to 6 inches bgs with the exception of one sample, which was collected from the stream bed of an intermittent drainage channel. This sediment sample also was collected from 0 to 6 inches bgs.

The sediment samples were homogenized, when appropriate, in decontaminated stainless steel bowls and then placed into sample containers.

3.1.3 Surface Water Samples

A total of four surface water samples were collected during the SI. Water samples were collected directly into sample containers. A water sample was not collected from the water well on site as proposed in the SQAP since the well was filled with silt, and a representative groundwater sample could not be collected.

3.2 ANALYTICAL PROTOCOL

All samples collected during the SI were submitted to off-site laboratories for chemical analysis. Analytical methods applied to SI samples consisted of VOCs (CLPAS OLM03.1), semivolatile organic compounds (SVOCs; CLPAS OLM03.1), pesticide/PCBs (pest/PCBs; CLPAS OLM03.1), target analyte list (TAL) metals (23 metals; CLPAS ILM04.0), GRO (AK-101), benzene, toluene ethylbenzene, and xylene (BTEX; AK-101), diesel range organic (DRO; AK-102), and residual range organic (RRO; AK-103). These analyses were applied to samples from a given source or target in varying combinations according to known or suspected contaminants. Laboratories performing the analyses were: EPA, Region 10 Laboratory in Manchester, Washington (VOCs, SVOCs, and pest/PCBs); Inchcape Testing Services Environmental Laboratory in Colchester, Vermont (TAL metals); and On-Site Environmental Inc., in Redmond, Washington (BTEX, GRO, DRO, and RRO).

3.3 GLOBAL POSITIONING SYSTEM

Trimble Pathfinder Professional global positioning system (GPS) survey units and Corvallis data loggers were used by the START to approximate the horizontal location coordinates of SI sample points. Sample coordinates were not plotted onto figures in this SI report because a digitized base map was not available. GPS coordinates by sample point are provided in Appendix D.

3.4 INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) generated during the SI sampling effort consisted of solid disposable sampling equipment and decontamination water used for decontaminating sampling tools. Approximately 2 gallons of decontamination water and one 20-gallon trash bag of solid disposable waste were generated. The 2 gallons of decontamination water were evaporated and the solid IDW was disposed of in an approved sanitary landfill.

Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
CANOL PUMP STATION J
MILEPOST 1,285.5 ALASKA HIGHWAY, ALASKA

EPA Sample #	CLP Sample # Inorganic	START Sample Location	Matrix	Depth (feet bgs)	Date	Time	GRO/BTEX (AK, 101)	DRO (AK, 102)	RRO (AK, 103)	VOC	SVOC	Pest./PCB	TAL Metals	Location Description	Sample Description
98314000	MJS346	PC01SS	soil	0-0.5	7/27/98	1130	X	X	X	X	X	X	X	Gas fill area surface soil	black organic soil, POL odor
98314001	MJS347	PC02SS	soil	2-3	7/27/98	1145	X	X	X	X	X	X	X	Gas fill area subsurface soil	black organic clay and grey gley, POL odor
98314002	MJS348	PC03SS	soil	0-0.5	7/27/98	1145	X	X	X	X	X	X	X	Oil filter area surface soil	black organic material mixed with gravel
98314003	MJS349	PC04SS	soil	2-3	7/27/98	1200	X	X	X	X	X	X	X	Oil filter area subsurface soil	black grey sand
98314004	MJS350	PC05SS	soil	0-0.5	7/27/98	1200	X	X	X	X	X	X	X	Pump station foundation surface soil	tan sandy gravel
98314005	MJS351	PC06SS	soil	2-3	7/27/98	1215	X	X	X	X	X	X	X	Pump station foundation subsurface soil	tan sandy gravel, POL odor
98314006	MJS352	PC07SS	soil	0-0.5	7/27/98	1310	X	X	X	X	X	X	X	Garage facility surface soil	tan sandy gravel
98314007	MJS353	PC08SS	soil	2-3	7/27/98	1310	X	X	X	X	X	X	X	Garage facility subsurface	black organic material and grey clay, POL odor
98314008	MJS354	PC09SS	soil	0-0.5	7/27/98	1330	X	X	X	X	X	X	X	Electrical facility surface	grey brown silty sand
98314009	MJS355	PC010SS	soil	2-3	7/27/98	1345	X	X	X	X	X	X	X	Electrical facility subsurface	black grey clay, POL odor
98314010	MJS356	PC11SS	soil	0-0.5	7/27/98	1320	X	X	X	X	X	X	X	Bunker # 1 soil sample	soil, wood chips, and metal
98314011	MJS357	PC12SS	soil	0-0.5	7/27/98	1330	X	X	X	X	X	X	X	Bunker # 2 soil sample	grey brown silty sand
98314012	MJS358	DS01SS	soil	0-0.5	7/27/98	1440	X	X	X	X	X	X	X	Engines south of highway surface soil	black/brown organic clay
98314013	MJS359	DS02SS	soil	2	7/27/98	1440	X	X	X	X	X	X	X	Engines south of highway subsurface soil	wet grey clay
98314014	MJS360	DS03SS	soil	0-0.5	7/27/98	1450	X	X	X	X	X	X	X	Building debris south of highway surface soil	brown organic material and sand
98314015	MJS361	DS04SS	soil	2-3	7/27/98	1450	X	X	X	X	X	X	X	Building debris south of highway subsurface soil	grey brown sandy clay
98314016	MJS362	AP01SS	soil	0-0.5	7/27/98	1410	X	X	X					Lower AST pad surface soil	tan sandy gravel
98314017	MJS363	AP02SS	soil	2-3	7/27/98	1415	X	X	X					Lower AST pad subsurface soil	grey silty sand
98314018	MJS364	AP03SS	soil	0-0.5	7/27/98	1420	X	X	X					Upper AST pad surface soil	tan sandy gravel
98314019	MJS365	AP04SS	soil	2-3	7/27/98	1420	X	X	X					Upper AST pad subsurface	grey silty sand, POL odor
98314021	MJS367	WL01SD	sediment	0-0.5	7/28/98	1050	X	X	X	X	X	X	X	Pond east of site sediment	black organic material, sheen, POL odor
98314022	MJS368	WL02SW	water		7/28/98	1030	X	X	X	X	X	X	X	Pond east of site surface water	light tan
98314023	MJS369	WL03SD	sediment	0-0.5	7/28/98	1200	X	X	X	X	X	X	X	Wetland north of highway sediment	sandy gravel
98314024	MJS370	WL04SW	water		7/28/98	1150	X	X	X	X	X	X	X	Wetland north of highway surface water	light tan
98314025	MJS371	WL05SD	sediment	0-0.5	7/28/98	1425	X	X	X	X	X	X	X	Wetland south of highway sediment	black organic material
98314027	MJS373	WL07SD	sediment	0-0.5	7/28/98	1510	X	X	X	X	X	X	X	Wetland in Tetlin NWR sediment	black grey clay with organic material
98314028	MJS374	WL08SW	water		7/28/98	1445	X	X	X	X	X	X	X	Wetland in Tetlin NWR surface water	light tan
98314029	MJS375	BG01SS	soil	0-0.5	7/28/98	1130	X	X	X	X	X	X	X	Background on ridge surface soil	tan sandy silt
98314030	MJS376	BG02SS	soil	2	7/28/98	1130	X	X	X	X	X	X	X	Background on ridge subsurface soil	tan sandy gravel
98314031	MJS377	BG03SD	sediment	0-0.5	7/28/98	1330	X	X	X	X	X	X	X	Background wetland northeast of site sediment	dark brown organic material

Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
CANOL PUMP STATION J
MILEPOST 1,285.5 ALASKA HIGHWAY, ALASKA

EPA Sample #	CLP Sample # Inorganic	START Sample Location	Matrix	Depth (feet bgs)	Date	Time	GRO/BTEX (AK, 101)	DRO (AK, 102)	RRO (AK, 103)	VOC	SVOC	Pest./PCB	TAL Metals	Location Description	Sample Description
98314032	MJS378	BG04SW	water		7/28/98	1345	X	X	X	X	X	X	X		
														Background wetland northeast of site surface water	light tan

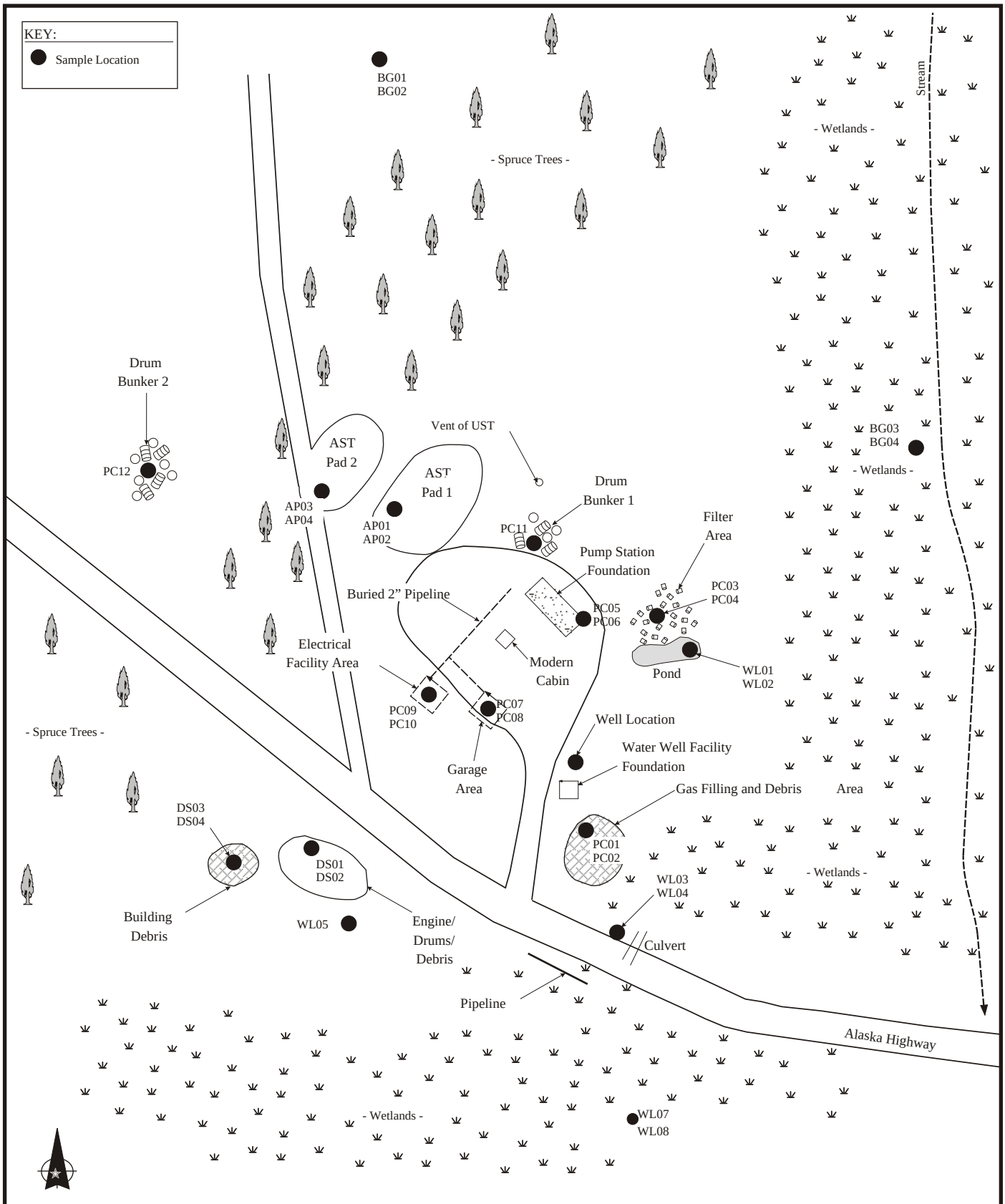
Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
CANOL PUMP STATION J
MILEPOST 1,285.5 ALASKA HIGHWAY, ALASKA

EPA Sample #	CLP Sample # Inorganic	START Sample Location	Matrix	Depth (feet bgs)	Date	Time	GRO/BTEX (AK, 101)	DRO (AK, 102)	RRO (AK, 103)	VOC	SVOC	Pest./PCB	TAL Metals	Location Description	Sample Description
98314033		TB01SS	soil		7/27/98		X							GRO soil trip blank	
98314034		TB02SS	soil		7/28/98					X				VOC trip blank	
98314035		TB03SW	water		7/28/98		X							GRO water trip blank	
98314036		TB04SS	soil		7/28/98		X							GRO soil trip blank	
98314047	MJS379	RS01SW	water		7/28/98	1530	X	X	X	X	X	X	X	Rinsate hand auger	

Key:

bgs	= Below ground surface.
BTEX	= Benzene, tolune, ethylbenzene, and total xylenes.
CLP	= Contract Laboratory Program.
DRO	= Diesel range organics.
EPA	= U.S. Environmental Protection Agency.
GRO	= Gasoline range organics.
Pest/PCB	= Chlorinated pesticides/polychlorinated biphenyls.
POL	= Petroleum, oil, and lubricants.
RRO	= Residual range organics.
START	= Superfund Technical Assessment and Response Team.
SVOC	= Semivolatile organic compounds.
TAL	= Target analyte list.
VOC	= Volatile organic compounds.



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Anchorage, Alaska

CANOL PUMP STATION J
Milepost 1285.5, Alaska Highway

0 100 200
Approximate Scale in Feet

Figure 3-1

SAMPLE LOCATION MAP

Drawn:	DATE:	JOB NO.	Dwg.No.
AES	1/12/99	BI1301SIT0	BI1301 3-1

4. QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance/quality control (QA/QC) data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware, and reagents. Specific quality control (QC) requirements for laboratory analyses are incorporated *Contract Laboratory Program (CLP) Statement of Work for Organic Analyses* (EPA 1991b) and *CLP Statement of Work for Inorganic Analyses* (EPA 1991c). These QC requirements or equivalent requirements were followed for analytical work on the CANOL Pump Station J. This section describes the QA/QC measures taken for the SI and evaluates the usability of data presented in this report.

All samples were collected following the guidance of the SQAP (E & E 1998) for the field activities. Metals analyses were performed at Inchcape Testing Services Environmental Laboratory, a CLP laboratory, following EPA's *CLP Statement of Work for Inorganic Analyses* (EPA 1991c). VOCs, SVOCs, and pest/PCBs analyses were performed at the EPA Manchester Laboratory following EPA's *CLP Statement of Work for Organic Analyses* (EPA 1991b). BTEX, GRO, DRO, and RRO analyses were performed at On-Site Environmental Inc., a commercial laboratory, following Alaska Methods, AK-101, AK-102, and AK-103.

All analytical data from the EPA and CLP laboratories were reviewed and validated by EPA chemists; data from the commercial laboratory were reviewed and validated by the START chemists. Data qualifiers were applied as necessary according to the following guidance:

> *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (February 1994a);
>
> *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (February 1994b); and
>
> *USEPA Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedure*s (April 1990).

In the absence of other QC guidance, method-specific QC limits were also used to apply qualifiers to the data. Copies of the data quality assurance (QA) memoranda are included in Appendix B.

4.1 SATISFACTION OF DATA QUALITY OBJECTIVES

The following EPA guidance document was used to establish data quality objectives (DQOs) for this SI:

> *Data Quality Objectives Process for Superfund, Interim Final Guidance,* September 1993, EPA 540-R-93-071.

The EPA task monitor determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the fieldwork was sufficient to produce data that could meet the data objectives stated in the SQAP (E & E 1998).

A detailed discussion of the SI objectives that were accomplished is presented in the following sections.

4.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA samples included trip blank samples and rinsate samples. In total, four trip blank samples (at a rate of one blank per cooler of VOC/GRO samples) were shipped to the laboratories. A single rinsate sample of the hand auger was submitted for the project. QC samples also included laboratory matrix spike/ matrix spike duplicate (MS/MSD) samples at a rate of one MS/MSD per 20 samples.

4.3 PROJECT-SPECIFIC DATA QUALITY OBJECTIVES

The laboratory data were reviewed to ensure that the DQOs for the project were met. The following describes the abilities of the laboratories to meet the project DQOs for precision, accuracy, and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratories and the field team were able to meet DQOs for the project.

4.3.1 Precision

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method.

The RPD values were reviewed for all laboratory samples. The RPD values for the laboratory duplicate samples and/or MS/MSD samples were within the laboratory QC criteria. Less than 5% of the total results were qualified as estimated (J or UJ) because of duplicate QC outliers. Overall, the project DQOs for precision were met.

4.3.2 Accuracy

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the surrogate spike percent recovery (%Rs) for each BTEX, GRO, DRO, RRO SVOC, Pest/PCB, or VOC analysis or the matrix spike %Rs. The surrogate %R values were reviewed for all appropriate sample analyses. Less than 5% of the data was qualified as estimated (J or UJ) based on surrogate recovery. Less than 2% of the data was rejected (R) based on surrogate recovery.

The matrix spike %R values were reviewed for all MS/MSD analyses. Less than 5% of the data was qualified as estimated (J or UJ) based on MS/MSD recovery. Overall, the project DQOs for accuracy were met.

4.3.3 Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All laboratory data were reviewed for data validation and usability. The project DQO for completeness of 90% was met.

4.3.4 Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Both the number of samples and the sample locations were determined in the field to account accurately for site variations and sample matrices. The DQOs for representativeness were met.

4.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQOs for comparability were met.

4.4 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS

The laboratory data also were reviewed for holding times, laboratory blank samples, trip blank samples, and rinsate blanks. These QA/QC parameters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

4.4.1 Holding Times

All sample analyses met EPA Region 10 and method-specific holding time criteria except for two VOC samples (WL01SD and BG01SS), which were received by the laboratory within set holding time criteria, but analyzed 2 days beyond the criteria. Based on holding time outliers, 66 results were qualified as estimated quantities (J or UJ).

4.4.2 Laboratory Blanks

All laboratory blanks met the frequency criteria. The following contaminants of concern were detected in the laboratory blanks: VOCs including methylene chloride; acetone; 1,2,4-trichlorobenzene; naphthalene; and 1,2,4-trichlorobenzene, and metals including zinc; aluminum; calcium; magnesium; manganese; mercury; sodium; barium; beryllium; chromium; iron; and potassium. Any associated sample result less than five times the blank contamination (10 times for common laboratory contaminants) was qualified as not detected (U). See the data QA memoranda (Appendix B) for sample results that were qualified based on blank contamination.

4.4.3 Trip Blanks

Trip blanks met the frequency criteria. No contamination was observed in the trip blanks.

4.4.4 Rinsate Blanks

Rinsate blanks met the frequency criteria. Chloroform was detected in the rinsate; however, it was not detected in any associated samples. The presence of chloroform in the rinsate is attributable to laboratory contamination, since it is a common laboratory contaminant.

5. ANALYTICAL RESULTS REPORTING AND BACKGROUND SAMPLES

This section describes the reporting criteria and reporting methods applied to analytical results presented in Sections 6 and 7 of this report. A discussion of background locations and sample results also is provided. A list of all samples collected for laboratory analysis appears in Table 3-1.

5.1 ANALYTICAL RESULTS EVALUATION CRITERIA

Analytical results presented in the summary tables in Sections 6 and 7 show all compounds detected above laboratory detection limits (DL) in bold type. Analytical results indicating significant concentrations of contaminants in source samples (Section 6) with respect to background concentrations are shown underlined and in bold type. Similarly, analytical results indicating elevated concentrations of contaminants in target samples (Section 7) with respect to background concentrations also are underlined and in bold type. For the purposes of this investigation, significant/elevated concentrations are those concentrations that are:

> Equal to or greater than the sample's contract required quantitation limit /contract required detection limit (CRQL/CRDL) or the sample quantitation limit (SQL) when a non-CLP laboratory was used; and
>
> Equal to or greater than the background sample's CRQL/CRDL or SQL when the background concentration is below detection limits; or
>
> At least three times greater than the background concentration when the background concentration equals or exceeds the detection limit.

The analytical summary tables present all detected compounds, but only those detected analytes at potential sources or in targets meeting the significant/elevated concentration criteria are discussed in the report text. For samples from source types that do not consist of a naturally occurring media and for which a background sample can not be established (e.g., waste piles, tanks containing waste product), all detected concentrations are discussed. All detected concentrations also are discussed for background samples.

For analytical results that are qualified as estimated, the sample concentration was adjusted as described in *Using Qualified Data to Document an Observed Release and Observed Contamination* (EPA 1996) before determination of whether the concentration was significant/elevated. For target locations,

only those analytes that also were detected in a source at the site were evaluated to determine whether their concentrations were elevated. All hazardous substances detected at target locations and meeting evaluation criteria can be used to document an observed release from the site to the target. When samples were diluted for reanalysis at a laboratory, the dilution results were considered for evaluation and are provided in the tables.

Since contamination from petroleum sources at the site does not appear to be commingled with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances, analytical results for petroleum identification (i.e., BTEX, GRO, DRO, and RRO) were not evaluated with respect to background in this SI because under these circumstances they are excluded from CERCLA consideration based on the CERCLA petroleum exclusion rule (CERCLA Sections 101 [14] and [33]). For purposes of this investigation, however petroleum identification analyses were compared to ADEC cleanup levels.

Previously, ADEC used a matrix scoresheet system as a method to establish guidance cleanup levels for non-UST petroleum contamination in soil on a site-by-site basis. ADEC recently adopted new evaluation criteria as specified in 18 AAC 75 (Appendix C). For GRO, DRO, and RRO, the START used Method 1 of 18 AAC 75.340, responding when necessary to Note 4 of Table A-1. For BTEX, Table B-2 is the only available option under 18 AAC 75.340 for evaluation. Table 5-1 summarizes the soil petroleum guideline concentrations used by the START.

5.1.1 Sample Results Reporting

When four or more analytes are detected or are significant/elevated for an analytical suite (e.g., VOCs, TAL metals), the results are discussed in the text of Sections 6 and 7, by the number of such analytes and the concentration ranges. When three or fewer analytes are detected or are significant/elevated for an analytical suite, the specific analyte and its concentration are provided. Analytical results summary tables in each section list the specific detected compounds and concentrations. Based on EPA Region 10 policy, evaluation of aluminum, calcium, iron, magnesium, potassium, and sodium (common earth crust elements) generally is employed only in water mass tracing, which is beyond the scope of this report. For this reason, these elements will not be discussed in this report.

5.2 BACKGROUND SAMPLES

Background samples were collected for each of the naturally occurring media from which SI samples were collected. Those media are soil, sediment, and surface water. Results for the appropriate

background sample(s) appear as the first column(s) in the analytical results summary tables in Sections 6 and 7 for comparison against source or target results.

5.2.1 Background Soil

5.2.1.1 Sample Locations

One off-site background grab surface soil sample (BG01) and one collocated subsurface soil sample (BG02) were collected. The off-site samples were collected on a ridge northwest of the pump station complex, upgradient from known potential source areas (Figure 3-1). The surface soil sample was collected from 0 to 6 inches bgs, and the subsurface samples was collected from 2 to 3 feet bgs. The matrix of both samples matched that of the majority of samples collected on site.

5.2.1.2 Sample Results

No SVOCs or Pest/PCBs were detected in samples BG01 and BG02. VOCs analyzed by CLP protocol were not detected in either sample. However, toluene (0.42 milligrams per kilogram [mg/kg]) and m,p-xylenes (0.097 mg/kg) analyzed by Method AK101 were detected in sample BG01. RRO (44 mg/kg) also was detected in sample BG01. Ten metals were detected, ranging from an estimated concentration of 1.1 mg/kg to 328 mg/kg.

5.2.2 Background Sediment

5.2.2.1 Sample Location

A background sediment sample (BG03) was collected northeast of the pump station complex from an unnamed stream that runs through the wetland (Figure 3-1). This stream is considered to be out of the range of influence of the pump station complex. The matrix of the background sediment sample matches that of the sediment samples.

5.2.2.2 Sample Results

No SVOCs or Pest/PCBs were detected in sample BG03. VOCs analyzed by CLP protocol were not detected. However, toluene (0.27 mg/kg) and m,p-xylenes (0.35 mg/kg) analyzed by Method AK101 were detected in sample BG03. DRO (150 mg/kg) and RRO (800 mg/kg) also were detected in sample BG03. Nine metals were detected, ranging from 2.5 mg/kg to 281 mg/kg.

5.2.3 Background Surface Water

5.2.3.1 Sample Location

A background surface water sample (BG04) was collected northeast of the pump station complex from the unnamed stream that runs through the wetland (Figure 3-1). The sample location was collocated with the background sediment sample. This stream is considered to be out of the range of influence of the pump station complex.

5.2.3.2 Sample Results

Of the VOCs analyzed for, only carbon disulfide (23.8 micrograms per liter [g/L]) was detected in sample BG04. No other organic analyte was detected in this sample. Of the metals, only manganese was detected, at 292 g/L.

Table 5-1

GUIDELINE CONCENTRATIONS FOR ADEC-REGULATED CONTAMINANTS
CANOL PUMP STATION J
MILEPOST 1285.5
ALASKA HIGHWAY, ALASKA

Analyte	Guidance Level (mg/kg)	
	Soil	Water
Benzene	0.02	0.005
Toluene	5	1.0
Ethylbenzene	6	0.7
Total xylene	78	10.0
GRO	1,000	2.2
DRO	2,000	1.5
RRO	2,000	1.1

Source: 18 AAC 75.

Key:

DRO = Diesel Range Organics
GRO = Gasoline Range Organics
mg/kg = milligrams per kilogram
RRO = Residual Range Organics

6. POTENTIAL SOURCES

This section describes sample locations and analytical results of SI samples collected from potential sources. A description of each source area (Figure 3-1) and the sampling program by source is provided along with a summary of the analytical results. Tables 6-1 through 6-3 present summaries of analytes detected at each investigated potential source location. Laboratory data sheets containing analytical results for all samples are provided in Appendix B.

6.1 PUMP STATION COMPLEX

The pump station complex covers an area of approximately 5.7 acres. The following seven distinct potential source areas were identified within the pump station complex: gas filling and debris area; oil filter area; electrical facility; garage area; pump station foundation; drum bunker 1; and drum bunker 2. Samples were collected from each of these areas to determine the contaminants within each area. The specific areas, detailed sampling locations, and analytical results are described below.

6.1.1 Gas Filling and Debris Area

The gas filling and debris area is on the southeast side of the pump station complex and covers approximately 10,000 square feet. Various cans and other metal debris are scattered throughout this area. No signs of stressed vegetation or stained soil were present.

6.1.1.1 Sample Location

A surface soil sample (PC01SS) and a collocated subsurface soil sample (PC02SS) were collected from a low spot in a drainage channel in the gas filling and debris area. The surface soil sample was collected from 0 to 6 inches bgs, and the subsurface sample was collected from 2 to 3 feet bgs.

6.1.1.2 Sample Results

Analytical results are summarized in Table 6-1. Of the VOCs analyzed for by CLP protocol, none were detected in the surface soil sample. In the subsurface soil sample, 11 VOC analytes were detected at significant concentrations (ranging from 12.6 g/kg to 7,490 g/kg). Of the SVOCs analyzed, the following two analytes were detected at significant concentrations in the surface soil sample: bis (2-

ethylhexyl) phthalate at 1,210 g/kg; and 2-methyl naphthalene at 313 g/kg. In the subsurface soil sample, six SVOC analytes were detected at significant concentrations (ranging from 329 g/kg to 184,000 g/kg). All of the detected VOC and SVOC analytes are associated with petroleum fuels or oils. No chlorinated pesticides or PCBs were detected in these samples. Of the metals analyzed, lead (326 mg/kg) and zinc (170 mg/kg) were detected at significant concentrations in the surface soil sample. Chromium (9.7 mg/kg), copper (20.6 mg/kg), and vanadium (29.2 mg/kg) were detected at significant concentrations in the subsurface soil sample.

Benzene was not detected in these samples (GRO results were rejected). Toluene, ethylbenzene, and total xylenes were not detected at concentrations exceeding the 18 AAC 75 cleanup standard. DRO (6,800 mg/kg) and RRO (3,200 mg/kg) were detected above the 18 AAC 75 cleanup standard in the surface soil sample. DRO (21,000 mg/kg) also exceeded the 18 AAC 75 cleanup standard in the subsurface soil sample.

6.1.2 Oil Filter Area

The oil filter area is located on the northeast side of the pump station complex and covers an area of approximately 2,000 square feet. Several used industrial oil filters are present at this site. No signs of stressed vegetation or stained soil were present.

6.1.2.1 Sample Location

A surface soil sample (PC03SS) and a collocated subsurface soil sample (PC04SS) were collected adjacent to a used oil filter to determine contaminants associated with the potential source. The surface soil sample was collected from 0 to 6 inches bgs and the subsurface sample was collected from 2 to 3 feet bgs.

6.1.2.2 Sample Results

Analytical results are summarized in Table 6-1. No VOCs analyzed for by CLP protocol were detected at significant concentrations in these samples. No SVOC, pesticide, or PCB analytes were detected in these samples. Of the metals analyzed, lead (244 mg/kg) and nickel (10.9 mg/kg) were detected at significant concentrations in the surface soil sample. Arsenic (3.7 mg/kg), chromium (18.5 mg/kg), copper (22.4 mg/kg), nickel (20.3 mg/kg), and vanadium (48.3 mg/kg) were detected at significant concentrations in the subsurface soil sample.

GRO and BTEX were not detected in these samples. DRO (5,800 mg/kg) and RRO (45,000 mg/kg) were detected above the 18 AAC 75 cleanup standard in the surface soil sample.

6.1.3 Electrical Facility

The electrical facility area is located on the south side of the pump station complex and covers an area of approximately 2,500 square feet. A 2-inch steel pipe, leading from the pump station, terminates at the electrical facility area. No signs of stressed vegetation or stained soil were present.

6.1.3.1 Sample Location

A surface soil sample (PC09SS) and a collocated subsurface soil sample (PC10SS) were collected at the end of the 2-inch steel pipe to determine contaminants associated with the potential source. The surface soil sample was collected from 0 to 6 inches bgs, and the subsurface sample was collected from 2 to 3 feet bgs.

6.1.3.2 Sample Results

Analytical results are summarized in Table 6-1. Of the VOCs analyzed for by CLP protocol, 1,3,5- trimethyl benzene (38.2 g/kg) was detected at a significant concentration in the surface soil sample. The VOC analyte detected is associated with petroleum fuels. No SVOC, pesticide, or PCB analytes were detected in these samples. Of the metals analyzed, mercury (0.14 mg/kg) was detected at a significant concentration in the surface soil sample and six metals (ranging from 5.6 mg/kg to 62.1 mg/kg) were detected at significant concentrations in the subsurface soil sample.

BTEX was not detected in the samples (GRO results were rejected). DRO (2,000 mg/kg) was detected at the 18 AAC 75 cleanup standard in the subsurface soil sample. RRO was detected in both samples, however, the concentrations are below the 18 AAC 75 cleanup standard.

6.1.4 Garage Area

The garage area is located at the south-center of the pump complex and covers an area of approximately 2,500 square feet . The garage area pad is composed of gravel and spots of asphalt and tar. Additionally, a buried 2-inch steel pipe runs east/west through the garage facility area and joins at the west end of the area with the 2-inch pipe that runs north/south from the pump station to the electrical facility area. Willow and alder are encroaching upon the pad.

6.1.4.1 Sample Location

A surface soil sample (PC07SS) and a collocated subsurface soil sample (PC08SS) were collected at the edge of the clearing approximately 100 feet southwest of the cabin in the suspected garage facility location. Samples were collected to determine contaminants associated with the potential source. The

surface soil sample was collected from 0 to 6 inches bgs, and the subsurface sample was collected from 2 to 3 feet bgs.

6.1.4.2 Sample Results

Analytical results are summarized in Table 6-1. Of the VOCs analyzed for by CLP protocol, toluene (99.5 g/kg) was detected at a significant concentration in the surface soil sample. In the subsurface soil sample, six VOC analytes were detected at significant concentrations ranging from 111 g/kg to 9,350 g/kg. Of the SVOCs analyzed, 1-methyl-naphthalene (33,200 g/kg) and retene (3,120 g/kg) were detected at significant concentrations in the subsurface soil sample. No SVOC analytes were detected in the surface soil sample. The VOC and SVOC analytes detected are associated with petroleum fuels. No pesticide or PCB analytes were detected in these samples. Of the metals analyzed, lead (16.4 mg/kg) in the surface soil sample; and chromium (6 mg/kg), copper (15.4 mg/kg), mercury (0.08 mg/kg), and vanadium (17.6 mg/kg) in the subsurface soil sample, were detected at significant concentrations.

Toluene was not detected in the samples. GRO was not detected in the surface soil sample (the subsurface soil results were rejected). In the subsurface soil sample, benzene was detected above the 18 AAC 75 cleanup standard. Ethylbenzene and xylenes were present in the subsurface soil sample, but below the 18 AAC 75 cleanup standard. DRO (up to 67,000 mg/kg) and RRO (up to 15,000 mg/kg) were detected in both the surface and subsurface soil samples above the 18 AAC 75 cleanup standard.

6.1.5 Pump Station

The pump station is located in a gravel clearing northeast of the pump station complex area. All that remains of the pump station is the concrete foundation. The foundation is approximately 85 feet long and 35 feet wide. Willow and alder are encroaching upon the foundation.

6.1.5.1 Sample Location

A surface soil sample (PC05SS) and a collocated subsurface soil sample (PC06SS) were collected topographically downgradient at the east edge of the foundation. The samples were collected to determine contaminants associated with the potential source. The surface soil sample was collected from 0 to 6 inches bgs, and the subsurface sample was collected from 2 to 3 feet bgs.

6.1.5.2 Sample Results

Analytical results are summarized in Table 6-1. Of the VOCs analyzed by CLP protocol, toluene (31.1 g/kg) was detected at a significant concentration in the surface soil sample. No VOC analytes were detected in the subsurface soil sample. The VOC analyte detected is associated with petroleum fuels. No SVOC, pesticide, or PCB analytes were detected in these samples. Of the metals analyzed, lead (27.8 mg/kg) and zinc (173 mg/kg) were detected at significant concentrations in the surface soil sample. No metals were detected at significant concentrations in the subsurface soil sample.

GRO was not detected in the surface soil sample (the subsurface soil sample result was rejected). In the surface soil sample, toluene (0.083 mg/kg) and m,p-xylene (0.16 mg/kg) were detected but below the 18 AAC 75 cleanup standard. DRO (up to 1,900 mg/kg in the subsurface sample) and RRO (up to 110 mg/kg also in the subsurface sample) were not detected above the 18 AAC 75 cleanup standard in these samples.

6.1.6 Drum Bunker 1

Drum bunker 1 is located in the north portion of the pump station complex. The bunker is approximately 4 feet wide, 6 feet long, and 4 feet deep. Five 55-gallon drums with military markings were visible inside the bunker along with wood chips and metal scraps. The sides of the bunkers were shored up with wood timbers that are decaying. Just northeast of the bunker is a 4-inch pipe that may be an UST vent pipe. No signs of stressed vegetation or stained soil were present.

6.1.6.1 Sample Location

A surface soil sample (PC11SS) was collected from the bottom of the bunker to determine potential contaminants associated with the source. The surface soil sample was collected from 0 to 6 inches bgs from the bunker bottom, which is approximately 4 feet below the ground surface.

6.1.6.2 Sample Results

Analytical results are summarized in Table 6-1. No VOC, pesticide, or PCB analytes were detected in this sample. Five SVOC analytes were detected at significant concentrations (ranging from 275 g/kg to 9,270 g/kg) in this sample. All five analytes detected are associated with petroleum fuels. Of the metals analyzed, copper (81.1 mg/kg), lead (188 mg/kg), nickel (35.3 mg/kg), and zinc (208 mg/kg) were detected at significant concentrations.

Neither GRO nor BTEX was detected in the sample. DRO (2,100 mg/kg) and RRO (11,000 mg/kg) were detected above the 18 AAC 75 cleanup standard.

6.1.7 Drum Bunker 2

Drum bunker 2 is located in the west portion of the pump station complex west of the dirt access road to the AST pads. The bunker is approximately 4 feet wide, 6 feet long, and 7 feet deep. Four 55-gallon drums with military markings were visible inside the bunker along with wood chips and metal scraps. The sides of the bunkers were shored up with wood timbers that are decaying. No signs of stressed vegetation or stained soil were present.

6.1.7.1 Sample Location

A surface soil sample (PC12SS) was collected from the bottom of the bunker to determine potential contaminants associated with the source. The surface soil sample was collected from 0 to 6 inches bgs from the bunker bottom, which is approximately 7 feet below the ground surface.

6.1.7.2 Sample Results

Analytical results are summarized in Table 6-1. No VOCs were detected at significant concentrations in this sample. No SVOC, pesticide, or PCB analytes were detected. Of the metals analyzed, lead (38.6 mg/kg), mercury (12 mg/kg), and nickel (19.4 mg/kg) were detected at significant concentrations.

No GRO or BTEX was detected in the sample. DRO (19 mg/kg) and RRO (110 mg/kg) were detected below the 18 AAC 75 cleanup standard.

6.2 DEBRIS SOUTH OF THE HIGHWAY SAMPLES

Building debris, pumps, and engines appear to have been hauled from the pump station complex and deposited on the south side of the Alaska Highway. The materials are scattered parallel to the Alaska Highway and encompass an area of approximately 20,000 square feet. Discolored soils were noted under some of the building debris. No signs of stressed vegetation were observed.

6.2.1 Sample Location

A total of four soil samples were collected from the debris area south of the highway. Collocated surface and subsurface soil samples (DS01SS and DS02SS) were collected near an engine at the east end of the scattered debris, and collocated surface and subsurface soil samples (DS03SS and DS04SS) were collected from under the building debris at the west end of the scattered debris. Surface soil samples were collected from 0 to 6 inches bgs. Subsurface soil sample DS02SS was collected at 2 feet bgs and subsurface soil sample DS04SS was collected from 2 to 3 feet bgs.

6.2.2 Sample Results

Analytical results are summarized in Table 6-2. Of the VOCs analyzed for by CLP protocol, 1-methylethyl benzene (up to 88 g/kg), 1-methyl-4-(1-methylethyl) benzene (105 g/kg), and toluene (88.8 g/kg) were detected at significant concentrations in the surface soil. VOCs were not detected at significant concentrations in subsurface soil samples. Except for the trichloromethane, a potential blank contaminant, all the detected analytes are associated with petroleum fuels. The only SVOC detected at a significant concentration in these samples was di-n-butylphthalate (245 g/kg), which was present in a subsurface soil sample. No pesticide or PCB analytes were detected in these samples. Of the metals analyzed, nickel (up to 24.2 mg/kg) and vanadium (up to 50.7 mg/kg) were detected at significant concentrations.

No GRO or BTEX was detected in these samples. DRO (up to 53 mg/kg) and RRO (up to 390 mg/kg) were detected in the surface soil samples below the 18 AAC 75 cleanup standard.

6.3 AST PADS

Two sand and gravel AST pads are cut into the slope west of the pump station complex. Each pad is approximately 3,000 square feet and reportedly housed a 2,250-barrel tank. No stained soil was observed on the pads. Willow and alder are encroaching on the pads.

6.3.1 Sample Location

A total of four samples were collected from the AST pads. Collocated surface soil and subsurface soil samples were collected from the center of AST pad 1 (AP01SS and AP02SS) and the center of AST pad 2 (AP03SS and AP04SS). Surface soil samples were collected from 0 to 6 inches bgs and subsurface soil samples were collected from 2 to 3 feet bgs.

6.3.2 Sample Results

Analytical results are summarized in Table 6-3. At AST pad 1, no petroleum analytes were detected except for toluene (0.48 mg/kg) and m,p-xylene (0.089 mg/kg) in the subsurface soil sample. Neither DRO nor RRO was detected at AST pad 1.

In the surface soil, at AST pad 2, toluene (0.47 mg/kg), m,p-xylene (0.076 mg/kg), and o-xylene (0.046 mg/kg) were detected. O-xylene (0.09 mg/kg) was detected in the subsurface soil sample. DRO and RRO were detected in the surface soil and subsurface soil samples at up to 360 mg/kg and 63 mg/kg, respectively. None of the detected at either AST pad concentrations exceeded the 18 AAC 75 cleanup standard.

Table 6-1

PUMP STATION COMPLEX
SURFACE SOIL AND SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
MILE POST 1,285.5 ALASKA HIGWAY, ALASKA

	BACKGROUND		SOURCE			
EPA Sample Number	**98314029**	**98314030**	**98314000**	**98314001**	**98314002**	**98314003**
Sample Location Number	**BG01SS**	**BG02SS**	**PC01SS**	**PC02SS**	**PC03SS**	**PC04SS**
Depth (feet bgs)	**0-0.5**	**2**	**0-0.5**	**2.0-3.0**	**0-0.5**	**2.0-3.0**
VOCs (µg/kg)						
2-Pentanone, 4-methyl-	4.9 UJK (49)[b]	2.4 U	6.2 U	**1440**	6.3 U	2 U
2-Propanone	98.5 UJK (985)[b]	115 U	125 U	693 UJK	214 U	**62.6**
Benzene	4.9 UJK (9.6)[b]	2.4 U	6.2 U	**21.3**	6.3 U	2 U
Benzene, (1-methylethyl)-	4.9 UJK (49)[b]	2.4 U	6.2 U	**179**	6.3 UJK	2 U
Benzene, 1,2,4-trimethyl-	4.9 UJK (49)[b]	2.4 U	6.2 U	**5140**	6.3 UJK	2 U
Benzene, 1,2-dimethyl-	4.9 UJK (49)[b]	2.4 U	6.2 U	**1340**	6.3 U	2 U
Benzene, 1,3,5-trimethyl-	4.9 UJK (49)[b]	2.4 U	6.2 U	**7490**	6.3 UJK	2 U
Benzene, 1-methyl-4-(1-methylethyl)-	4.9 UJK (49)[b]	2.4 U	6.2 U	**2700**	6.3 UJK	2 U
Benzene, tert-butyl-	4.9 UJK (49)[b]	2.4 U	6.2 U	7.3 U	6.3 UJK	2 U
Carbon disulfide	4.9 UJK (49)[b]	2.4 U	6.2 U	7.3 U	6.3 U	4 U
Ethylbenzene	4.9 UJK (49)[b]	2.4 U	6.2 U	**251**	6.3 U	2 U
MP-Xylene	9.8 UJK (98)[b]	4.7 U	12.5 U	**904**	12.6 U	4 U
Naphthalene	9.8 UJK (98)[b]	4.7 U	12.5 U	**198**	12.6 UJK	4 U
Toluene	4.9 UJK (7.9)[b]	2.4 U	6.2 U	**12.6**	**7**	2 U
SVOCs (µg/kg)						
2,4-Dimethylphenol	159 U	162 U	205 U	278 U	206 U	156 U
4-Methylphenol	159 U	162 U	205 U	278 U	206 U	156 U
Bis(2-ethylhexyl) phthalate	796 U	809 U	**1210**	**1230 JQ**	10300 U	780 U
Dibenzofuran	159 U	162 U	205 U	**29.3[b] JH**	206 U	156 U
Naphthalene	159 U	162 U	**204 JQ**	**33300**	206 U	156 U
Naphthalene, 1-methyl-	159 U	162 U	205 U	**96700**	206 U	156 U
Naphthalene, 2-methyl-	159 U	162 U	**313**	**184000**	206 U	156 U
Phenanthrene	159 U	162 U	205 U	**5310**	206 U	156 U
Phenol	159 U	162 U	205 U	278 U	206 U	156 U
Phenol, 2-methyl-	159 U	162 U	205 U	278 U	206 U	156 U
Pyrene	159 U	162 U	205 U	**329**	2060 UJK	156 U
Retene	159 U	162 U	205 U	**452**	2060 U	156 U
GROs/BTEX (mg/kg)						
Benzene	0.051 U	0.053 U	0.12 U	0.43 U	0.066 U	0.051 U
Toluene	**0.42**	0.053 U	**0.59**	0.43 U	0.066 U	0.051 U
Ethylbenzene	0.051 U	0.053 U	0.12 U	**1.4**	0.066 U	0.051 U
m,p-Xylene	**0.097**	0.053 U	**0.17**	**5.4**	0.066 U	0.051 U
o-Xylene	0.051 U	0.053 U	0.12 U	**4**	0.066 U	0.051 U
DRO/RROs (mg/kg)						
Gasoline	5.1 U	5.3 U	R	R	6.6 U	5.1 U
Diesel Range Organics	11 U	10 U	**6800**	**21000**	**5800**	**76**
Residual Range Organics	**44**	21 U	**3200**	**1800**	**45000**	**610**
Inorganics (mg/kg)						
Aluminum	**10100 JK**	**5040 JK**	**5070**	**7030**	**8680**	**11800**
Arsenic	**2.5**	**1.9 JB (2)[a]**	**3.6**	**3.1 JB**	**2.7**	**3.7**
Barium	**94.5**	**69.9**	**115**	**61.5 JB**	**116**	**64.5**
Calcium	**2010**	**1280**	**4970**	**9450**	**9100**	**63100**
Chromium	**9.2**	**1.3 JB (2)[a]**	**5.7**	**9.7**	**11**	**18.5**
Cobalt	**5.9 JB (10)[a]**	**2.2 JB (10)[a]**	**3.4 JB**	**4.6 JB**	**5.6 JB**	**8.3**
Copper	**9.4**	**3.4 JB (5)[a]**	**23.4**	**20.6**	**18.9**	**22.4**
Iron	**14800**	**9640 JK**	**15600**	**9580**	**16200**	**19000**
Lead	**3.6 JK (5.2)[b]**	**5.6 JK (8.06)[b]**	**326**	**13.2**	**244**	**4.3**
Magnesium	**2560**	**1210**	**3250**	**2670**	**2920**	**6840**
Manganese	**307**	**328**	**261**	**282**	**397**	**325**
Mercury	0.05 U	0.04 U	0.06 U	0.1 U	0.07 U	0.05 U
Nickel	**6.9 JB (8)[a]**	**1.1 JBK (8)[a]**	**6.2 JB**	**10.2 JB**	**10.9**	**20.3**
Potassium	**1490**	**1560**	**1840**	**543 JB**	**1120 JB**	**658 JB**
Vanadium	**28.1**	**6.9 JBK (10)[a]**	**15.5**	**29.2**	**33.5**	**48.3**
Zinc	**33.6**	**23.5**	**170**	**24.5**	**38.2**	**35.4**

Key at end of table.

Table 6-1

PUMP STATION COMPLEX
SURFACE SOIL AND SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
MILE POST 1,285.5 ALASKA HIGWAY, ALASKA

	BACKGROUND		SOURCE			
EPA Sample Number	**98314029**	**98314030**	**98314004**	**98314005**	**98314006**	**98314007**
Sample Location Number	**BG01SS**	**BG02SS**	**PC05SS**	**PC06SS**	**PC07SS**	**PC08SS**
Depth (feet bgs)	**0-0.5**	**2**	**0-0.5**	**2.0-3.0**	**0-0.5**	**2.0-3.0**
VOCs (µg/kg)						
2-Pentanone, 4-methyl-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	92.2 U
2-Propanone	98.5 UJK	115 U	67.7 U	43.7 U	105 U	1840 U
Benzene	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	92.2 U
Benzene, (1-methylethyl)-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	92.2 U
Benzene, 1,2,4-trimethyl-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	92.2 U
Benzene, 1,2-dimethyl-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	**664**
Benzene, 1,3,5-trimethyl-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	**9350**
Benzene, 1-methyl-4-(1-methylethyl)-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	**221**
Benzene, tert-butyl-	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	**534**
Carbon disulfide	4.9 UJK	2.4 U	2.2 U	4.3 U	5.2 U	**111**
Ethylbenzene	4.9 UJK	2.4 U	2.2 U	2.2 U	5.2 U	92.2 U
MP-Xylene	9.8 UJK	4.7 U	4.4 U	4.3 U	10.5 U	184 U
Naphthalene	9.8 UJK	4.7 U	4.4 U	4.3 U	10.5 U	184 U
Toluene	4.9 UJK	2.4 U	**31.1**	2.2 U	**99.5**	**130**
SVOCs (µg/kg)						
2,4-Dimethylphenol	159 U	162 U	159 U	160 U	161 U	2380 U
4-Methylphenol	159 U	162 U	159 U	160 U	161 U	2380 U
Bis(2-ethylhexyl) phthalate	796 U	809 U	794 U	799 U	804 U	11900 U
Dibenzofuran	159 U	162 U	159 U	160 U	161 U	2380 U
Naphthalene	159 U	162 U	159 U	160 U	161 U	2380 U
Naphthalene, 1-methyl-	159 U	162 U	159 U	160 U	161 U	**33200**
Naphthalene, 2-methyl-	159 U	162 U	159 U	160 U	161 U	2380 U
Phenanthrene	159 U	162 U	159 U	160 U	161 U	2380 U
Phenol	159 U	162 U	159 U	160 U	161 U	2380 U
Phenol, 2-methyl-	159 U	162 U	159 U	160 U	161 U	2380 U
Pyrene	159 U	162 U	159 U	160 U	161 U	**915 JQ**
Retene	159 U	162 U	159 U	160 U	161 U	**3120**
GROs/BTEX (mg/kg)						
Benzene	0.051 U	0.053 U	0.054 U	0.13 U	0.063 U	**0.18**
Toluene	**0.42**	0.053 U	**0.083**	0.13 U	0.063 U	0.064 U
Ethylbenzene	0.051 U	0.053 U	0.054 U	0.13 U	0.063 U	**0.11**
m,p-Xylene	**0.097**	0.053 U	**0.16**	0.13 U	0.063 U	**2.5**
o-Xylene	0.051 U	0.053 U	0.054 U	0.13 U	0.063 U	**1.1**
DRO/RROs (mg/kg)						
Gasoline	5.1 U	5.3 U	5.4 U	R	6.3 U	R
Diesel Range Organics	11 U	10 U	**14**	**1900**	**2500**	**67000**
Residual Range Organics	**44**	21 U	**92**	**110**	**8500**	**15000**
Inorganics (mg/kg)						
Aluminum	**10100 JK**	**5040 JK**	**5440**	**4000**	**5490**	**5450**
Arsenic	**2.5**	**1.9 JB (2)[a]**	**4.2**	**1.2 JB**	**2**	1.7 U
Barium	**94.5**	**69.9**	**65.6**	**57.2**	**75.6**	**90.8**
Calcium	**2010**	**1280**	**2010**	**1560**	**1650**	**9540**
Chromium	**9.2**	**1.3 JB (2)[a]**	**3.5**	**1.6 JB**	**2.3**	**6**
Cobalt	**5.9 JB (10)**	**2.2 JB (10)[a]**	**2.2 JB**	**1.5 JB**	**1.9 JB**	**3.2 JB**
Copper	**9.4**	**3.4 JB (5)[a]**	**11.7**	**3.4 JB**	**13.6**	**15.4**
Iron	**14800**	**9640 JK**	**8920**	**8850**	**12000**	**9600**
Lead	**3.6 JK (5.2)[a]**	**5.6 JK (8.06)[b]**	**27.8**	**12**	**16.4**	**6.8**
Magnesium	**2560**	**1210**	**1370**	**1330**	**1880**	**2250**
Manganese	**307**	**328**	**329**	**323**	**391**	**451**
Mercury	0.05 U	0.04 U	0.05 U	0.05 U	0.05 U	**0.08**
Nickel	**6.9 JB (8)[a]**	**1.1 JBK (8)[a]**	**5.8 JB**	**1.3 JB**	**2.5 JB**	**5.7 JB**
Potassium	**1490**	**1560**	**1870**	**1780**	**2410**	**829 JB**
Vanadium	**28.1**	**6.9 JBK (10)[a]**	**12.8**	**6.5 JB**	**10**	**17.6**
Zinc	**33.6**	**23.5**	**173**	**26.1**	**62.8**	**25.8**

Key at end of table.

Table 6-1

PUMP STATION COMPLEX
SURFACE SOIL AND SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
MILE POST 1,285.5 ALASKA HIGWAY, ALASKA

	BACKGROUND		SOURCE			
EPA Sample Number	**98314029**	**98314030**	**98314008**	**98314009**	**98314010**	**98314011**
Sample Location Number	**BG01SS**	**BG02SS**	**PC09SS**	**PC010SS**	**PC11SS**	**PC12SS**
Depth (feet bgs)	**0-0.5**	**2**	**0-0.5**	**2.0-3.0**	**0-0.5**	**0-0.5**
VOCs (µg/kg)						
2-Pentanone, 4-methyl-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
2-Propanone	98.5 UJK	115 U	40 U	**100**	54.6 U	**46.2**
Benzene	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Benzene, (1-methylethyl)-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Benzene, 1,2,4-trimethyl-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Benzene, 1,2-dimethyl-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Benzene, 1,3,5-trimethyl-	4.9 UJK	2.4 U	**38.2**	2.9 U	2.7 U	2.1 U
Benzene, 1-methyl-4-(1-methylethyl)-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Benzene, tert-butyl-	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
Carbon disulfide	4.9 UJK	2.4 U	3.9 U	5.8 U	5.4 U	4.1 U
Ethylbenzene	4.9 UJK	2.4 U	2 U	2.9 U	2.7 U	2.1 U
MP-Xylene	9.8 UJK	4.7 U	3.9 U	5.8 U	5.4 U	4.1 U
Naphthalene	9.8 UJK	4.7 U	3.9 U	5.8 U	5.4 U	4.1 U
Toluene	4.9 UJK	2.4 U	**2.3**	2.9 U	2.7 U	2.1 U
SVOCs (µg/kg)						
2,4-Dimethylphenol	159 U	162 U	159 U	201 U	**9270**	170 U
4-Methylphenol	159 U	162 U	159 U	201 U	**3870**	170 U
Bis(2-ethylhexyl) phthalate	796 U	809 U	796 U	1000 U	1160 U	851 U
Dibenzofuran	159 U	162 U	159 U	201 U	232 U	170 U
Naphthalene	159 U	162 U	159 U	201 U	232 U	170 U
Naphthalene, 1-methyl-	159 U	162 U	159 U	201 U	232 U	170 U
Naphthalene, 2-methyl-	159 U	162 U	159 U	201 U	232 U	170 U
Phenanthrene	159 U	162 U	159 U	201 U	232 U	170 U
Phenol	159 U	162 U	159 U	201 U	**597**	170 U
Phenol, 2-methyl-	159 U	162 U	159 U	201 U	**988**	170 U
Pyrene	159 U	162 U	159 U	201 U	232 U	170 U
Retene	159 U	162 U	159 U	201 U	**275**	170 U
GROs/BTEX (mg/kg)						
Benzene	0.051 U	0.053 U	0.061 U	0.066 U	0.075 U	0.04 U
Toluene	**0.42**	0.053 U	0.061 U	0.066 U	0.075 U	0.04 U
Ethylbenzene	0.051 U	0.053 U	0.061 U	0.066 U	0.075 U	0.04 U
m,p-Xylene	**0.097**	0.053 U	0.061 U	0.066 U	0.075 U	0.04 U
o-Xylene	0.051 U	0.053 U	0.061 U	0.066 U	0.075 U	0.04 U
DRO/RROs (mg/kg)						
Gasoline	5.1 U	5.3 U	R	R	7.5 U	4 U
Diesel Range Organics	11 U	10 U	**270**	**2000**	**2100**	**19**
Residual Range Organics	**44**	21 U	**190**	**180**	**11000**	**110**
Inorganics (mg/kg)						
Aluminum	**10100 JK**	**5040 JK**	**4330**	**15400**	**8910**	**10700**
Arsenic	**2.5**	**1.9 JB (2)[a]**	**2.1**	**5.6**	**3.6**	**4.5**
Barium	**94.5**	**69.9**	**56.5**	**141**	**92.8**	**77.3**
Calcium	**2010**	**1280**	**1620**	**6830**	**5130**	**9930**
Chromium	**9.2**	**1.3 JB (2)[a]**	**1.9**	**19.8**	**76.2**	**18.4**
Cobalt	**5.9 JB (10)[a]**	**2.2 JB (10)[a]**	**1.8 JB**	**11.4**	**10.7 JB**	**7.5 JB**
Copper	**9.4**	**3.4 JB (5)[a]**	**4.1**	**37.8**	**81.1**	**24.8**
Iron	**14800**	**9640 JK**	**8210**	**15800**	**97400**	**18800**
Lead	**3.6 JK (5.2)[b]**	**5.6 JK (8.06)[b]**	**13.2**	**4.4**	**188**	**38.6**
Magnesium	**2560**	**1210**	**1340**	**3310**	**4180**	**6440**
Manganese	**307**	**328**	**266**	**591**	**662**	**355**
Mercury	0.05 U	0.04 U	**0.14**	0.06 U	**0.09 JB**	**12**
Nickel	**6.9 JB (8)[a]**	**1.1 JBK (8)[a]**	**6.6**	**24**	**35.5**	**19.4**
Potassium	**1490**	**1560**	**1940**	**897 JB**	**1120 JB**	**911**
Vanadium	**28.1**	**6.9 JBK (10)[a]**	**8.7**	**62.1**	**30.5**	**40.7**
Zinc	**33.6**	**23.5**	**29.6**	**31.4**	**208**	**53.4**

Key at end of table.

Table 6-1 (Cont.)

[a] Contract required detection/quantitation limit.

[b] Adjusted concentration as per EPA document number, EPA 540-F-94-028.

Note : Bold type indicates concentrations above sample quantitation limit or detection limit.
Underlined type indicates result is significant as defined in Section 5.

Key:

B	= Sample detected below contract required detection limit, but greater than or equal to the instrument detection limit.
BGS	= Below ground surface.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes.
DRO	= Diesel range organics.
EPA	= U.S. Environmental Protection Agency.
GRO	= Gasoline range organics.
H	= High bias.
J	= The analye was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
K	= Unknown bias.
mg/kg	= Milligrams per kilogram.
Q	= The result is estimated because the concentration is below the contract-required quantitation limit.
R	= The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RRO	= Residual range organics.
SVOCs	= Semivolatile organic compounds.
U	= The analyte was analyzed for, but was not detected at the reported sample quantitation limit.
µg/kg	= Micrograms per kilogram.
VOCs	= Volatile organic compounds.

Table 6-2

DEBRIS SOUTH OF THE HIGHWAY
SURFACE SOIL AND SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
MILEPOST 1285.5 ALASKA HIGHWAY, ALASKA

	BACKGROUND		SOURCE			
EPA Sample Number	**98314029**	**98314030**	**98314012**	**98314013**	**98314014**	**98314015**
Sample Location Number	**BG01SS**	**BG02SS**	**DS01SS**	**DS02SS**	**DS03SS**	**DS04SS**
Depth (feet bgs)	**0-0.5**	**2**	**0-0.5**	**2**	**0-0.5**	**2.0-3.0**
VOCs (µg/kg)						
Benzene, (1-methylethyl)-	4.9 UJK (49)[b]	2.4 U	**88**	5.6 U	**53.5**	3 U
Benzene, 1-methyl-4-(1-methylethyl)-	4.9 UJK (49)[b]	2.4 U	**105**	5.6 U	4.6 U	3 U
Methane, trichloro-	4.9 UJK (49)[b]	2.4 U	4 U	**6.9**	**7.9**	**3.6**
Toluene	4.9 UJK (7.9)[b]	2.4 U	**2.4**	5.6 U	**88.8**	3 U
SVOCs (µg/kg)						
Di-n-Butylphthalate	159 U	162 U	166 U	**245**	300 U	169 U
GROs/BTEX (mg/kg)						
Toluene	**0.42**	0.053 U	0.058 U	0.04 U	0.11 U	0.037 U
DRO/RROs (mg/kg)						
Diesel Range Organics	11 U	10 U	**26**	12 U	**53**	12 U
Residual Range Organics	**44**	21 U	**180**	24 U	**390**	24 U
Inorganics (mg/kg)						
Aluminum	**10100 JK**	**5040 JK**	**12500**	**13200**	**7410**	**11100**
Calcium	**2010**	**1280**	**6490**	**8430**	**6740**	**5380**
Iron	**14800**	**9640 JK**	**16300**	**16800**	**7570**	**17500**
Lead	**3.6 JK (5.2)**	**5.6 JK (8.06)**	**2.9**	**0.77**	**5.7**	**0.97**
Magnesium	**2560**	**1210**	**5680**	**7380**	**3050**	**6800**
Manganese	**307**	**328**	**402**	**352**	**308**	**323**
Nickel	**6.9 JBK (8)[a]**	**1.1 JBK (8)[a]**	**20.8**	**24.2**	**8.9 JBK**	**19.9**
Potassium	**1490**	**1560**	**653 JB**	**610 JB**	**363 JB**	**582 JB**
Vanadium	**28.1**	**6.9 JBK (10)[a]**	**44.7**	**50.7**	**20.5**	**43.3**
Zinc	**33.6**	**23.5**	**31.9**	**31.7**	**49.2**	**32.2**

Key at the end of the table.

Table 6-2 (Cont.)

[a] Contract required detection/quantitation limit.

[b] Adjusted concentration as per EPA document number, EPA 540-F-94-028.

Note : Bold type indicates concentrations above sample quantitation limit or detection limit.
Underlined type indicates result is significant as defined in Section 5.

Key:

B	= Sample detected below Contract Required Detection Limit, but greater than or equal to the instrument detection limit.
BGS	= Below ground surface.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes.
DRO	= Diesel range organics.
EPA	= U.S. Environmental Protection Agency.
GRO	= Gasoline range organics.
J	= The analye was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
K	= Unknown bias.
L	= Low bias.
mg/kg	= Milligrams per kilogram.
RRO	= Residual range organics.
SVOCs	= Semivolatile organic compounds.
U	= The analyte was analyzed for, but was not detected at the reported sample quantitation limit.
µg/kg	= Micrograms per kilogram.
VOCs	= Volatile organic compounds.

Table 6-3

AST PAD
SOIL ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
ALASKA

	BACKGROUND		SOURCE			
EPA Sample Number	**98314029**	**98314030**	**98314016**	**98314017**	**98314018**	**98314019**
Sample Location Number	**BG01SS**	**BG02SS**	**AP01SS**	**AP02SS**	**AP03SS**	**AP04SS**
Depth (feet bgs)	**0-0.5**	**2**	**0-0.5**	**2.0-3.0**	**0-0.5**	**2.0-3.0**
GROs/BTEX (mg/kg)						
Gasoline	5.1 U	5.3 U	4.9 U	6.4 U	R	R
Toluene	**0.42**	0.053 U	0.049 U	**0.48**	**0.47**	0.049 U
m,p-Xylene	**0.097**	0.053 U	0.049 U	**0.089**	**0.076**	0.049 U
o-Xylene	0.051 U	0.053 U	0.049 U	0.064 U	**0.046**	**0.09**
DROs/RROs (mg/kg)						
Diesel Range Organics	11 U	10 U	11 U	10 U	**360**	**270**
Residual Range Organics	**44**	21 U	21 U	21 U	**27**	**63**

Note : Bold type indicates concentrations above sample quantitation limit or detection limit.
Underlined type incicates result is significant as defined in Section 5.

Key:

AST = Above ground storage tank.
BGS = Below ground surface.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes.
DRO = Diesel range organics.
EPA = U.S. Environmental Protection Agency.
GRO = Gasoline range organics.
mg/kg = Milligrams per kilogram.
R = The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RRO = Residual range organics.
U = The analyte was analyzed for, but was not detected at the reported sample quantitation limit.

7. MIGRATION/EXPOSURE PATHWAYS AND TARGETS

The following sections describe migration/exposure pathways and potential targets within the site's range of influence (Figure 7-1). Analytical data forms from laboratory analyses are provided in Appendix B.

7.1 GROUNDWATER MIGRATION PATHWAY

7.1.1 Geology and Hydrology

The bedrock underlying CANOL Pump Station J is interpreted to be composed of Mesozoic-aged granitic rocks (Foster 1970, Foster et al. 1976). The Mesozoic granitic rocks in the area are described as fine-grained, equigranular to coarsely porphyritic, ranging in composition from diorite to granite (Foster 1970). The granitic rocks have been intruded as dikes, sills, and plutons.

In the vicinity of CANOL Pump Station J, granitic bedrock is overlain by unconsolidated alluvial and eolian Quaternary deposits. CANOL Pump Station J is situated on alluvial deposit consisting of primarily silt and sand; however, gravel, rubble, organic silt, and peat can occur in these deposits (Foster 1970). The Quaternary silt and sand is generally poorly stratified and poorly sorted, and is coarser-grained higher on the slopes and finer grained toward the valley bottom. Along the south side of the Alaska Highway at the location of CANOL Pump Station J, medium- to fine-grained eolian (wind blown) sand deposits have been mapped (Foster 1970). The eolian sand deposits are typically cross-bedded, well-sorted, and in some locations overlain by loess (Foster 1970).

Observations made during the field investigation indicate that the CANOL Pump Station J is located primarily in a valley. The AST pads and Bunker 2 are on a side slope. Samples collected at CANOL Pump Station J indicate that the pump station was constructed on fill material composed of sandy gravel with a minimum thickness of 3 feet. The fill overlies a wetland composed of black organic silt and clay, whose thickness is undetermined. The average annual precipitation in Tok is 9.55 inches with 30.8 inches falling as snow and, in Northway, the average annual precipitation is 9.51 inches with 34.9 inches falling as snow (Leslie 1989). The estimated actual evapotranspiration for Tok is 12.24 inches annually and 12.55 inches annually for Northway (Patric and Black 1968).

No groundwater well location data is available within a 4-mile radius of CANOL Pump Station J (USGS 1998); hence, well logs in the vicinity of the site were not reviewed. The depth to groundwater on site is not known.

7.1.2 Targets

A well is located on site at the former water well facility; however, this well is silted up and a representative groundwater sample could not be collected. No other wells are reported within 4 miles of CANOL Pump Station J.

7.2 SURFACE WATER MIGRATION PATHWAY

7.2.1 Pathway Description

The area east and south of CANOL Pump Station J consists of a wetland of approximately 80 acres in size, as identified on a National Wetland Inventory map (USFWS 1994). Topography indicates that site surface waters drain to the east from the site into this wetland, most likely at the gas filling area. A pond is situated within this wetland at the northeast corner of the site. The overland distance from the nearest source, the oil filter area, to the pond is approximately 50 feet. The wetland drains south through a culvert under the Alaska Highway into the Tetlin National Wildlife Refuge (NWR) and subsequently into the Tanana River. At the time of the sampling event, the flow under the Alaska Highway was estimated by the START at approximately 0.1 gallons per minute. At the debris area south of the highway, surface water drains into a forested scrub/shrub wetland. This wetland drains south and southeast through intermittent drainage channels into the Tetlin NWR and Tanana River. The Tanana River flows at an average of 20,000 cubic feet per second (USGS 1998). Precipitation data are available for Tok and Northway. As previously discussed, the average annual precipitation in Tok is 9.55 inches with 30.8 inches falling as snow and, in Northway, the annual precipitation is 9.51 inches with 34.9 inches falling as snow (Leslie 1989). The 2-year 24-hour rainfall for the area is 1.5 to 2 inches (Miller 1963). Flood data do not exist for the site (USAED-AK 1993). It is assumed that the area between Tok and Northway falls within a 100-year floodplain.

7.2.2 Targets

There are no documented surface water intakes within the site's range of influence. Additionally, there is no documentation of surface water being used for irrigation of forage food crops, watering of commercial livestock, or commercial food production.

The waters of the upper Tanana River support sport and subsistence fishing harvests. It is estimated that in 1995 sport fisherman harvested 235 pounds of arctic grayling (*Thymallus artcius*), 550 pounds of northern pike (*Esox lucius*), and 1,844 pounds of burbot (*Lota lota*) from the upper Tanana River drainage (Howe et.al 1996). Thus, the total pounds of sport fish harvest was 2,629. It is unknown what percent of this harvest was within the 15-mile in-water segment. The most representative year of subsistence harvest was 1987 (ADFG 1997). Subsistence harvest data collected for the three communities nearest the site (Tok, Northway, and Tetlin) were reviewed. Subsistence fisherman harvested 43,118 pounds of salmon (*Oncorhynchus* spp.), 2,595 pounds of burbot (*Lota lota*), 2,066 pounds of char (*Salvelinus alpinus*), 5,186 pounds of grayling, 9,463 pounds of northern pike, 1,083 pounds of sheefish (*Stenodus leucichthys*), 1,070 pounds of sucker (*Catostomus catostomus*), 4,648 pounds of trout (*Oncorhynchus* spp.), and 58,136 pounds of whitefish (*Coregonus* spp; ADFG 1997). Thus, the total pounds of subsistence fishing harvest was 127,365. It is unknown what percent of this harvest occurs within the 15-mile in-water segment.

One Federal-listed endangered species, the American peregrine falcon (*Falco peregrinus anatum*), and one delisted species, the Arctic peregrine falcon (*Falco peregrinus tundrius*), occur in the area of the site (USFWS 1997). There are no known nest sites within 15 miles of the project site.

From the probable point of entry (PPE) into all surface waters to 15 miles downstream, there are a total of approximately 30 linear miles of wetlands frontage including a palustrine, forested, scrub/shrub wetland located east of the site (USFWS 1994). According to the National Wetlands inventory maps, the Tanana River Drainage within 15 miles of the site consists of predominantly palustrine emergent, scrub shrub, and forested wetlands (USFWS 1994).

7.2.3 Sample Locations

Four sediment samples and three surface water samples were collected from the wetlands surrounding the site (Figure 3-1). The samples were collected to determine whether contamination from potential sources at the site is migrating to the wetlands. One collocated surface water sample (WL02SW) and sediment sample (WL01SD) was collected from the east bank of the pond adjacent to the pump station complex. A second collocated surface water sample (WL04SW) and sediment sample (WL03SD) was collected east of the pump station complex on the north side of the Alaska Highway, 5 feet west of the culvert that drains the wetland under the highway into the wetland south of the highway. A sediment sample (WL05SD) was collected from an intermittent drainage path south of the debris on the south side of the highway. A final collocated surface water sample (WL08SW) and sediment sample (WL07SD) was collected within the Tetlin NWR from the unnamed stream that drains the wetland east of the site.

7.2.4 Sample Results

Sample results are provided in Table 7-1 and Table 7-2. In the wetland sediment samples analyzed for VOCs by CLP protocol, sample WL01SD contained elevated concentrations of 1,3,5-trimethyl benzene (estimated concentration of 7,860 g/kg) and n-butylbenzene (estimated concentration of 4,300 g/kg). Sample WL03SD contained elevated concentrations of 2-propanone (254 g/kg) and toluene (11.9 g/kg). However, 2-propanone was not detected at elevated concentrations in the source samples. In the wetland sediment samples analyzed for SVOCs, seven analytes were detected at elevated concentrations in sample WL01SD (ranging from 599 g/kg to 984,000 g/kg) and one analyte was detected at an elevated concentration in sample WL03SD (376 g/kg). All of the detected VOC and SVOC analytes are associated with petroleum fuels or oils. No pesticides/PCBs were detected at elevated concentrations in the wetland sediment samples. Of the methods analyzed, lead (11.8 mg/kg) was detected at an elevated concentration in sample WL03SD. Nickel was detected at elevated concentrations in samples WL05SD (17.1 mg/kg) and WL07SD (19.8 mg/kg).

No GRO or benzene, ethylbenzene, or o-xylene were detected in these samples. Toluene (0.18 mg/kg) and m,p-xylene (0.095 mg/kg) were detected in sample WL05SD but at concentrations below the 18 AAC 75 cleanup standard. DRO and RRO was detected in all four sediment samples. DRO (30,000 mg/kg) exceeded the 18 AAC 75 cleanup standard in sample WL01SD only. RRO (2,000 mg/kg) exceeded the 18 AAC 75 cleanup standard in sample WL07SD only.

In the wetlands surface water samples analyzed for VOCs and SVOCs, carbon sulfide (81.2 g/L) and butylbenzylphthalate (0.63 g/L) were detected at elevated concentrations in sample WL02SW. The butylbenzylphthalate is not believed to be associated with the site and is likely attributable to laboratory contamination. No pesticides/PCBs were detected at elevated concentrations in the wetland surface water samples. Of the metals analyzed, only lead (3.1 mg/L) and zinc (29.3 mg/L) were detected at elevated concentrations in sample WL02SW.

No GRO or BTEX were detected in these samples. DRO was detected at 0.87 mg/L in sample WL02SW. This concentration is below the 18 AAC 75.345 cleanup standard of 1.5 mg/L.

7.3 SOIL EXPOSURE PATHWAY

7.3.1 Targets

The property is adjacent to the Alaska Highway and access to the site is uncontrolled (E & E 1998). There are no paved areas on the site and no one works at the site. The nearest resident to the site is located more than 4 miles from the site (Table 7-3; EPA 1998). No known terrestrial sensitive environments exist at the site.

7.4 AIR MIGRATION PATHWAY

7.4.1 Targets

As described in Section 7.3.1, no one currently resides or works at the site. No persons live within 4 miles of the site. There is no record of commercial agriculture and silviculture within 0.5 miles of the site. The Tetlin National Wildlife Refuge is located within 0.5 miles of the site. There are approximately 14,470 acres of wetlands within 4 miles of the site (USFWS 1994). A palustrine, forested, scrub/shrub wetland of approximately 80 acres, is located immediately east of the site. The one Federal-listed threatened species (*Peregrin falcon*) is known to occur within a 4-mile radius of the site (USFWS 1997). However, no nests have been documented in the area. Table 7-3 provides populations and wetland acreage by distance ring within 4 miles of the site.

Table 7-1

WETLANDS SEDIMENT
ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
MILEPOST 1,285.5 ALASKA HIGHWAY, ALASKA

	BACKGROUND	TARGET			
EPA Sample Number	**98314031**	**98314021**	**98314023**	**98314025**	**98314027**
Sample Location Number	**BG03SD**	**WL01SD**	**WL03SD**	**WL05SD**	**WL07SD**
Depth (feet bgs)	**0-0.5**	**0-0.5**	**0-0.5**	**0-0.5**	**0-0.5**
VOCs (µg/kg)					
2-Butanone	35.2 UJK (352)[b]	2100 UJK	**93.9 JL**	**29.7 JL**	12.7 UJK
2-Propanone	70.4 U	4360 UJK	**254**	185 U	89.4 U
Benzene, 1,3,5-trimethyl-	3.5 U	**7860 JL**	2.2 U	3.2 U	3.2 U
n-Butylbenzene	3.5 U	**4300 JL**	2.2 U	3.2 U	3.2 U
Toluene	3.5 U	210 UJK	**11.9**	3.2 U	3.2 U
SVOCs (µg/kg)					
Bis(2-ethylhexyl) phthalate	1200 U	**984000**	833 U	899 U	1250 U
Dibenzofuran	240 U	**4650**	167 U	180 U	250 U
Naphthalene	240 U	**8680**	167 U	180 U	250 U
Naphthalene, 1-methyl-	240 U	**75100**	167 U	180 U	250 U
Naphthalene, 2-methyl-	240 U	**44600**	167 U	180 U	250 U
Phenanthrene	240 U	**4900**	167 U	180 U	250 U
Retene	240 U	**599**	**376**	180 U	250 U
GROs/BTEX (mg/kg)					
Toluene	**0.27**	0.75 U	0.027 U	**0.18**	0.073 U
m,p-Xylene	**0.35**	0.75 U	0.027 U	**0.095**	0.073 U
DROs/RROs (mg/kg)					
Diesel Range Organics	**150**	**30000**	**45**	**44**	**330**
Residual Range Organics	**800**	**1400**	**270**	**180**	**2000**
Inorganics (mg/kg)					
Aluminum	**11000**	**4870 JK**	**9970**	**11100**	**14700**
Antimony	1.6 UJL (3.6)[b]	1.9 UJL	**0.94 JBL**	**1.4 JBL**	**2.1 JBL**
Arsenic	**8.8**	2.6 U	**4**	**3.3**	**5.4**
Barium	**130**	**92.9 JB**	**137**	**104**	**143**
Calcium	**6560**	**16800**	**3450**	**5260**	**8020**
Chromium	**18**	**7.3**	**12**	**16.2**	**23.4**
Copper	**23.4**	**19.5**	**20.3**	**32.2**	**33.9**
Iron	**21000**	**7890 JK**	**16200**	**20500**	**25800 JK**
Lead	**2.5 JK (3.6)[b]**	**6.5 JK (4.5)[b]**	**11.8**	**1.2**	**1.1 JK**
Magnesium	**3140**	**1700 JB**	**3010**	**5270**	**6480**
Manganese	**281**	**749**	**390**	**261**	**646**
Nickel	**11.9 JBK (16)[a]**	**6.3 JB**	**9.9**	**17.1**	**19.8**
Potassium	**375 JBK**	191 U	**1880 JK**	**778 JB**	**506 JB**
Vanadium	**76**	**19.8 JB**	**35.8**	**48**	**63.8**
Zinc	**27.7**	**15.9**	**32.1**	**25.4**	**51.4**

[a] Contract required detection/quantitation limit.

[b] Adjusted concentration as per EPA document number, EPA 540-F-94-028.

Note : Bold type indicates concentrations above sample quantitation limit or detection limit.
Underlined type indicates result is elevated as defined in Section 5.

Key:

B	= Sample detected below contract required detection limit, but greater than or equal to the instrument detection limit.
BGS	= Below ground surface.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes.
DRO	= Diesel range organics.
EPA	= U.S. Environmental Protection Agency.
GRO	= Gasoline range organics.
J	= The analye was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
K	= Unknown bias.
L	= Low bias.
mg/kg	= Milligrams per kilogram.
RRO	= Residual range organics.
SVOCs	= Semivolatile organic compounds.
U	= The analyte was analyzed for, but was not detected at the reported sample quantitation limit.
µg/kg	= Micrograms per kilogram.
VOCs	= Volatile organic compounds.

Table 7-2

WETLANDS SURFACE WATER
ANALYTICAL RESULTS SUMMARY
CANOL PUMP STATION J
ALASKA

	BACKGROUND	TARGET		
EPA Sample Number	**98314032**	**98314022**	**98314024**	**98314028**
Sample Location Number	**BG04SW**	**WL02SW**	**WL04SW**	**WL08SW**
VOCs (µg/L)				
Carbon disulfide	**23.8**	**81.2**	2 U	**24.1**
SVOC (µg/L)				
Butylbenzylphthalate	0.28 U	**0.63**	0.29 U	0.26 U
DROs (mg/L)				
Diesel Range Organics	0.1 U	**0.87**	0.1 U	0.1 U
Inorganics (mg/L)				
Calcium	**10200**	**11400**	**12000**	**16100**
Iron	**995**	**728**	**1520**	**1030**
Lead	1.9 U	**3.1**	1.9 U	1.9 U
Magnesium	**2800 JB**	**3080 JB**	**3880 JB**	**5180**
Manganese	**292**	**113**	**329**	**745**
Potassium	365 U	**854 JB**	365 U	**500 JB**
Sodium	**2820 JB**	**1940 JB**	**4110 JB**	**4540 JB**
Zinc	13.7 U	**29.3**	**6.4 JB**	8.8 U

Note : Bold type indicates concentrations above sample quantitation limit or detection limit.
Underlined type indicates result is elevated as defined in Section 5.

Key:

B	= Sample detected below contract required detection limit, but greater than or equal to the instrument detection limit.
DRO	= Diesel range organics.
EPA	= U.S. Environmental Protection Agency.
J	= The analye was positively identified; the associated numerical value is the approximate concentration of the analyte in approximate concentration of the analyte in the sample.
mg/L	= Milligrams per liter.
SVOCs	= Semivolatile organic compounds.
U	= The analyte was analyzed for, but was not detected at the reported sample quantitation limit.
µg/L	= Micrograms per liter.
VOCs	= Volatile organic compounds.

Table 7-3

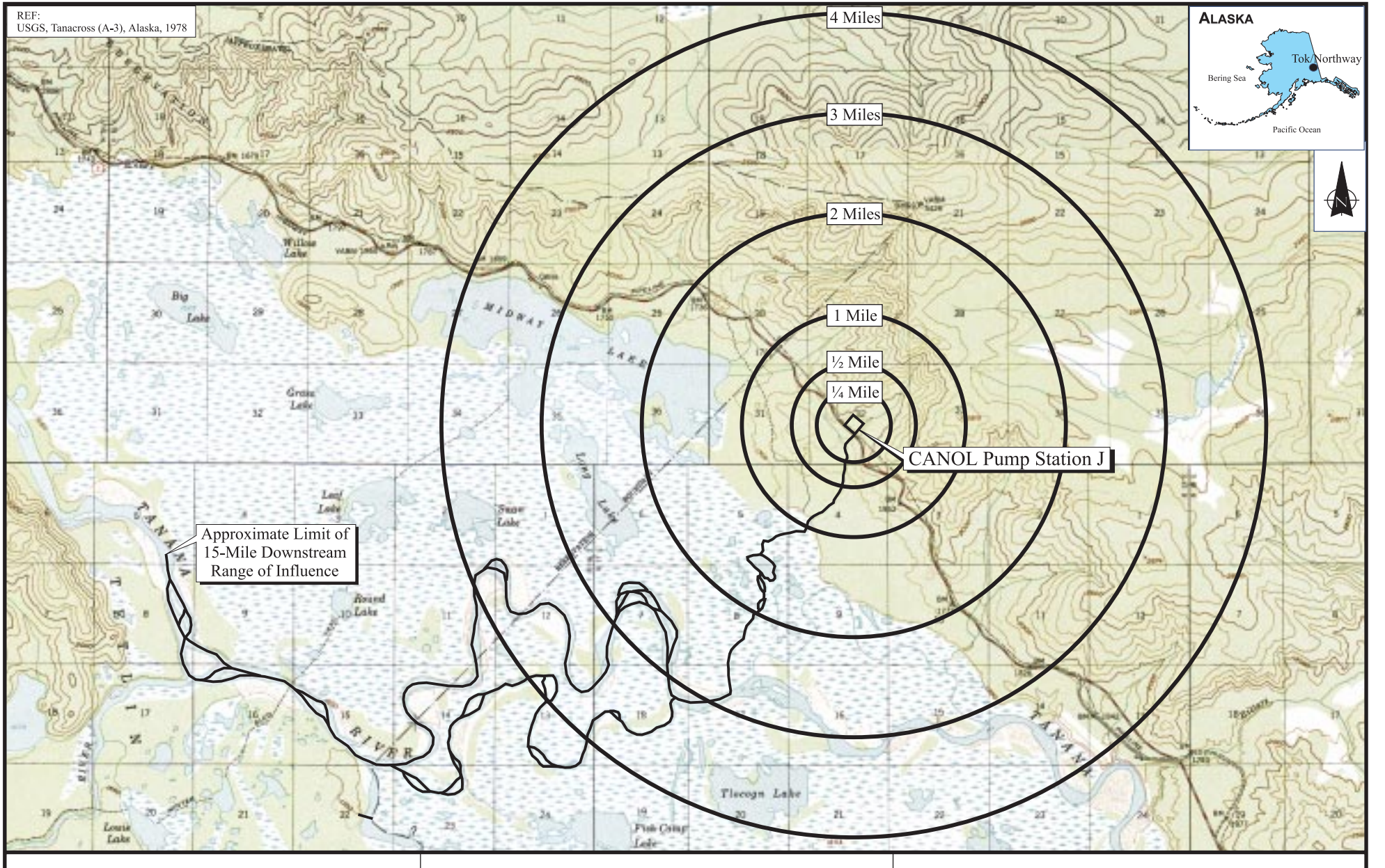
POPULATIONS AND WETLAND ACREAGE WITHIN A 4-MILE RADIUS
CANOL PUMP STATION J
MILEPOST 1285.5 ALASKA HIGHWAY, ALASKA

Distance (Miles)	Residents	Approximate Wetlands (Acres)
On a source	0	0
0-1/4	0	80
1/4-1/2	0	480
1/2-1	0	700
1-2	0	3,700
2-3	0	3,840
3-4	0	5,670
Total	0	14,470

Source: EPA 1998.

Key:

EPA = U.S. Environmental Protection Agency.



ecology and environment, inc.
International Specialists in the Environment
Anchorage, Alaska

CANOL PUMP STATION J
Milepost 1285.5, Alaska Highway

0 1 2
Approximate Scale in Miles

Figure 7-1
SITE RANGE OF INFLUENCE MAP

Drawn:	Date	Job No.	Dwg.No.
AES	1/12/99	BI1301SIT0	BI1301 7-1

8. SUMMARY AND CONCLUSIONS

In July 1998, the START conducted an SI at the CANOL Pump Station J at Milepost 1285.5 of the Alaska Highway in eastern Alaska. The property was issued to Donald J. Joe and his heirs on April 11, 1988. The pump station operated from 1944 to 1945. Features included a pump house, water facility, electrical facility, dispensing facility, living quarters, garage facility, and fuel storage tanks. The site was dismantled in the late 1960s.

The pump station complex is located approximately 200 feet north of the Alaska Highway, between the towns of Northway Junction and Tok. An approximately 80-acre palustrine, forested, scrub/shrub wetland is located adjacent to and topographically downgradient of the site. In addition, the wetlands drain into a portion of the Tetlin National Wildlife Refuge. Access to the site is uncontrolled. No one currently resides at the site and the nearest residence is more than 4 miles from the site. The nearest community is 19 miles southeast of the site.

The SI involved collection of samples from potential hazardous substance source areas and from target areas potentially impacted through contaminant migration. A total of 36 samples were collected, including background and QA samples. Samples were collected from multiple on-site locations and the adjacent wetlands. The media sampled included surface and subsurface soils, sediment, and surface water. Samples were analyzed by either EPA's Manchester Laboratory, a CLP laboratory, or a commercial laboratory. Section 8.1 summarizes the potential source analytical sample results and provides a brief overview of those analytes that also were detected in the target samples. Section 8.2 summarizes the target analytical sample results by pathway. Section 8.3 presents the conclusions of the SI.

8.1 SOURCES

Samples were collected from nine potential source areas. Areas were identified for sampling based on knowledge of pump station processes and the potential presence of hazardous substances or contaminants.

Fourteen individual VOC analytes were detected at significant concentrations in the source samples. The VOCs were predominantly detected in the subsurface soils at the gas filling and debris area and the former garage facility. The analytes 1,3,5-trimethylbenzene, n-butylbenzene, and toluene also were detected at elevated concentrations in sediment target samples.

Of the SVOCs analyzed, 13 analytes were detected at significant concentrations in the source samples. These SVOCs were detected at the gas filling and debris area, the former garage facility, and drum bunker 1. Seven of the SVOC analytes detected were also detected at significant concentrations in the sediment target samples.

No pesticides or PCBs were detected in the source samples. A total of 19 metal analytes were detected at significant concentrations in the source samples. Lead was detected at every source location. Significant concentrations of lead were detected in the surface soil at the gas filling and debris area, the oil filter area, the pump station foundation station, and drum bunkers 1 and 2. Lead and nickel were also detected at significant concentrations in target samples.

GRO was not detected in any source samples. Analyses by the Alaska State Petroleum Methods indicated that petroleum contamination does exist in the source areas. Benzene exceeded the 18 AAC 75 cleanup standard at the garage facility. DRO and RRO exceeded the 18 AAC 75 cleanup standard at the gas filling and debris area, oil filter area, garage facility area, and drum bunker 1. Additionally, DRO also exceeded the 18 AAC 75 cleanup standard at the electrical facility area.

8.2 TARGETS

8.2.1 Surface Water Migration Pathway

Samples were collected from suspected targets located along potential surface water migration pathways.

VOCs and SVOCs were detected at elevated concentrations in the pond sediments and wetland sediments along the Alaska Highway. The majority of these analytes were detected in the pond sediments. Of the metals detected in the source samples, lead was detected at elevated concentrations in the sample collected from the wetland sediment adjacent to the Alaska Highway. Nickel was detected at elevated concentrations in the debris area south of the highway and at the Tetlin NWR. No other metals were detected at elevated concentrations in the wetland sediment samples.

Of the analytes detected in source samples, carbon disulfide, lead, and zinc were detected at elevated concentrations in the pond surface water. No other analytes were detected at elevated concentrations in target surface water samples.

Analyses by the Alaska State Petroleum Methods indicate that petroleum contamination exists in two target sample locations. DRO exceeds the 18 AAC 75 cleanup standard in the sediment sample collected from the pond in the wetland. Additionally, RRO exceeds the 18 AAC 75 cleanup standard in the downgradient wetland sample WL07SD. The state standards were not exceeded in the surface water samples.

8.3 CONCLUSIONS

Results of the SI indicate that VOCs and SVOCs may be migrating from the site into the target wetland. These VOCs and SVOCs appear to be related to fuel oils and lubricating oils used during operations of the pump station facilities.

In addition, lead was detected at elevated concentrations in sediments along the Alaska Highway, and nickel was detected in three downgradient wetland sediment samples at elevated concentrations. Lead and zinc were detected at elevated concentrations in the pond water.

The lead detected in the source areas is probably attributable to natural mineral deposits and to the leaded fuel that was pumped through the pipeline. The deposition of lead from the highway is most likely the source of the elevated lead concentrations detected in target samples. Zinc detected in the surface water is most likely attributable to the corrugated pipe and highway debris. Nickel concentrations in the sediments were relatively low and may not be indicative of contaminant migration from the site.

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APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: 5160944 **TDD #: 97-09-0013**
Lens Type: 38 - 90mm zoom **Site Name: Canol Pump Station J**

Photo No.	By	Date	Time	Dir.	Description
1-1	DF	5/4/98	0820	NW	Water tank foundation and well casing.
1-2	PC	5/4/98	0825	W	Debris and pipe casings at the gas filling area.
1-3	PC	5/4/98	0830	W	55-gallon drum in pond at northeast side of pump complex.
1-4	PC	5/4/98	0830	W	Pond at northeast side of pump complex.
1-5	PC	5/4/98	0835	W	Used oil filter at northeast side of pump complex.
1-6	PC	5/4/98	0845	E	Bunker # 1 with 55-gallon drums.
1-7	PC	5/4/98	0845	Down	Possible underground storage tank near bunker.
1-8	PC	5/4/98	0850	N	Lower aboveground storage tank pad.
1-9	PC	5/4/98	0850	N	Upper aboveground storage tank pad.
1-10	PC	5/4/98	0910	E	View along pipeline route from aboveground storage tank pads to pump complex.
1-11	PC	5/4/98	0911	W	Debris in tranch along west side of pump complex.
1-12	PC	5/4/98	0915	E	Debris in trench along west side of pump complex.
1-13	PC	5/4/98	0915	Down	Culvert in trench.
1-14	PC	5/4/98	0920	E	Pump house foundation.
1-15	PC	5/4/98	0920	N	Modern cabin at former garage facility area.
1-16	PC	5/4/98	0920	W	Garage facility area.
1-17	PC	5/4/98	0930	Down	Cross connection of ~2" pipeline leading to pump complex and garage facility.
1-18	PC	5/4/98	0930	N	~2" pipeline leading from pump complex to potential electric facility.
1-19	PC	5/4/98	0940	S	Possible underground storage tank along highway and entrance to pump complex.
1-20	PC	5/4/98	0850	S	Pipeline and drums on south side of Alaska Highway.
1-21	PC	5/4/98	0950	S	~8" pipeline south of highway, possible Haines Fairbanks pipeline.
1-22	PC	5/4/98	0955	E	55-gallon drum on south side of highway.
1-23	PC	5/4/98	1000	E	Pump engines on south side of highway.

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: 5160944 **TDD #: 97-09-0013**
Lens Type: 38 - 90mm zoom **Site Name: Canol Pump Station J**

Photo No.	By	Date	Time	Dir.	Description
1-24	PC	5/4/98	1000	S	Building debris on south side of highway.
1-25	PC	5/4/98	1015	Down	Bunker # 2 with 55-gallon drum.
1-26	PC	5/4/98	1015	N	Debris along east side of pump complex.
2-1	PC	7/28/98	1510	Down	Collecting sample WL07SD.
2-2	PC	7/28/98	1520	25 N	Wetland on north side of highway east of site.
2-3	PC	7/28/98	1520	25 N	Wetland on north side of highway east of the site.
2-4	PC	7/28/98	1520	25 N	Entrance to pump station complex.
2-5	PC	7/27/98	1150	Down	Collecting samples PC02SS.
2-6	PC	7/27/98	1210	Down	Collecting sample PC05SS.
2-7	PC	7/27/98	1210	90 E, Down	Location for samples PC03SS and PC04SS.
2-8	PC	7/27/98	1310	Down	Collecting samples PC08SS.
2-9	PC	7/27/98	1310	90 E	Location for samples PC07SS and PC08SS.
2-10	PC	7/27/98	1325	10 E	Hand augering for sample PC01SS, sample location PC09SS.
2-11	PC	7/27/98	1330	210 S	Collecting samples PC012SS with hand auger from Bunker #2.
2-12	PC	7/27/98	1335	Down	Sample PC012SS.
2-13	PC	7/27/98	1340	Down	Collecting sample PC09SS.
2-14	PC	7/27/98	1350	Down	Sample PC010SS.
2-15	PC	7/27/98	1415	330 N	Location of samples AP01SS and AP02SS.
2-16	PC	7/27/98	1415	Down	Collecting sample AP02SS.
2-17	PC	7/27/98	1420	60 E	Hand augering at sample locations AP03SS and AP04SS.
2-18	PC	7/27/98	1425	Down	Sample AP04SS.
2-19	PC	7/27/98	1425	Down	Collecting sample AP03SS.
2-20	PC	7/27/98	1445	150 S	Sampling location DS01SS and DS02DD.
2-21	PC	7/27/98	1450	Down	Sample DS02SS.
2-22	PC	7/27/98	1450	Down	Collecting sample DS01SS.

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: 5160944 **TDD #: 97-09-0013**
Lens Type: 38 - 90mm zoom **Site Name: Canol Pump Station J**

Photo No.	By	Date	Time	Dir.	Description
2-23	PC	7/27/98	1500	210 S	Sampling location for DS03SS and DS04SS.
2-24	PC	7/27/98	1500	Down	Sample DS04SS.
2-25	PC	7/27/98	1500	Down	Sample DS03SS.
2-26	PC	7/28/98	1030	120 E	Collecting sample WL02SW.
2-27	PC	7/28/98	1035	330 N	Collecting sample WL02SW.
2-28	PC	7/28/98	1050	Down	Collecting sample WL01SD.
2-29	PC	7/28/98	1120	Down	Collecting sample BG01SS.
2-30	PC	7/28/98	1130	Down	Collecting sample BG02SS.
2-31	LF	7/28/98	1150	Down	Collecting sample WL04SW.
2-32	LF	7/28/98	1152	E	Sample WL04SW.
2-33	LF	7/28/98	1202	Down	Sample WL03SD.
2-34	PC	7/28/98	1345	60 E	Collecting sample BG04SW.
2-35	PC	7/28/98	1345	Down	Collecting sample BG04SW.
2-36	PC	7/28/98	1350	Down	Sample BG03SD.
2-37	PC	7/28/98	1425	0 N	Hand augering for sample WL05SD.
2-38	PC	7/28/98	1435	Down	Sample WL05SD.
2-39	PC	7/28/98	1455	330 N	Collecting sample WL08SW.
2-40	PC	7/28/98	1510	330 N	Collecting sample WL07SD.
2-41	PC	7/28/98	1510	Down	Sample WL07SD.

DF = Daniel Frank
LF = Louise Flynn
PC = Paul Cooley

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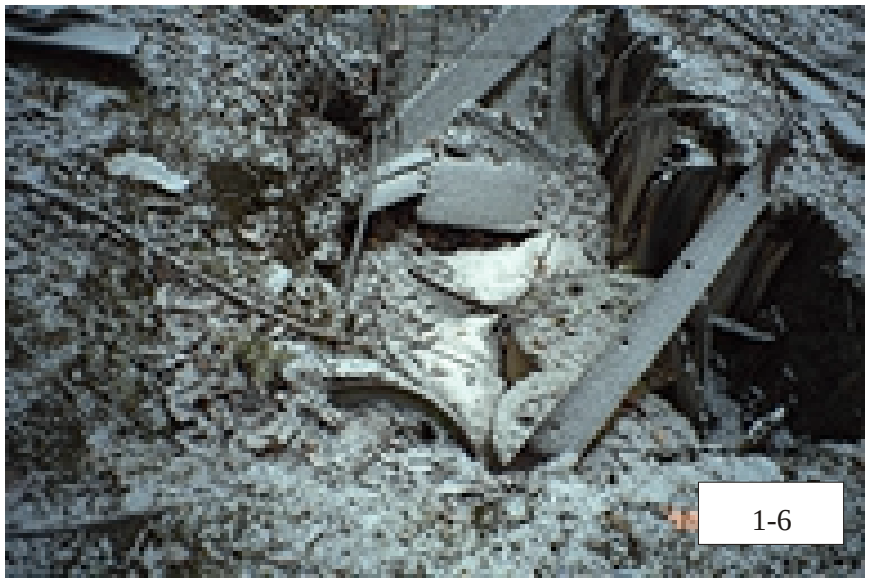

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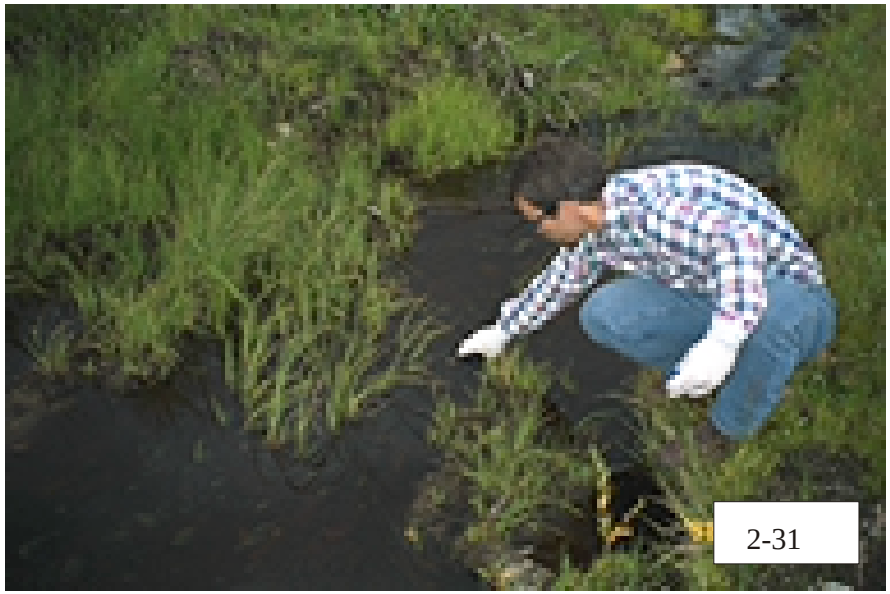

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APPENDIX B

DATA VALIDATION MEMORANDA AND ANALYTICAL RESULTS

MEMORANDUM

DATE	January 13, 1999
TO	Paul Cooley, Project Manager, E & E, Anchorage, AK
FROM	Mark Woodke, START-Chemist, E & E, Seattle, WA MW
SUBJ	**Inorganic Data Quality Assurance Summary Check, Canol Pump Station J, Tanacross-Northway, Alaska**
REF	TDD 97-09-0013 PAN BI1301SIDM

The data quality assurance summary check of 18 soil and 2 water samples collected from the Canol Pump Station J site located in Tanacross-Northway, Alaska, has been completed Inorganic analyses (EPA CLP SOW Method ILMO4 0) were performed by Intertek Testing Services, Colchester, Vermont

No discrepancies were noted

The laboratory applied "B" qualifiers, indicating results below the contract required detection limit but greater than the instrument detection limits, were changed to "JBK" by the secondary reviewer, indicating results below the contract required detection limit but greater than the instrument detection limits with unknown biases

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

IN REPLY
REFER TO: OEA-095

October 7, 1998

MEMORANDUM

SUBJECT: Canol Pump Station J, Site Investigation CLP Metals Analysis, Data Validation
Case: 26371
SDG: MJS346

FROM: Laura Castrilli, Chemist
Quality Assurance and Data Unit, OEA

TO: David Bennett, Site Assessment Manager
Office of Environmental Cleanup

CC: Bruce Woods, Region 10 CLP TPO
Paul Cooley, Ecology & Environment

The following is a validation of ICP-AES and mercury analyses of eighteen soil/sediment samples and two water samples from the Canol Pump Station J project. The analyses were performed following the USEPA Contract Laboratory Program Statement of Work for Inorganics Analysis Multi-media, Multi-Concentration, ILM04.0. Analyses were conducted by Intertek Testing Services Laboratory of Colchester, Vermont. This validation was conducted for the following samples:

MJS346	MJS349	MJS352	MJS355	MJS358	MJS361	MJS370
MJS347	MJS350	MJS353	MJS356	MJS359	MJS368	MJS371
MJS348	MJS351	MJS354	MJS357	MJS360	MJS369	

Data Qualifications

The following comments refer to the Intertek Laboratory's performance in meeting quality control specifications outlined in the *CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILM04.0.* The comments presented herein are based on the information provided for the review.

1.0 Timeliness - Acceptable

The technical (40 CFR part 136) holding time from the date of collection for mercury in water is 28 days. The holding time for the remaining metals in water is 180 days. The samples were collected between 07/27/98 and 07/28/98. Mercury analyses were completed on 08/19/98. ICP-AES analyses were completed on 08/30/98.

2.0 Sample Preparation - Acceptable

The samples were prepared for mercury analysis on 08/12/98 (water) and 08/18/98 (soil). The samples were prepared for ICP-AES analysis on 08/05/98 (water for all analytes, soil for aluminum, arsenic, silver, cadmium, chromium, cobalt, copper, sodium, nickel, thallium, and vanadium), 08/24/98 (soil for barium, beryllium, calcium, potassium, magnesium, manganese, lead, selenium, zinc and most iron results), and 08/30/98 (soil for iron for samples MJS369 and MJM371).

3.0 Calibrations/Calibration Verifications - Acceptable

The samples were analyzed for mercury by CVAAS on 08/13/98 (waters) and 08/19/98 (soils). Initial calibration included one blank and five standards. The curves were linear with correlation coefficients greater than 0.995.

The samples were analyzed by ICP-AES on 08/06/98 (soil results for aluminum, arsenic, cadmium, chromium, cobalt, copper, nickel, silver, sodium, and vanadium), 08/08/98 (all water results except calcium and lead), 08/12/98 (soil antimony results), 08/13/98 (water calcium and lead results), 08/26/98 (soil iron, magnesium and zinc results with the exception of iron for two of the soils), 08/26/98 (soil barium, beryllium, calcium, lead, manganese, potassium, and selenium results), and 08/30/98 (iron results for soil samples MJS369 and MJS371). The instruments were standardized each day of analysis according to the analytical method using one blank and a single calibration standard for each element.

All ICP-AES and CVAAS (mercury) calibrations were performed as required and met the acceptance criteria; therefore, no qualification was made on this basis.

Calibration verification samples are required before and after sample analysis and after every 10 samples during analysis. Mercury recoveries must be within 80-120%. Other metal recoveries must be within 90-110%.

All ICP-AES and CVAAS (mercury) calibration verification (initial and continuing) samples bracketing reported sample results met the recovery criteria. Calibration verification samples were analyzed after every ten samples. No qualification was made based on ICP-AES or CVAAS calibration verification.

4.0 Laboratory Control Samples - Acceptable

Laboratory Control samples (not required for water mercury analyses) are digested and analyzed along with the samples to verify the efficiency of laboratory procedures. All recoveries associated with reported sample results met the acceptance criteria for control samples.

5.0 Blanks -

Procedural blanks were prepared with the samples to show potential contamination from the digestion or analytical procedure. If an

analyte was found in the associated blank, the sample results were qualified if the analyte concentration was less than five times the analytical value in the blank.

The procedural blank (PB) results met the acceptance criteria; with the exception of manganese (1.06 ug/L in the PB associated with samples MJS369 and MJS371), sodium (1,173 ug/L in the soil PB), zinc (8.4 ug/L in the main soil PB, 5.84 ug/L in the PB associated with samples MJS369 and MJS371, and 4.35 ug/L in the water PB). ICP-AES and CVAAS continuing calibration blanks (CCBs) surrounding the samples reported in this SDG resulted in detectable levels of analytes. For water, aluminum was detected at 84.9 ug/L in a CCB while mercury in a CCB had a negative result with an absolute value equal to the detection limit (-0.1 ug/L). Soil CCBs had detectable levels of barium (-24.2 ug/L), beryllium (0.2-0.3 ug/L and -3.7 ug/L), calcium (89-129 ug/L and -126 ug/L), chromium (1.7 ug/L), iron (34.9-49.1 ug/L), manganese (0.6 ug/L and -13.1 ug/L), and potassium (170 ug/L).

Associated barium, calcium, chromium, iron, and manganese results were all greater than five times the associated blank level and were not qualified on this basis. Beryllium and potassium in sample MJS369 were qualified `J', estimated due to negative blank contamination with an absolute value greater than the IDL. Aluminum in samples MJS368 and MJS370 was qualified `U', undetected due to blank contamination. Beryllium in samples MJS347, MJS353, MJS356, MJS357, MJS359, MJS360, MJS361, and MJS371 was qualified `U', undetected due to blank contamination. Mercury in samples MJS368 and MJS370 was qualified `UJ', estimated detection limit due to negative blank contamination with an absolute value equal to the detection limit. Sodium in samples MJS347, MJS348, MJS349, MJS353, MJS355, MJS358, MJS359, MJS360, MJS361, and MJS371 was qualified `U', undetected due to blank contamination. Zinc in sample MJS370 was qualified `U', undetected due to blank contamination.

6.0 ICP-AES Interference Check Sample -

The interference check sample (ICS) is analyzed by ICP-AES to verify interelement and background correction factors. Analysis is required at the beginning and end of each sample analysis run and recoveries must be between 80% and 120%. All ICS recoveries associated with reported sample results were within the recovery criterion.

A couple of analytes not present in the ICS solution A (interfering analytes without analytes of interest) had positive results and in some cases, negative results with absolute values greater than the instrumental detection limit. This could result in biased data in samples that have similar levels of interfering analytes. The samples' raw data was checked. The raw data for samples MJS349, MJS356, and MJS357 had interfering levels of iron. All three of the ICS-A analyses bracketing soil antimony results had detected levels of antimony (average of 5.3 ug/L). Antimony in samples MJS349 and MJS357 was qualified `UJ', estimated detection limit (possible false positives due to suspected iron interference). Antimony in sample MJS356 was qualified `J', estimated (possible bias due to suspected iron interference).

7.0 Duplicate Analysis -

Duplicate analysis was done on soil sample MJS348 and water sample MJS368. Soil duplicate results were within the ±35% Relative Percent Difference (RPD) or ±2xCRDL criteria for soil results < 5 times the CRDL criteria. Water duplicate results were within the ±20% Relative Percent Difference (RPD) or ±CRDL criteria for water results < 5 times the CRDL criteria. Laboratory `*' qualifiers were removed from the soil iron and manganese results as the lab used the stricter water criteria to qualify results.

8.0 Field Duplicate Analysis - Not Applicable

Field duplicate analysis for samples in this SDG was not indicated in the field collection documentation.

9.0 Matrix Spike Analysis -

Matrix spike sample analyses are done to provide information about the effect of the sample matrix on digestion and measurement methods. Matrix spike recovery must be within the limits of 75 - 125%.

Matrix spike analysis was done on soil sample MJS348 and water sample MJS368. All matrix spike recoveries were within the required QC limits; with the exception of antimony (46% for the soil matrix). All antimony soil/sediment results were qualified `J', estimated due to low matrix spike recovery. Low bias is suspected for the soil/sediment antimony results (with the exception of samples with suspected iron interference which have a suspected unknown bias).

10.0 Graphite Furnace Atomic Absorption Spec (GFAAS) QC - Not Applicable -

GFAAS was not used for the analysis of these samples.

11.0 ICP-AES Serial Dilution - Acceptable

Soil sample MJS348 and water sample MJS368 were analyzed by ICP-AES serial dilution to check for potential interferences. All analytes which exceeded the minimum concentration criterion (50 times the IDL) agreed within the 10%D criteria; therefore no results were qualified on this basis.

12.0 Detection Limits - Acceptable

Sample results which fall below the instrument detection limit (IDL) are assigned the value of the instrument detection limit and the 'U' qualifier is attached.

Contract Required Detection Limit (CRDL) standards are required to demonstrate a linear calibration curve near the CRDL. CRDL standards were run at the required frequency.

13.0 Overall Assessment of the Data

This validation of the data is based on the criteria outlined in the

National Functional Guidelines for Inorganic Data Review (02/94). Approximately 9.3% of the data was qualified based on blank contamination, interference, and/or matrix spike recovery. The data as qualified is acceptable for all purposes.

Below are the definitions for the National Functional Guidelines for Inorganic Data Review (02/94) qualifiers used when validating/qualifying data from Inorganic analysis.

DATA QUALIFIERS

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present.)

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

At the request of the site assessment manager, bias for the data was qualitatively assessed and the following additional qualifiers were applied:

L - Low bias.

H - High bias.

K - Unknown Bias.

B - The result is estimated because the concentration is below the Contract Required Detection Limits (CRDLs). Note: this is a concentration qualifier automatically added by CLP laboratories when reporting <u>inorganic</u> results below the CRDL. This qualifier can be located in the column headed by `C' on the Form I. The `Q' qualifier added to organic data is equivalent to this laboratory `B' concentration qualifier. Laboratory `B' qualifiers were removed whenever a result was qualified as `U' undetected.

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314000
MJS346

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361726

Level (low/med) LOW__ Date Received 07/31/98

Solids _83 8

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5070			P
7440-36-0	Antimony_	0 79	U	~~N~~ JL	P
7440-38-2	Arsenic__	3 6			P
7440-39-3	Barium___	115			P
7440-41-7	Beryllium	0.38	B	JBK	P
7440-43-9	Cadmium__	0 15	U		P
7440-70-2	Calcium__	4970			P
7440-47-3	Chromium_	5.7			P
7440-48-4	Cobalt___	3 4	B	JBK	P
7440-50-8	Copper___	23 4			P
7439-89-6	Iron____	15600		—	P
7439-92-1	Lead____	326			P
7439-95-4	Magnesium	3250			P
7439-96-5	Manganese	261		—	P
7439-97-6	Mercury__	0 06	U		CV
7440-02-0	Nickel___	6 2	B	JBK	P
7440-09-7	Potassium	1840			P
7782-49-2	Selenium_	0 90	U		P
7440-22-4	Silver___	0 49	U		P
7440-23-5	Sodium___	93 1	U		P
7440-28-0	Thallium_	1 4	U		P
7440-62-2	Vanadium_	15 5			P
7440-66-6	Zinc____	170			P
	Cyanide__				NR

JPC 09/28/98

Color Before BROWN____ Clarity Before. _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments

PEBBLES/STEMS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO
983140001
MJS347

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361727

Level (low/med) LOW__ Date Received 07/31/98

Solids _51 4

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	7030	_		P_
7440-36-0	Antimony_	1 3	U	~~N~~ JL	P_
7440-38-2	Arsenic__	3 1	~~B~~	JBK	P_
7440-39-3	Barium___	61 5	~~B~~	JBK	P_
7440-41-7	Beryllium	0.19	~~B~~	U	P_
7440-43-9	Cadmium__	0 25	U		P_
7440-70-2	Calcium__	9450	_		P_
7440-47-3	Chromium_	9 7	_		P_
7440-48-4	Cobalt___	4.6	~~B~~	JBK	P_
7440-50-8	Copper___	20 6	_		P_
7439-89-6	Iron_____	9580	_		P_
7439-92-1	Lead_____	13.2	_		P_
7439-95-4	Magnesium	2670	_		P_
7439-96-5	Manganese	282	_		P_
7439-97-6	Mercury__	0 10	U		CV
7440-02-0	Nickel___	10 2	~~B~~	JBK	P_
7440-09-7	Potassium	543	~~B~~	JBK	P_
7782-49-2	Selenium_	1.4	U		P_
7440-22-4	Silver___	0.81	U		P_
7440-23-5	Sodium___	361	~~B~~	U	P_
7440-28-0	Thallium_	2 3	U		P_
7440-62-2	Vanadium_	29 2	_		P_
7440-66-6	Zinc_____	24.5	_		P_
_____	Cyanide__		_		NR

dcorb8/98

Color Before BROWN____ Clarity Before _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
STEMS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

~~9800~~ 98314002
MJS348

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID· 361728

Level (low/med) LOW__ Date Received 07/31/98

% Solids _75.9

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8680			P
7440-36-0	Antimony_	1.2	~~Fn~~	~~N~~ JBK	P
7440-38-2	Arsenic__	2 7			P
7440-39-3	Barium__	116			P
7440-41-7	Beryllium	0.31	~~Fn~~	JBK	P
7440-43-9	Cadmium__	0.17	U		P
7440-70-2	Calcium__	9100			P
7440-47-3	Chromium_	11.0			P
7440-48-4	Cobalt___	5 6	~~Fn~~	JBK	P
7440-50-8	Copper___	18 9			P
7439-89-6	Iron____	16200		+	P
7439-92-1	Lead____	244			P
7439-95-4	Magnesium	3920			P
7439-96-5	Manganese	397		+	P
7439-97-6	Mercury__	0 07	U		CV
7440-02-0	Nickel___	10 9			P
7440-09-7	Potassium	1120	~~Fn~~	JBK	P
7782-49-2	Selenium_	0 94	U		P
7440-22-4	Silver___	0 56	U		P
7440-23-5	Sodium___	291	~~B~~	U	P
7440-28-0	Thallium_	1 6	U		P
7440-62-2	Vanadium_	33.5			P
7440-66-6	Zinc____	38 2			P
	Cyanide__				NR

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
ROOTS/STEMS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

~~98[illegible]~~ 98374003

MJS349

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code. INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361729

Level (low/med). LOW__ Date Received 07/31/98

% Solids _92 5

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11800			P_
7440-36-0	Antimony_	1.1	~~B~~	~~WK+JK~~	P_
7440-38-2	Arsenic__	3.7			P_
7440-39-3	Barium___	64 5			P_
7440-41-7	Beryllium	0 27	~~B~~	JBK	P_
7440-43-9	Cadmium__	0.11	U		P_
7440-70-2	Calcium__	6310			P_
7440-47-3	Chromium_	18 5			P_
7440-48-4	Cobalt___	8.3			P_
7440-50-8	Copper___	22.4			P_
7439-89-6	Iron_____	19000		*	P_
7439-92-1	Lead_____	4 3			P_
7439-95-4	Magnesium	6840			P_
7439-96-5	Manganese	325		*	P_
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	20 3			P_
7440-09-7	Potassium	658	~~B~~	JBK	P_
7782-49-2	Selenium_	0.60	U		P_
7440-22-4	Silver___	0.37	U		P_
7440-23-5	Sodium___	168	~~B~~	U	P_
7440-28-0	Thallium_	1.0	U		P_
7440-62-2	Vanadium_	48 3			P_
7440-66-6	Zinc_____	35.4			P_
_____	Cyanide__				NR

dlc 09/28/98

Color Before: BROWN____ Clarity Before. _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts _____

Comments

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

95314084
MJS350

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No . MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361730

Level (low/med) LOW__ Date Received 07/31/98

% Solids _93 6

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5440			P_
7440-36-0	Antimony_	0 63	U	#JL	P_
7440-38-2	Arsenic__	4 2			P_
7440-39-3	Barium___	65 6			P_
7440-41-7	Beryllium	0.31	~~B~~	JBK	P_
7440-43-9	Cadmium__	0 12	U		P_
7440-70-2	Calcium__	2010			P_
7440-47-3	Chromium_	3 5			P_
7440-48-4	Cobalt___	2 2	~~B~~	JBK	P_
7440-50-8	Copper___	11 7			P_
7439-89-6	Iron_____	8920		*	P_
7439-92-1	Lead_____	27 8			P_
7439-95-4	Magnesium	1370			P_
7439-96-5	Manganese	329		*	P_
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	5 8	~~B~~	JBK	P_
7440-09-7	Potassium	1870			P_
7782-49-2	Selenium_	0 68	U		P_
7440-22-4	Silver___	0 39	U		P_
7440-23-5	Sodium___	74 1	U		P_
7440-28-0	Thallium_	1 1	U		P_
7440-62-2	Vanadium_	12.8			P_
7440-66-6	Zinc_____	173			P_
	Cyanide__				NR

AC 09/28/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments

PEBBLES/ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

983190005
MJS351

Lab Name SEVERN_TRENT_LABORATORIES Contract· 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water). SOIL_ Lab Sample ID. 361731

Level (low/med) LOW__ Date Received 07/31/98

% Solids. _95 0

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	4000			P_
7440-36-0	Antimony_	0.68	U	#JL	P_
7440-38-2	Arsenic__	1.2	B	JBK	P_
7440-39-3	Barium___	57 2			P_
7440-41-7	Beryllium	0 35	B	JBK	P_
7440-43-9	Cadmium__	0 13	U		P_
7440-70-2	Calcium__	1560			P_
7440-47-3	Chromium_	1 6	B	JBK	P_
7440-48-4	Cobalt___	1 5	B	JBK	P_
7440-50-8	Copper___	3 4	B	JBK	P_
7439-89-6	Iron_____	8850		*	P_
7439-92-1	Lead_____	12.0			P_
7439-95-4	Magnesium	1330			P_
7439-96-5	Manganese	323		*	P_
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	1.3	B	JBK	P_
7440-09-7	Potassium	1780			P_
7782-49-2	Selenium_	0 69	U		P_
7440-22-4	Silver___	0 42	U		P_
7440-23-5	Sodium___	80 0	U		P_
7440-28-0	Thallium_	1.2	U		P_
7440-62-2	Vanadium_	6.5	B	JBK	P_
7440-66-6	Zinc_____	26 1			P_
_____	Cyanide__				NR
_____	_____				

09/28/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments.
PEBBLES/SMALL_ROCKS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314006
MJS352

Lab Name. SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361732

Level (low/med) LOW__ Date Received 07/31/98

% Solids _93 5

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5490			P_
7440-36-0	Antimony_	0 67	U	~~#~~ JK	P_
7440-38-2	Arsenic__	2 0			P_
7440-39-3	Barium___	75 6			P_
7440-41-7	Beryllium	0 44	~~B~~	JBK	P_
7440-43-9	Cadmium__	0 13	U		P_
7440-70-2	Calcium__	1650			P_
7440-47-3	Chromium_	2.3			P_
7440-48-4	Cobalt___	1.9	~~B~~	JBK	P_
7440-50-8	Copper___	13 6			P_
7439-89-6	Iron____	12000		*	P_
7439-92-1	Lead____	16 4			P_
7439-95-4	Magnesium	1880			P_
7439-96-5	Manganese	391		*	P_
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	2.5	~~B~~	JBK	P_
7440-09-7	Potassium	2410			P_
7782-49-2	Selenium_	0 77	U		P_
7440-22-4	Silver___	0.41	U		P_
7440-23-5	Sodium___	78 6	U		P_
7440-28-0	Thallium_	1.2	U		P_
7440-62-2	Vanadium_	10 0			P_
7440-66-6	Zinc____	62 8			P_
	Cyanide__				NR

09/08/98

Color Before BROWN____ Clarity Before. _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
PEBBLES/SMALL_ROCKS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO
9S714007
MJS353

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361733

Level (low/med) LOW__ Date Received 07/31/98

% Solids _63.2

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5450			P
7440-36-0	Antimony_	1 0	U	~~NJK~~	P
7440-38-2	Arsenic__	1 7	U		P
7440-39-3	Barium___	90 8			P
7440-41-7	Beryllium	0 21	~~B~~	U	P
7440-43-9	Cadmium__	0 20	U		P
7440-70-2	Calcium__	9540			P
7440-47-3	Chromium_	6 0			P
7440-48-4	Cobalt___	3 2	~~B~~	JBK	P
7440-50-8	Copper___	15 4			P
7439-89-6	Iron____	9600			P
7439-92-1	Lead____	6 8			P
7439-95-4	Magnesium	2250			P
7439-96-5	Manganese	451			P
7439-97-6	Mercury__	0 08	U		CV
7440-02-0	Nickel___	5 7	~~B~~	JBK	P
7440-09-7	Potassium	829	~~B~~	JBK	P
7782-49-2	Selenium_	1 1	~~B~~	JBK	P
7440-22-4	Silver___	0.65	U		P
7440-23-5	Sodium___	243	~~B~~	U	P
7440-28-0	Thallium_	1 8	U		P
7440-62-2	Vanadium_	17 6			P
7440-66-6	Zinc____	25 8			P
	Cyanide__				NR

09/28/98

Color Before: BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314008
MJS354

Lab Name SEVERN_TRENT_LABORATORIES Contract. 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361734

Level (low/med) LOW__ Date Received 07/31/98

% Solids _96 3

Concentration Units (ug/L or mg/kg dry weight). MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	4330			P
7440-36-0	Antimony_	0 66	~~B~~	~~N~~ JBK	P
7440-38-2	Arsenic__	2.1			P
7440-39-3	Barium___	56.5			P
7440-41-7	Beryllium	0 25	~~B~~	JBK	P
7440-43-9	Cadmium__	0 11	U		P
7440-70-2	Calcium__	1620			P
7440-47-3	Chromium_	1.9			P
7440-48-4	Cobalt___	1 8	~~B~~	JBK	P
7440-50-8	Copper___	4.1			P
7439-89-6	Iron____	8210		*	P
7439-92-1	Lead____	13 2			P
7439-95-4	Magnesium	1340			P
7439-96-5	Manganese	266		*	P
7439-97-6	Mercury__	0.14			CV
7440-02-0	Nickel___	6 6			P
7440-09-7	Potassium	1940			P
7782-49-2	Selenium_	0 65	U		P
7440-22-4	Silver___	0.37	U		P
7440-23-5	Sodium___	70 9	U		P
7440-28-0	Thallium_	1.1	U		P
7440-62-2	Vanadium_	8 7			P
7440-66-6	Zinc____	29 6			P
	Cyanide__				NR

JBK 09/28/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
ROOTS/PEBBLES_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314009
MJS355

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code. INCHVT Case No . 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361735

Level (low/med) LOW__ Date Received 07/31/98

% Solids _77.6

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	15400			P_
7440-36-0	Antimony_	1 6	~~B~~	~~N~~ JBK	P_
7440-38-2	Arsenic__	5 6			P_
7440-39-3	Barium___	141			P_
7440-41-7	Beryllium	0.33	~~B~~	JBK	P_
7440-43-9	Cadmium__	0.16	U		P_
7440-70-2	Calcium__	6830			P_
7440-47-3	Chromium_	19 8			P_
7440-48-4	Cobalt___	11 4			P_
7440-50-8	Copper___	37 8			P_
7439-89-6	Iron_____	15800		*	P_
7439-92-1	Lead_____	4 4			P_
7439-95-4	Magnesium	3310			P_
7439-96-5	Manganese	591		*	P_
7439-97-6	Mercury__	0.06	U		CV
7440-02-0	Nickel___	24 0			P_
7440-09-7	Potassium	897	~~B~~	JBK	P_
7782-49-2	Selenium_	0 71	U		P_
7440-22-4	Silver___	0.51	U		P_
7440-23-5	Sodium___	268	~~B~~	G	P_
7440-28-0	Thallium_	1 4	U		P_
7440-62-2	Vanadium_	62 1			P_
7440-66-6	Zinc_____	31 4			P_
_____	Cyanide__				NR

JR 09/08/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO
983140/0
MJS356

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No . MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361736

Level (low/med) LOW__ Date Received 07/31/98

% Solids _71 1

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8910			P_
7440-36-0	Antimony_	4.1	~~B~~	~~N~~ JK	P_
7440-38-2	Arsenic__	3 6			P_
7440-39-3	Barium__	92 8			P_
7440-41-7	Beryllium	0 31	~~B~~	U	P_
7440-43-9	Cadmium__	0 15	U		P_
7440-70-2	Calcium__	5130			P_
7440-47-3	Chromium_	76.2			P_
7440-48-4	Cobalt___	10 7	~~B~~	JBK	P_
7440-50-8	Copper___	81 1			P_
7439-89-6	Iron____	97400		*	P_
7439-92-1	Lead____	188			P_
7439-95-4	Magnesium	4180			P_
7439-96-5	Manganese	662		*	P_
7439-97-6	Mercury__	0 09	~~B~~	JBK	CV
7440-02-0	Nickel___	35 5			P_
7440-09-7	Potassium	1120	~~B~~	JBK	P_
7782-49-2	Selenium_	0 88	U		P_
7440-22-4	Silver___	0 49	U		P_
7440-23-5	Sodium___	93.8	U		P_
7440-28-0	Thallium_	1 4	U		P_
7440-62-2	Vanadium_	30 5			P_
7440-66-6	Zinc____	208			P_
	Cyanide__				NR

AE 09/08/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
WOODY_DEBRIS/ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

93314011
MJS357

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code. INCHVT Case No . 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID. 361737

Level (low/med) LOW__ Date Received 07/31/98

% Solids _86.4

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10700	_		P_
7440-36-0	Antimony_	1.3	~~B~~	U~~N~~JK	P_
7440-38-2	Arsenic__	4 5	_		P_
7440-39-3	Barium___	77 3	_		P_
7440-41-7	Beryllium	0 23	~~B~~	U	P_
7440-43-9	Cadmium__	0 12	U		P_
7440-70-2	Calcium__	9930	_		P_
7440-47-3	Chromium_	18.4	_		P_
7440-48-4	Cobalt___	7.5	~~B~~	JBK	P_
7440-50-8	Copper___	24 8	_		P_
7439-89-6	Iron_____	18800	_	*	P_
7439-92-1	Lead_____	38.6	_		P_
7439-95-4	Magnesium	6440	_		P_
7439-96-5	Manganese	355	_	*	P_
7439-97-6	Mercury__	0 12	_		CV
7440-02-0	Nickel___	19 4	_		P_
7440-09-7	Potassium	911	_		P_
7782-49-2	Selenium_	0.68	U		P_
7440-22-4	Silver___	0 41	U		P_
7440-23-5	Sodium___	77 8	U		P_
7440-28-0	Thallium_	1.2	U		P_
7440-62-2	Vanadium_	40 7	_		P_
7440-66-6	Zinc_____	53 4	_		P_
_____	Cyanide__	_____	_		NR
_____	_____	_____	_		__

[illegible] 08/18/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments

WOODY_DEBRIS/ROOTS_WERE_PRESENT_IN_THE_SAMPLE _____

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

983140/2
MJS358

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code: INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361738

Level (low/med) LOW__ Date Received 07/31/98

% Solids _84 0

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	12500			P_
7440-36-0	Antimony_	1 5		~~N~~ JBK	P_
7440-38-2	Arsenic__	4.6			P_
7440-39-3	Barium___	102			P_
7440-41-7	Beryllium	0.30		JBK	P_
7440-43-9	Cadmium__	0 14	U		P_
7440-70-2	Calcium__	6490			P_
7440-47-3	Chromium_	16.6			P_
7440-48-4	Cobalt___	9 4		JBK	P_
7440-50-8	Copper___	32.5			P_
7439-89-6	Iron____	16300		*	P_
7439-92-1	Lead____	2.9			P_
7439-95-4	Magnesium	5680			P_
7439-96-5	Manganese	402		*	P_
7439-97-6	Mercury__	0 06	U		CV
7440-02-0	Nickel___	20.8			P_
7440-09-7	Potassium	653		JBK	P_
7782-49-2	Selenium_	0 69	U		P_
7440-22-4	Silver___	0 47	U		P_
7440-23-5	Sodium___	375	B	U	P_
7440-28-0	Thallium_	1.3	U		P_
7440-62-2	Vanadium_	44 7			P_
7440-66-6	Zinc____	31.9			P_
_____	Cyanide__				NR

AC 09/28/98

Color Before BROWN____ Clarity Before: _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
ROOTS/STEMS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

983/4013
MJS359

Lab Name. SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361739

Level (low/med) LOW__ Date Received 07/31/98

% Solids _76 5

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	13200			P_
7440-36-0	Antimony_	1 5	~~B~~	~~NJ~~ JBK	P_
7440-38-2	Arsenic__	4 4			P_
7440-39-3	Barium___	76 1			P_
7440-41-7	Beryllium	0.24	~~B~~	U	P_
7440-43-9	Cadmium__	0.16	U		P_
7440-70-2	Calcium__	8430			P_
7440-47-3	Chromium_	19 9			P_
7440-48-4	Cobalt___	11 1	~~B~~	JBK	P_
7440-50-8	Copper___	33 6			P_
7439-89-6	Iron_____	16800		→	P_
7439-92-1	Lead_____	0 77			P_
7439-95-4	Magnesium	7380			P_
7439-96-5	Manganese	352		→	P_
7439-97-6	Mercury__	0 06	U		CV
7440-02-0	Nickel___	24 2			P_
7440-09-7	Potassium	610	~~B~~	JBK	P_
7782-49-2	Selenium_	0 74	U		P_
7440-22-4	Silver___	0 53	U		P_
7440-23-5	Sodium___	293	~~B~~	U	P_
7440-28-0	Thallium_	1 5	U		P_
7440-62-2	Vanadium_	50 7			P_
7440-66-6	Zinc_____	31 7			P_
	Cyanide__				NR

09/28/98

Color Before BROWN____ Clarity Before _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
TWIGS/ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314014
MJS360

Lab Name: SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No . 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361740

Level (low/med) LOW__ Date Received 07/31/98

% Solids _65 1

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	7410			P_
7440-36-0	Antimony_	1 1	U	~~N~~ J	P_
7440-38-2	Arsenic__	1.8	U		P_
7440-39-3	Barium___	123			P_
7440-41-7	Beryllium	0.18	~~B~~	U	P_
7440-43-9	Cadmium__	0.21	U		P_
7440-70-2	Calcium__	6740			P_
7440-47-3	Chromium_	9 4			P_
7440-48-4	Cobalt___	4.5	~~B~~	JBK	P_
7440-50-8	Copper___	18.9			P_
7439-89-6	Iron_____	7570		*	P_
7439-92-1	Lead_____	5.7			P_
7439-95-4	Magnesium	3050			P_
7439-96-5	Manganese	308		*	P_
7439-97-6	Mercury__	0.08	U		CV
7440-02-0	Nickel___	8.9	~~B~~	JBK	P_
7440-09-7	Potassium	363	~~B~~	JBK	P_
7782-49-2	Selenium_	0.99	U		P_
7440-22-4	Silver___	0.69	U		P_
7440-23-5	Sodium___	725	~~B~~	U	P_
7440-28-0	Thallium_	1.9	U		P_
7440-62-2	Vanadium_	20 5			P_
7440-66-6	Zinc_____	49 2			P_
_____	Cyanide__				NR

dMC 09/28/98

Color Before BROWN____ Clarity Before _____ Texture MEDIUM

Color After YELLOW___ Clarity After: CLEAR_ Artifacts YES___

Comments

ROOTS/STEMS_WERE_PRESENT_IN_THE_SAMPLE.

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

983140 15
MJS361

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No. 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361741

Level (low/med) LOW__ Date Received 07/31/98

% Solids _83 7

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11100			P
7440-36-0	Antimony_	1 4	~~B~~	~~N~~ JBK	P
7440-38-2	Arsenic__	4 0			P
7440-39-3	Barium___	68 9			P
7440-41-7	Beryllium	0 25	~~B~~	U	P
7440-43-9	Cadmium__	0 15	U		P
7440-70-2	Calcium__	5380			P
7440-47-3	Chromium_	17 5			P
7440-48-4	Cobalt___	7 6	~~B~~	JBK	P
7440-50-8	Copper___	24 0			P
7439-89-6	Iron____	17500			P
7439-92-1	Lead____	0 97			P
7439-95-4	Magnesium	6800			P
7439-96-5	Manganese	323			P
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	19 9			P
7440-09-7	Potassium	582	~~B~~	JBK	P
7782-49-2	Selenium_	0 76	U		P
7440-22-4	Silver___	0 49	U		P
7440-23-5	Sodium___	155	~~B~~	U	P
7440-28-0	Thallium_	1 4	U		P
7440-62-2	Vanadium_	43 3			P
7440-66-6	Zinc____	32 2			P
	Cyanide__				NR

LC 09/28/98

Color Before BROWN____ Clarity Before _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
PEBBLES_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

953/4022
MJS368

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No. MJS346

Matrix (soil/water) WATER Lab Sample ID· 361743

Level (low/med) LOW__ Date Received 07/31/98

% Solids __0 0

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

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	145	~~B~~	U	P_
7440-36-0	Antimony_	3.7	U		P_
7440-38-2	Arsenic__	4.9	U		P_
7440-39-3	Barium___	29.0	~~B~~	JBK	P_
7440-41-7	Beryllium	0 40	U		P_
7440-43-9	Cadmium__	0 40	U		P_
7440-70-2	Calcium__	11400			P_
7440-47-3	Chromium_	1.2	U		P_
7440-48-4	Cobalt___	2.2	U		P_
7440-50-8	Copper___	3.7	U		P_
7439-89-6	Iron_____	728			P_
7439-92-1	Lead_____	3.1			P_
7439-95-4	Magnesium	3080	~~B~~	JBK	P_
7439-96-5	Manganese	113			P_
7439-97-6	Mercury__	0 10	U	JK	CV
7440-02-0	Nickel___	3.1	U		P_
7440-09-7	Potassium	854	~~B~~	JBK	P_
7782-49-2	Selenium_	4.9	U		P_
7440-22-4	Silver___	1.5	U		P_
7440-23-5	Sodium___	1940	~~B~~	JBK	P_
7440-28-0	Thallium_	6 3	U		P_
7440-62-2	Vanadium_	3 5	U		P_
7440-66-6	Zinc_____	29 3			P_
	Cyanide__				NR

dla 09/08/98

Color Before YELLOW___ Clarity Before CLEAR_ Texture _____

Color After YELLOW___ Clarity After CLEAR_ Artifacts _____

Comments

FORM I - IN ILM04 0

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314023
MJS369

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code· INCHVT Case No.. 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water): SOIL_ Lab Sample ID 361744

Level (low/med) LOW__ Date Received 07/31/98

% Solids. _62.7

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9970			P_
7440-36-0	Antimony_	0 94	~~B~~N	~~N~~ JBK	P_
7440-38-2	Arsenic__	4 0			P_
7440-39-3	Barium__	137			P_
7440-41-7	Beryllium	0.40	~~B~~N	JKB	P_
7440-43-9	Cadmium__	0.17	U		P_
7440-70-2	Calcium__	3450			P_
7440-47-3	Chromium_	12 0			P_
7440-48-4	Cobalt__	5 8	~~B~~N	JBK	P_
7440-50-8	Copper__	20 3			P_
7439-89-6	Iron____	16200		*	P_
7439-92-1	Lead____	11 8			P_
7439-95-4	Magnesium	3010			P_
7439-96-5	Manganese	390		*	P_
7439-97-6	Mercury__	0 06	U		CV
7440-02-0	Nickel__	9 9			P_
7440-09-7	Potassium	1880		JK	P_
7782-49-2	Selenium_	1.1	U		P_
7440-22-4	Silver__	0.55	U		P_
7440-23-5	Sodium__	105	U		P_
7440-28-0	Thallium_	1 6	U		P_
7440-62-2	Vanadium_	35.8			P_
7440-66-6	Zinc____	32 1			P_
	Cyanide__				NR

Accepted 8

Color Before BROWN____ Clarity Before _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments
PEBBLES/ROOTS_WERE_PRESENT_IN_THE_SAMPLE

U S EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO
93314621
MJS370

Lab Name SEVERN_TRENT_LABORATORIES Contract. 68-D5-0063

Lab Code INCHVT Case No 26371_ SAS No _____ SDG No MJS346

Matrix (soil/water) WATER Lab Sample ID. 361745

Level (low/med) LOW__ Date Received 07/31/98

% Solids __0 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	129	B	U	P_
7440-36-0	Antimony_	3.7	U		P_
7440-38-2	Arsenic__	4.9	U		P_
7440-39-3	Barium__	20 1	~~B~~	JBK	P_
7440-41-7	Beryllium	0 40	U		P_
7440-43-9	Cadmium__	0 40	U		P_
7440-70-2	Calcium__	12000			P_
7440-47-3	Chromium_	1 2	U		P_
7440-48-4	Cobalt___	2.2	U		P_
7440-50-8	Copper___	3.7	U		P_
7439-89-6	Iron____	1520			P_
7439-92-1	Lead____	1 9	U		P_
7439-95-4	Magnesium	3880	~~B~~	JBK	P_
7439-96-5	Manganese	329			P_
7439-97-6	Mercury__	0 10	U	JK	CV
7440-02-0	Nickel___	3 1	U		P_
7440-09-7	Potassium	365	U		P_
7782-49-2	Selenium_	4 9	U		P_
7440-22-4	Silver___	1 5	U		P_
7440-23-5	Sodium___	4110	~~B~~	JBK	P_
7440-28-0	Thallium_	6 3	U		P_
7440-62-2	Vanadium_	3 5	U		P_
7440-66-6	Zinc____	6 4	B	U	P_
	Cyanide__				NR

dk 09/28/98

Color Before· YELLOW___ Clarity Before· CLEAR_ Texture· _____

Color After COLORLESS Clarity After. CLEAR_ Artifacts _____

Comments

FORM I - IN ILM04 0

U S EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

98314025
MJS371

Lab Name SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code. INCHVT Case No.. 26371_ SAS No.. _____ SDG No MJS346

Matrix (soil/water) SOIL_ Lab Sample ID 361742

Level (low/med) LOW__ Date Received 07/31/98

% Solids _73 9

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11100			P_
7440-36-0	Antimony_	1.4	~~B~~	~~N~~ JBK	P_
7440-38-2	Arsenic__	3 3			P_
7440-39-3	Barium___	104			P_
7440-41-7	Beryllium	0 30	~~B~~	u	P_
7440-43-9	Cadmium__	0.16	U		P_
7440-70-2	Calcium__	5260			P_
7440-47-3	Chromium_	16 2			P_
7440-48-4	Cobalt___	7 7	~~B~~	JBK	P_
7440-50-8	Copper___	32 2			P_
7439-89-6	Iron_____	20500		*	P_
7439-92-1	Lead____	1 2			P_
7439-95-4	Magnesium	5270			P_
7439-96-5	Manganese	261		*	P_
7439-97-6	Mercury__	0 05	U		CV
7440-02-0	Nickel___	17 1			P_
7440-09-7	Potassium	778	~~B~~	JBK	P_
7782-49-2	Selenium_	0 93	U		P_
7440-22-4	Silver___	0 54	U		P_
7440-23-5	Sodium___	204	~~B~~	u	P_
7440-28-0	Thallium_	1 5	U		P_
7440-62-2	Vanadium_	48 0			P_
7440-66-6	Zinc_____	25 4			P_
_____	Cyanide__				NR

dl 09/28/98

Color Before BROWN____ Clarity Before _____ Texture FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts YES___

Comments

ROOTS/STEMS_WERE_PRESENT_IN_THE_SAMPLE

MEMORANDUM

DATE	January 13, 1999
TO	Paul Cooley, Project Manager, E & E, Anchorage, AK
FROM	Mark Woodke, START-Chemist, E & E, Seattle, WA MW
SUBJ	**Inorganic Data Quality Assurance Summary Check, Canol Pump Station J Site, Tanacross-Northway, Alaska**
REF	TDD 97-09-0013 PAN BI[illegible]SIDM

The data quality assurance summary check of 3 water and 5 soil samples collected from the Canol Pump Station J site in Tanacross-Northway, Alaska, has been completed Target Analyte List (TAL) Metals analyses (EPA CLP SOW ILM04 0) were performed by Intertek Testing Services Laboratory, Colchester, Vermont

No discrepancies were noted

"B" qualifiers, applied by the laboratory to indicate a result greater than the Instrument Detection Limit but less than the Contract Required Detection Limit (CRDL), were changed to "JBK" by the secondary reviewer to indicated that the results are estimated quantities below the CRDL with an unknown bias

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

IN REPLY REFER TO: OEA-095

October 7, 1998

MEMORANDUM

SUBJECT: Canol Pump Station J, Site Investigation CLP Metals Analysis, Data Validation
Case: 26371
SDG: MJS367

FROM: Laura Castrilli, Chemist
Quality Assurance and Data Unit, OEA

TO: David Bennett, Site Assessment Manager
Office of Environmental Cleanup

CC: Bruce Woods, Region 10 CLP TPO
Paul Cooley, Ecology & Environment

The following is a validation of ICP-AES and mercury analyses of five soil/sediment samples and three water samples from the Canol Pump Station J project. The analyses were performed following the USEPA Contract Laboratory Program Statement of Work for Inorganics Analysis Multi-media, Multi-Concentration, ILM04.0. Analyses were conducted by Intertek Testing Services Laboratory of Colchester, Vermont. This validation was conducted for the following samples:

MJS367	MJS374	MJS376	MJS378
MJS373	MJS375	MJS377	MJS379

Data Qualifications

The following comments refer to the Intertek Laboratory's performance in meeting quality control specifications outlined in the *CLP Statement of Work (CLP-SOW) for Inorganic Analysis, rev. ILM04.0*. The comments presented herein are based on the information provided for the review.

1.0 Timeliness - Acceptable

The technical (40 CFR part 136) holding time from the date of collection for mercury in water is 28 days. The holding time for the remaining metals in water is 180 days. The samples were collected on 07/28/98. Mercury analyses were completed on 08/13/98. ICP-AES analyses were completed on 08/21/98.

2.0 Sample Preparation - Acceptable

The samples were prepared for mercury analysis on 08/12/98 (water) and 08/06/98 (soil). The samples were prepared for ICP-AES analysis on 08/04/98.

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3.0 Calibrations/Calibration Verifications - Acceptable

The samples were analyzed for mercury by CVAAS on 08/13/98 (waters) and 08/07/98 (soils). Initial calibration included one blank and five standards. The curves were linear with correlation coefficients greater than 0.995.

The samples were analyzed by ICP-AES on 08/20/98 (aluminum, calcium, iron, lead, selenium, and zinc) and 08/21/98 (remaining ICP-AES analytes). The instruments were standardized each day of analysis according to the analytical method using one blank and a single calibration standard for each element.

All ICP-AES and CVAAS (mercury) calibrations were performed as required and met the acceptance criteria; therefore, no qualification was made on this basis.

Calibration verification samples are required before and after sample analysis and after every 10 samples during analysis. Mercury recoveries must be within 80-120%. Other metal recoveries must be within 90-110%.

All ICP-AES and CVAAS (mercury) calibration verification (initial and continuing) samples met the recovery criteria. Calibration verification samples were analyzed after every ten samples. No qualification was made based on ICP-AES or CVAAS calibration verification.

4.0 Laboratory Control Samples - Acceptable

Laboratory Control samples (not required for water mercury analyses) are digested and analyzed along with the samples to verify the efficiency of laboratory procedures. All recoveries met the acceptance criteria for control samples.

5.0 Blanks -

Procedural blanks were prepared with the samples to show potential contamination from the digestion or analytical procedure. If an analyte was found in the associated blank, the sample results were qualified if the analyte concentration was less than five times the analytical value in the blank.

The procedural blank (PB) results met the acceptance criteria; with the exception of zinc (3.17 ug/L in the PB associated with water samples and 4.53 ug/L in the PB associated with soil/sediment samples). ICP-AES and CVAAS continuing calibration blanks (CCBs) surrounding the samples reported in this SDG resulted in detectable levels of aluminum (109-130 ug/L), calcium (84-105 ug/L), magnesium (-228 ug/L), manganese (-0.9 ug/L), and mercury (-0.13 ug/L).

Associated calcium results were greater than five times the associated blank level (or were already undetected) and were not qualified on this basis. Aluminum in samples MJS374, MJS378, and MJS379 was qualified `U', undetected due to blank contamination. Magnesium and manganese in sample MJS379 was qualified `UJ', estimated detection

limit, due to negative blank contamination with an absolute value greater than the respective IDL. Mercury in samples MJS374, MJS378, and MJS379 was qualified `UJ', estimated detection limit due to negative blank contamination. Zinc in samples MJS374, MJS378, and MJS379 was qualified `U', undetected due to blank contamination.

6.0 ICP-AES Interference Check Sample - Acceptable

The interference check sample (ICS) is analyzed by ICP-AES to verify interelement and background correction factors. Analysis is required at the beginning and end of each sample analysis run and recoveries must be between 80% and 120%. All ICS recoveries were within the recovery criterion.

A couple of analytes not present in the ICS solution A (interfering analytes without analytes of interest) had positive results and in some cases, negative results with absolute values greater than the instrumental detection limit. This could result in biased data in samples that have similar levels of interfering analytes. The samples' raw data was checked. None of the samples had interfering levels of analytes, therefore no data was qualified based on interference.

7.0 **Duplicate Analysis** -

Duplicate analysis was done on soil sample MJS367. The laboratory did not analyze a water sample in duplicate. Therefore, the duplicate results for water sample MJS368 in the second sample delivery group for this project was used to evaluate analytical duplicate precision for the water samples in this SDG. Soil duplicate results were within the ±35% Relative Percent Difference (RPD) or ±2xCRDL criteria for soil results < 5 times the CRDL criteria; with the exception of aluminum (56%), iron (40%), and lead (outside the ±2xCRDL criteria). Water duplicate results were within the ±20% Relative Percent Difference (RPD) or ±CRDL criteria for water results < 5 times the CRDL criteria. Soil/sediment aluminum, iron, and lead results were qualified `J', estimated based on duplicate precision. Laboratory `*' qualifiers were removed from the soil/sediment chromium results as the lab used the stricter water criteria to qualify results.

8.0 Field Duplicate Analysis - Not Applicable

Field duplicate analysis for samples in this SDG was not indicated in the field collection documentation.

9.0 Matrix Spike Analysis -

Matrix spike sample analyses are done to provide information about the effect of the sample matrix on digestion and measurement methods. Matrix spike recovery must be within the limits of 75 - 125%.

Matrix spike analysis was done on soil sample MJS367. The laboratory did not analyze a matrix spike in the water sample matrix. Therefore, the matrix spike results for water sample MJS368 in the second sample delivery group for this project was used to evaluate analytical matrix spike recovery for the water samples in this SDG. All matrix spike

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recoveries were within the required QC limits; with the exception of antimony (49% for the soil matrix). All antimony soil/sediment results were qualified `J', estimated due to low matrix spike recovery. Low bias is suspected for the soil/sediment antimony results.

10.0 Graphite Furnace Atomic Absorption Spec (GFAAS) QC - Not Applicable -

GFAAS was not used for the analysis of these samples.

11.0 ICP-AES Serial Dilution - Acceptable

Soil sample MJS367 and water sample MJS374 were analyzed by ICP-AES serial dilution to check for potential interferences. All analytes which exceeded the minimum concentration criterion (50 times the IDL) agreed within the 10%D criteria; therefore no results were qualified on this basis.

12.0 Detection Limits - Acceptable

Sample results which fall below the instrument detection limit (IDL) are assigned the value of the instrument detection limit and the 'U' qualifier is attached.

Contract Required Detection Limit (CRDL) standards are required to demonstrate a linear calibration curve near the CRDL. CRDL standards were run at the required frequency.

13.0 Overall Assessment of the Data

This validation of the data is based on the criteria outlined in the *National Functional Guidelines for Inorganic Data Review (02/94)*. Approximately 16.8% of the data was qualified based on blank contamination, duplicate precision, or matrix spike recovery. The data as qualified is acceptable for all purposes.

Below are the definitions for the National Functional Guidelines for Inorganic Data Review (02/94) qualifiers used when validating/qualifying data from Inorganic analysis.

DATA QUALIFIERS

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present.)

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

At the request of the site assessment manager, bias for the data was qualitatively assessed and the following additional qualifiers were applied:

L - Low bias.

H - High bias.

K - Unknown Bias.

B - The result is estimated because the concentration is below the Contract Required Detection Limits (CRDLs). Note: this is a concentration qualifier automatically added by CLP laboratories when reporting inorganic results below the CRDL. This qualifier can be located in the column headed by `C' on the Form I. The `Q' qualifier added to organic data is equivalent to this laboratory `B' concentration qualifier. Laboratory `B' qualifiers were removed whenever a result was qualified as `U' undetected.

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJS367

Lab Name: SEVERN_TRENT_LABORATORIES Contract: 68-D5-0063

Lab Code: INCHVT Case No.. 26371_ SAS No. _____ SDG No.: MJS367

Matrix (soil/water): SOIL_ Lab Sample ID: 361751

Level (low/med): LOW__ Date Received 07/31/98

% Solids. _29.4

Concentration Units (ug/L or mg/kg dry weight). MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	4870		*JK	P_
7440-36-0	Antimony_	1.9	U	~~N~~ JK	P_
7440-38-2	Arsenic__	2.6	U		P_
7440-39-3	Barium__	92.9	~~E~~	JBK	P_
7440-41-7	Beryllium	0.21	U		P_
7440-43-9	Cadmium__	0.21	U		P_
7440-70-2	Calcium__	16800			P_
7440-47-3	Chromium_	7.3		*	P_
7440-48-4	Cobalt___	4.3	~~E~~	JBK	P_
7440-50-8	Copper___	19 5			P_
7439-89-6	Iron____	7890		*JK	P_
7439-92-1	Lead____	6.5		*JK	P_
7439-95-4	Magnesium	1700	~~E~~	JBK	P_
7439-96-5	Manganese	749			P_
7439-97-6	Mercury__	0.15	U		CV
7440-02-0	Nickel___	6 3	~~E~~	JBK	P_
7440-09-7	Potassium	191	U		P_
7782-49-2	Selenium_	2.0	U		P_
7440-22-4	Silver___	0.78	U		P_
7440-23-5	Sodium___	188	U		P_
7440-28-0	Thallium_	3.3	U		P_
7440-62-2	Vanadium_	19.8	~~E~~	JBK	P_
7440-66-6	Zinc____	15 9			P_
	Cyanide__				NR

Lee 10/01/98

Color Before BROWN____ Clarity Before: _____ Texture. FINE__

Color After YELLOW___ Clarity After CLEAR_ Artifacts: YES___

Comments

TWIGS_AND_ROOTS_PRESENT_IN_SAMPLE

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MJS373

Lab Name: SEVERN_TRENT_LABORATORIES Contract 68-D5-0063

Lab Code: INCHVT Case No.: 26371_ SAS No. _____ SDG No . MJS367

Matrix (soil/water) SOIL_ Lab Sample ID 361752

Level (low/med): LOW__ Date Received. 07/31/98

% Solids _50.8

. Concentration Units (ug/L or mg/kg dry weight). MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	14700		*JK	P_
7440-36-0	Antimony_	2.1	B	NJBK	P_
7440-38-2	Arsenic__	5 4			P_
7440-39-3	Barium___	143			P_
7440-41-7	Beryllium	0.11	U		P_
7440-43-9	Cadmium__	0 11	U		P_
7440-70-2	Calcium__	8020			P_
7440-47-3	Chromium_	23 4		*	P_
7440-48-4	Cobalt___	12.3	B	JBK	P_
7440-50-8	Copper___	33 9			P_
7439-89-6	Iron_____	25800		*JK	P_
7439-92-1	Lead_____	1.1		*JK	P_
7439-95-4	Magnesium	6480			P_
7439-96-5	Manganese	646			P_
7439-97-6	Mercury__	0.09	U		CV
7440-02-0	Nickel___	19.8			P_
7440-09-7	Potassium	506	B	JBK	P_
7782-49-2	Selenium_	1.1	U		P_
7440-22-4	Silver___	0.42	U		P_
7440-23-5	Sodium___	102	U		P_
7440-28-0	Thallium_	2.7	B	JBK	P_
7440-62-2	Vanadium_	63 8			P_
7440-66-6	Zinc_____	51 4			P_
_____	Cyanide__				NR

10/01/98

Color Before BROWN____ Clarity Before: _____ Texture FINE__

Color After YELLOW___ Clarity After: CLEAR_ Artifacts: YES___

Comments:
TWIGS_AND_ROOTS_PRESENT_IN_SAMPLE

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJS374

Lab Name SEVERN_TRENT_LABORATORIES Contract: 68-D5-0063

Lab Code INCHVT Case No.: 26371_ SAS No. _____ SDG No.· MJS367

Matrix (soil/water) WATER Lab Sample ID: 361753

Level (low/med): LOW__ Date Received: 07/31/98

% Solids __0 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	85.6	~~B~~	U	P_
7440-36-0	Antimony_	3.7	U		P_
7440-38-2	Arsenic__	4.9	U		P_
7440-39-3	Barium___	25.0	~~B~~	JBK	P_
7440-41-7	Beryllium	0.40	U		P_
7440-43-9	Cadmium__	0 40	U		P_
7440-70-2	Calcium__	16100			P_
7440-47-3	Chromium_	1.2	U		P_
7440-48-4	Cobalt___	2.2	U		P_
7440-50-8	Copper___	3.7	U		P_
7439-89-6	Iron_____	1030			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	5180			P_
7439-96-5	Manganese	745			P_
7439-97-6	Mercury__	0.10	U	JK	CV
7440-02-0	Nickel___	3.1	U		P_
7440-09-7	Potassium	500	~~B~~	JBK	P_
7782-49-2	Selenium_	3 8	U		P_
7440-22-4	Silver___	1.5	U		P_
7440-23-5	Sodium___	4540	~~B~~	JBK	P_
7440-28-0	Thallium_	6 3	U		P_
7440-62-2	Vanadium_	3 5	U		P_
7440-66-6	Zinc_____	8 8	~~B~~	U	P_
	Cyanide__				NR

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Color Before: YELLOW___ Clarity Before: CLEAR_ Texture. _____

Color After COLORLESS Clarity After: CLEAR_ Artifacts _____

Comments

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJS375

Lab Name: SEVERN_TRENT_LABORATORIES Contract: 68-D5-0063

Lab Code: INCHVT Case No.: 26371_ SAS No _____ SDG No : MJS367

Matrix (soil/water): SOIL_ Lab Sample ID 361754

Level (low/med): LOW__ Date Received: 07/31/98

% Solids _89 4

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	10100		*JK	P_
7440-36-0	Antimony_	1 2	~~B~~	~~N~~ JBK	P_
7440-38-2	Arsenic__	2.5			P_
7440-39-3	Barium__	94 5			P_
7440-41-7	Beryllium	0.13	~~B~~	JBK	P_
7440-43-9	Cadmium__	0 08	U		P_
7440-70-2	Calcium__	2010			P_
7440-47-3	Chromium_	9.2		*	P_
7440-48-4	Cobalt___	5.9	~~B~~	JBK	P_
7440-50-8	Copper___	9 4			P_
7439-89-6	Iron____	14800		*JK	P_
7439-92-1	Lead____	3.6		*JK	P_
7439-95-4	Magnesium	2560			P_
7439-96-5	Manganese	307			P_
7439-97-6	Mercury__	0.05	U		CV
7440-02-0	Nickel___	6.9	~~B~~	JBK	P_
7440-09-7	Potassium	1490			P_
7782-49-2	Selenium_	0.79	U		P_
7440-22-4	Silver___	0.31	U		P_
7440-23-5	Sodium___	74.6	U		P_
7440-28-0	Thallium_	1.4	~~B~~	JBK	P_
7440-62-2	Vanadium_	28.1			P_
7440-66-6	Zinc____	33.6			P_
_____	Cyanide__				NR

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Color Before: BROWN____ Clarity Before: _____ Texture MEDIUM

Color After YELLOW___ Clarity After: CLEAR_ Artifacts YES___

Comments.
PEBBLES_AND_ROOTS_PRESENT_IN_SAMPLE

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MJS376

Lab Name. SEVERN_TRENT_LABORATORIES Contract. 68-D5-0063

Lab Code: INCHVT Case No 26371_ SAS No. _____ SDG No.. MJS367

Matrix (soil/water): SOIL_ Lab Sample ID 361755

Level (low/med). LOW__ Date Received: 07/31/98

% Solids. _96.2

Concentration Units (ug/L or mg/kg dry weight) · MG/KG

CAS No	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5040		*JK	P_
7440-36-0	Antimony_	0.72	U	~~N~~JL	P_
7440-38-2	Arsenic__	1.9	~~B~~	JBK	P_
7440-39-3	Barium___	69 9			P_
7440-41-7	Beryllium	0.25	~~B~~	JBK	P_
7440-43-9	Cadmium__	0.08	U		P_
7440-70-2	Calcium__	1280			P_
7440-47-3	Chromium_	1.3	~~B~~	*JBK	P_
7440-48-4	Cobalt___	2.2	~~B~~	JBK	P_
7440-50-8	Copper___	3.4	~~B~~	JBK	P_
7439-89-6	Iron_____	9640		*JK	P_
7439-92-1	Lead_____	5.6		*JK	P_
7439-95-4	Magnesium	1210			P_
7439-96-5	Manganese	328			P_
7439-97-6	Mercury__	0.04	U		CV
7440-02-0	Nickel___	1.1	~~B~~	JBK	P_
7440-09-7	Potassium	1560			P_
7782-49-2	Selenium_	0.74	U		P_
7440-22-4	Silver___	0.29	U		P_
7440-23-5	Sodium___	69.9	U		P_
7440-28-0	Thallium_	1.2	U		P_
7440-62-2	Vanadium_	6.9	~~B~~	JBK	P_
7440-66-6	Zinc_____	23.5			P_
	Cyanide__				NR

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Color Before: BROWN____ Clarity Before: _____ Texture. MEDIUM

Color After YELLOW___ Clarity After: CLEAR_ Artifacts YES___

Comments.

PEBBLES_PRESENT_IN_SAMPLE

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MJS377

Lab Name SEVERN_TRENT_LABORATORIES Contract· 68-D5-0063

Lab Code INCHVT Case No. 26371_ SAS No _____ SDG No.: MJS367

Matrix (soil/water): SOIL_ Lab Sample ID. 361756

Level (low/med)· LOW__ Date Received: 07/31/98

% Solids _42.1

Concentration Units (ug/L or mg/kg dry weight) MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11000		*JK	P
7440-36-0	Antimony	1.6	U	~~N~~ JL	P
7440-38-2	Arsenic	8.8			P
7440-39-3	Barium	130			P
7440-41-7	Beryllium	0.18	~~B~~	JBK	P
7440-43-9	Cadmium	0 18	U		P
7440-70-2	Calcium	6560			P
7440-47-3	Chromium	18 0		*	P
7440-48-4	Cobalt	6 5	~~B~~	JBK	P
7440-50-8	Copper	23 4			P
7439-89-6	Iron	21000		*JK	P
7439-92-1	Lead	2.5		*JK	P
7439-95-4	Magnesium	3140			P
7439-96-5	Manganese	281			P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	11.9	~~B~~	JBK	P
7440-09-7	Potassium	375	~~B~~	JBK	P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	0.66	U		P
7440-23-5	Sodium	158	U		P
7440-28-0	Thallium	2 8	U		P
7440-62-2	Vanadium	76 0			P
7440-66-6	Zinc	27 7			P
	Cyanide				NR

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Color Before BROWN____ Clarity Before: _____ Texture FINE__

Color After YELLOW___ Clarity After. CLEAR_ Artifacts YES___

Comments
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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MJS378

Lab Name SEVERN_TRENT_LABORATORIES Contract: 68-D5-0063

Lab Code. INCHVT Case No.: 26371_ SAS No . _____ SDG No. MJS367

Matrix (soil/water): WATER Lab Sample ID 361757

Level (low/med): LOW__ Date Received: 07/31/98

% Solids: __0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	129	~~B~~	U	P_
7440-36-0	Antimony_	3.7	U		P_
7440-38-2	Arsenic__	4.9	U		P_
7440-39-3	Barium___	19.5	~~B~~	JBK	P_
7440-41-7	Beryllium	0.40	U		P_
7440-43-9	Cadmium__	0.40	U		P_
7440-70-2	Calcium__	10200			P_
7440-47-3	Chromium_	1.2	U		P_
7440-48-4	Cobalt___	2.2	U		P_
7440-50-8	Copper___	3.7	U		P_
7439-89-6	Iron_____	995			P_
7439-92-1	Lead_____	1.9	U		P_
7439-95-4	Magnesium	2800	~~B~~	JBK	P_
7439-96-5	Manganese	292			P_
7439-97-6	Mercury__	0.10	U	JK	CV
7440-02-0	Nickel___	3.1	U		P_
7440-09-7	Potassium	365	U		P_
7782-49-2	Selenium_	3.8	U		P_
7440-22-4	Silver___	1.5	U		P_
7440-23-5	Sodium___	2820	~~B~~	JBK	P_
7440-28-0	Thallium_	6.3	U		P_
7440-62-2	Vanadium_	3.5	U		P_
7440-66-6	Zinc_____	13.7	~~B~~	U	P_
_____	Cyanide__				NR

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Color Before: YELLOW___ Clarity Before CLEAR_ Texture. _____

Color After: COLORLESS Clarity After· CLEAR_ Artifacts: _____

Comments·

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO

MJS379

Lab Name SEVERN_TRENT_LABORATORIES Contract. 68-D5-0063

Lab Code. INCHVT Case No 26371_ SAS No. _____ SDG No.. MJS367

Matrix (soil/water): WATER Lab Sample ID 361758

Level (low/med) LOW__ Date Received 07/31/98

% Solids __0 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	54.4	~~B~~	U	P_
7440-36-0	Antimony_	3.7	U		P_
7440-38-2	Arsenic__	4.9	U		P_
7440-39-3	Barium___	9 9	U		P_
7440-41-7	Beryllium	0.40	U		P_
7440-43-9	Cadmium__	0 40	U		P_
7440-70-2	Calcium__	74.5	U		P_
7440-47-3	Chromium_	1.2	U		P_
7440-48-4	Cobalt___	2.2	U		P_
7440-50-8	Copper___	3.7	U		P_
7439-89-6	Iron____	68.1	U		P_
7439-92-1	Lead____	1 9	U		P_
7439-95-4	Magnesium	210	U	JK	P_
7439-96-5	Manganese	0 80	U	JK	P_
7439-97-6	Mercury__	0.10	U	JK	CV
7440-02-0	Nickel___	3 1	U		P_
7440-09-7	Potassium	365	U		P_
7782-49-2	Selenium_	3.8	U		P_
7440-22-4	Silver___	1.5	U		P_
7440-23-5	Sodium___	360	U		P_
7440-28-0	Thallium_	6.3	U		P_
7440-62-2	Vanadium_	3.5	U		P_
7440-66-6	Zinc____	5 4	~~B~~	U	P_
_____	Cyanide__		_		NR

Exhibit 8

Color Before COLORLESS Clarity Before. CLEAR_ Texture _____

Color After COLORLESS Clarity After CLEAR_ Artifacts. _____

Comments

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Seattle, Washington 98104
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MEMORANDUM

DATE. November 2, 1998

TO: Paul Cooley, Project Manager, E & E, Anchorage, AK

FROM: Alasdair Turner, START-Chemist, E & E, Seattle, WA

THRU Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Organic Data Quality Assurance Review, Canol Pump Station Site, Tanacross-Northway, Alaska**

REF: TDD: 97-09-0013 PAN. BI1101SIDM

The data quality assurance review of 27 soil samples and 5 water samples collected from the Canol Pump Station J site located in Tanacross-Northway, Alaska, has been completed. Analysis for Diesel Range Organics and Residual Range Organics (ADEC Methods AK 102/103) was performed by OnSite Environmental, Redmond, Washington.

Soil:

98314000	98314001	98314002	98314003	98314031	98314004
98314005	98314006	98314007	98314008	98314009	98314010
98314011	98314012	98314013	98314014	98314015	98314016
98314017	98314018	98314019	98314021	98314023	98314025
98314027	98314029	98314030			

Water:

98314022	98314024	98314032	98314047	98314028

<u>Data Qualifications</u>:

1. **Sample Holding Times: Acceptable.**

All samples were maintained at 4°C (± 2°C) The samples were collected on July 27 and 28, 1998, and were analyzed by August 10, 1998, therefore meeting QC criteria of less than 14 days between collection and analysis for preserved soil and water samples

2. **Initial Calibration: Acceptable.**

A six-point initial calibration was performed with the correlation coefficient greater than 0 995 The calculations were verified as correct.

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3. **Continuing Calibration: Acceptable.**

Calculations were verified as correct All percent differences (% Ds) were ≤ the control limit of 25 0 %

4. **Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's

5. **Blanks: Acceptable.**

A method blank was analyzed at the beginning of each matrix No target analytes were detected in any associated blanks above the reporting limits

6. ***System Monitoring Compounds (SMC): Acceptable.***

All recoveries of the system monitoring compounds (surrogates) were greater than 10 % and within QC criteria of 50 % to 150 %.

7. **Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory

8. **Duplicates: Acceptable.**

Samples 98314005 and 98314029 underwent duplicate analysis for the soil matrix, and sample 98314028 underwent duplicate analysis for the water matrix All Relative Percent Differences (RPDs) were within 25 %

9. ***Laboratory Control Sample: Acceptable.***

The laboratory control sample recoveries were within the control limits provided

10. **Target Compound Identification: Acceptable.**

All target compounds reported by the laboratory met identification criteria

11. **Target Compound Quantitation and CRQLs: Acceptable.**

Concentrations of all reported analytes were correctly calculated

12. **Laboratory Contact: Not Required.**

No laboratory contact was required

13. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), ADEC Methods AK 102/103 and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 540/R-94/012) Based upon the information provided, the data are acceptable for use with the above stated data qualifications

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected The associated numerical value is the estimated sample quantitation limit

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314022

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) WATER Lab Sample ID 07-184-1

Lab File ID 0807319

Date Received 7/30/98

Sample Volume 1000 0 ml Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec n/a Instrument Response DRO 87 1 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 0 (ppm)

CAS No	Compound	Concentration Units (mg/L or mg/Kg) mg/L	Q
	Diesel Range Organics	0 87	

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FORM I NWTPH-G

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314021

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-7

Lab File ID 0807332

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 4

% Moisture not dec 69 Instrument Response DRO 5728 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 277 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	30000	
	Residual Range Organics	1400	

FORM I NWTPH-G 3/90

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314029

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-8

Lab File ID 0807324

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 11 Instrument Response DRO 24 4 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 97 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	11	U
	Residual Range Organics	44	

FORM I NWTPH-G 3/90

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314030

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-9

Lab File ID 0807320

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 4 Instrument Response DRO 0 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 28 6 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	10	U
	Residual Range Organics	21	U

FORM I NWTPH-G 3/90

AJ 11/1/98

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314023

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-10

Lab File ID 0807338

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 21 Instrument Response DRO 88 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 533 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	45	-
	Residual Range Organics	270	

FORM I NWTPH-G 3/90

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314031

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No. BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-11

Lab File ID 0807338

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 61 Instrument Response DRO 144 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 779 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	150	
	Residual Range Organics	800	

FORM I NWTPH-G 3/90

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314025

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-12

Lab File ID 0807337

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 24 Instrument Response DRO 84 4 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 335 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	44	
	Residual Range Organics	180	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314027

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-13

Lab File ID 0807336

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 87 Instrument Response DRO 107 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 637 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	330	
	Residual Range Organics	2000	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314024

Lab Name ONSITE ENVIRONMENTAL Contract. E & E

Project No BI13 Group 07-114

Matrix (soil/water) WATER Lab Sample ID 07-184-15

Lab File ID 0805321

Date Received 7/30/98

Sample Volume 1000 0 ml Date Analyzed 8/5/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec n/a Instrument Response DRO 4 19 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 0 (ppm)

CAS No	Compound	Concentration Units (mg/L or mg/Kg) mg/L	Q
	Diesel Range Organics	0 1	U

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314032

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) WATER Lab Sample ID 07-184-16

Lab File ID 0805322

Date Received 7/30/98

Sample Volume 1000 0 ml Date Analyzed 8/5/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec n/a Instrument Response DRO 9 29 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 0 (ppm)

CAS No	Compound	Concentration Units (mg/L or mg/Kg) mg/L	Q
	Diesel Range Organics	0 1	U

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314047

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) WATER Lab Sample ID 07-184-17

Lab File ID 0805323

Date Received 7/30/98

Sample Volume 1000 0 ml Date Analyzed 8/5/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec n/a Instrument Response DRO 0 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 0 (ppm)

CAS No	Compound	Concentration Units (mg/L or mg/Kg) mg/L	Q
	Diesel Range Organics	0 1	U

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SAMPLE NO

98314028

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) WATER Lab Sample ID 07-184-18

Lab File ID 0805324

Date Received 7/30/98

Sample Volume 1000 0 ml Date Analyzed 8/5/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec n/a Instrument Response DRO 0 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 0 (ppm)

CAS No	Compound	Concentration Units (mg/L or mg/Kg) mg/L	Q
	Diesel Range Organics	0 1	U

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314000

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-19

Lab File ID 0810309

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 10

% Moisture not dec 48 Instrument Response DRO 880 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 421 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	6800	-
	Residual Range Organics	3200	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314001

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-20

Lab File ID 0807344

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 10

% Moisture not dec 40 Instrument Response DRO 3180 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 270 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	21000	
	Residual Range Organics	1800	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314002

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-21

Lab File ID 0810342

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 20

% Moisture not dec. 22 Instrument Response DRO 570 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 4343 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	5800	
	Residual Range Organics	45000	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314003

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-22

Lab File ID 0807345

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 7 Instrument Response DRO 176 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 1426 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	76	
	Residual Range Organics	610	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314004

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-23

Lab File ID 0810334

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 7 Instrument Response DRO 32 8 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 214 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	14	
	Residual Range Organics	92	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314005

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-24

Lab File ID 0807339

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 3 Instrument Response DRO 4490 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 273 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	1900	
	Residual Range Organics	110	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314006

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-25

Lab File ID 0810330

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 10

% Moisture not dec. 6 Instrument Response DRO 577 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 1986 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	2500	
	Residual Range Organics	8500	

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SAMPLE NO

98314007

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-26

Lab File ID 0810336

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 20

% Moisture not dec 33 Instrument Response DRO 5613 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 1251 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	67000	
	Residual Range Organics	15000	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314010

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-27

Lab File ID 0810305

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 30 Instrument Response DRO 368 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 100 (mL) Instrument Response RRO 1884 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	2100	
	Residual Range Organics	11000	

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SAMPLE NO

98314011

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix. (soil/water) SOIL Lab Sample ID 07-184-28

Lab File ID 0807331

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 11 Instrument Response DRO 42 7 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 237 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	19	
	Residual Range Organics	110	

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SAMPLE NO

98314008

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-29

Lab File ID 0810333

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 5 Instrument Response DRO 632 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 462 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	270	
	Residual Range Organics	190	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314009

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-30

Lab File ID 0807333

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 22 Instrument Response DRO 3854 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 355 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	2000	
	Residual Range Organics	180	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314016

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-31

Lab File ID 0807323

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 8 Instrument Response DRO 17 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 49 1 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	11	U
	Residual Range Organics	22	U

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314017

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-32

Lab File ID 0807321

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 4 Instrument Response DRO 0 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 14 3 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	10	U
	Residual Range Organics	21	U

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314018

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-33

Lab File ID 0807322

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 5 Instrument Response DRO 845 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 65 2 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	360	
	Residual Range Organics	27	

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SAMPLE NO

98314019

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-34

Lab File ID 0810332

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 16 Instrument Response DRO 561 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 133 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	270	
	Residual Range Organics	63	

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AK102/103 DRO/RRO ANALYSIS DATA SHEET

SAMPLE NO

98314012

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-35

Lab File ID 0807335

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 23 Instrument Response DRO 49 8 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 347 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	26	
	Residual Range Organics	180	

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SAMPLE NO

98314013

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix. (soil/water) SOIL Lab Sample ID 07-184-36

Lab File ID 0807328

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level. (low/med) MED Dilution Factor 1

% Moisture not dec 15 Instrument Response DRO 10 9 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 47 4 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	12	U
	Residual Range Organics	24	U

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SAMPLE NO

98314014

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-37

Lab File ID 0810307

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 34 Instrument Response DRO 87 4 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 648 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	53	
	Residual Range Organics	390	

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SAMPLE NO

98314015

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-114

Matrix (soil/water) SOIL Lab Sample ID 07-184-38

Lab File ID 0807327

Date Received 7/30/98

Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 15 Instrument Response DRO 1 7 (ppm)

GC Column DB-5 ID 0 32 (mm)

Final Extract Volume 10 (mL) Instrument Response RRO 25 2 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Diesel Range Organics	12	U
	Residual Range Organics	24	U

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MEMORANDUM

DATE. November 4, 1998

TO: Paul Cooley, Project Manager, E & E, Anchorage, AK

FROM. Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ **Organic Data Quality Assurance Summary Check, Canol Pump Station J, Tanacross-Northway, Alaska**

REF. TDD: 97-09-0013 PAN BI1301SIDM

The data quality assurance summary check of 23 soil and 6 water samples collected from the Canol Pump Station J site located in Tanacross-Northway, Alaska, has been completed. Organic analyses (EPA Methods 8260A, 8270B, and 8081) was performed at the EPA Manchester Environmental Laboratory, Port Orchard, WA.

The following discrepancies were noted:

The fluorene, dibenzofuran, and 2-propanone results in sample 98314001 were qualified as estimated quantities without an explanation

The pyrene result in sample 98314002 was qualified as an estimated quantity without an explanation.

The bromochloromethane result in sample 98314013 was qualified as an estimated quantity without an explanation

The semivolatile results in sample 98314002 associated with internal standards five and six should have been qualified as estimated quantities but were not qualified

All of the above discrepancies were resolved and corrections were made as appropriate in a revised validation memorandum

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: OEA-095

September 28, 1998

MEMORANDUM

Subject: Data Validation Report for the Volatile Organic (VOAs), Semi-volatile Organic (BNAs) and Pesticide/Polychlorinated Biphenyls (Pest/PCBs) Analysis of Samples from Canol Pump Station J Site Investigation

From: Ginna Grepo-Grove, Chemist
Quality Assurance & Data Unit, OEA

To: Dave Bennett, Site Manager
Office of Environmental Cleanup

CC: David Byers, Ecology and Environment

The quality assurance (QA) review of 23 soil and 6 water samples collected from the above referenced site has been completed. These sample were analyzed for VOAs, BNAs and Pest/PCBs in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analyses (OLM03.2) and USEPA SW-846 Methods 8260A, 8270B and 8081 by the Environmental Services Assistance Teams (ESAT) in Manchester Environmental Laboratory, Port Orchard, WA. The following samples were evaluated in this validation report:

98314000	98314001	98314002	98314003
98314004	98314005	98314006	98314007
98314008	98314009	98314010	98314011
98314012	98314013	98314014	98314015
98314021	98314022	98314023	98314024
98314025	98314027	98314028	98314029
98314030	98314031	98314032	98314034
98314047			

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in

meeting the Quality Control Specifications outlined in the USEPA CLP SOW for Organic Analysis (OLM03.2), and the USEPA CLP National Functional Guidelines for Organic Data Review (2/94).

The conclusions presented herein are based on the information provided for the review.

Holding Time

All of the samples met the technical (40 CFR 136) required holding times with the exception of the VOA analysis of samples 98314021 and 98314029. These samples were analyzed for volatile organics 16 days from sample collection date. The associated results for these two samples were qualified as estimated, "J/UJ". All of the other samples for VOAs met the 14 day analytical holding time. All of the extractable samples were analyzed for BNA , pest and PCBs within 20 days of extraction date. None of the data were qualified on this basis. The Holding Times Summary listing the pertinent sample collection, receipt and analysis dates is attached at the end of this validation report.

Instrument Performance - Acceptable

Two GC/MS systems (Voyager and Picard) and one GC system were used for the analyses. All of the systems met the SOW specified technical acceptance criteria prior to sample analyses i.e, tuning and GC/MS performance checks, resolutions, retention times, response factors and calibrations. The systems remained stable throughout the course of analyses. Instrument blanks were all clean and there were no indications of carry-over.

Initial Calibrations

One initial calibration was performed for each matrix and each suite of parameters analyzed. The frequency of analysis, the percent relative standard deviations (%RSDs), the response factors, correlation coefficients (r), resolution checks, percent breakdowns and analytical sequences met the required criteria for all of the target compounds analyzed in the initial calibrations with the following exceptions:

- VOAs - The %RSD for methylene chloride (60.6%) in the soil initial calibration performed on 7/31/98 exceeded the control limits (30%). Recalculation of the %RSD indicated that both low and high end of the curve were not linear. Due to possible bias, the methylene chloride associated with this curve were qualified as estimated, "J/UJ".

- VOAs - The mean response factor for acetone in the water initial calibration performed on 08/03/98 was less than 0.05. Due to possible bias at the level of

detection, the detected acetone in the associated samples were qualified as estimated, "J" and the non-detects were qualified as unusable, "R".

- BNAs - The %RSDs for hexachlorocylopentadiene (37%), 2,4-dinitrophenol (51%), pentachlorophenol (37%) and benzidine (40%) for the initial calibration performed on 06/09/98 exceeded the control limits. Recalculations indicated that the high concentration standard for hexachlorocylopentadiene was not linear. Since this compound was not detected in any of the samples, none of the associated results were qualified on this basis. Recalculations of the %RSDs for pentachlorophenol, 2,4-dinitrophenol and benzidine indicated that these compounds were not linear at the level of detection. Therefore, the associated non-detected 2,4-dinitrophenol, pentachlorophenol and benzidine were qualified as estimated, "UJ".

Continuing Calibrations

The continuing calibration verification standards (CCVs) met the criteria for frequency of analysis, the minimum response factor, the retention time shifts, percent breakdowns, the percent differences (%Ds) and relative percent differences (RPDs) criteria with the following exceptions:

Date of Analysis	Fraction	Compounds	%Ds	Qualifiers Detects/Non-detects
08/06/98 1035	VOAs	2-butanone	-63	J/UJ
08/07/98 1218	VOAs	acetone	68	J/None
		2-butanone	-33	J/UJ
		bromoform	30	J/None
08/10/98 1130	VOAs	acetone	27	J/None
		methylene chloride	-67	J/UJ
		2-butanone	-48	J/UJ
		bromoform	42	J/None
		n-propyl benzene	30	J/None
		n-butyl benzene	37	J/None
		1,2,4-trichlorobenzene	27	J/None
		hexachlorobutadiene	35	J/None
08/13/98 1236	VOAs	acetone	168	J/None
		methylene chloride	-59	J/UJ
		2-butanone	-32	J/UJ
		bromoform	29	J/None
		1,2,4-trichlorobenzene	33	J/None
		naphthalene	34	J/None
		1,2,3-trichlorobenzene	38	J/None

08/17/98 0930	VOAs	vinyl chloride	28	J/None
		trichlorofluoromethane	46	J/None
		methylene chloride	-77	J/UJ
		2-butanone	-70	J/UJ
		dibromomethane	-28	J/UJ
		4-methyl-2-pentanone	-27	J/UJ
		2-hexanone	-33	J/UJ
		1,2-dibromoethane	-28	J/UJ
		1,1,2,2-tetrachloroethane	-28	J/UJ
		n-propyl benzene	34	J/None
		n-butyl benzene	40	J/None
		1,2-dibromo-3-chloropropane	-41	J/UJ
		hexachlorobutadiene	27	J/None
		naphthalene	-40	J/UJ
		1,2,3-trichlorobenzene	-29	J/UJ
08/05/98 0948	BNAs	hexachlorobutadiene	49	J/None
		benzidine	-66	J/UJ
		3,3'-dichlorobenzidine	-54	J/UJ
08/06/98 1429	BNAs	hexachlorobutadiene	-55	J/UJ
		benzidine	-71	J/UJ
		3,3'-dichlorobenzidine	-43	J/UJ
09/19/98 1349	BNAs	benzidine	-57	J/UJ
		3,3'-dichlorobenzidine	-41	J/UJ
08/24/98 1110	BNAs	benzidine	-59	J/UJ
		3,3'-dichlorobenzidine	-43	J/UJ
08/25/98 1131	BNAs	benzidine	-54	J/UJ
		3,3'-dichlorobenzidine	-39	J/UJ

The affected target compounds were qualified accordingly.

Compound Quantitation Limits

All of the samples were analyzed at the method required quantitation limits (CRQLs). The lowest standard analyzed for acetone in the soil initial calibration was at 50 nanograms (ng). This was 5 times the required CRQL in the SOW revision OLMO3.2 for acetone. All of the reported results were within the calibration linear range and were adjusted for sample amount analyzed, percent solids and dilution factors. Target compounds that were detected at concentrations less than the quantitation limits were qualified as estimated, "J". Target compounds detected at concentrations over the calibration range were re-analyzed at a dilution. For these compounds, the dilution results were reported on the Forms I. Two analyses were performed per sample for pest/PCB determinations - one analysis was for the acid treated extract for PCBs and the other was the analysis of florisil cleaned extract for pesticides. Both analyses met the required method QLs.

Blanks

The frequency of analysis of laboratory blanks was met. None of the BNAs, pest and PCB target compounds were detected in the

method and instrument blanks. Methylene chloride, acetone, 1,2,4-trichlorobenzene, naphthalene, and 1,2,3-trichlorobenzene were detected in most of the VOA method blanks. The acetone and methylene chloride detected in the samples at concentrations that were less than ten times the concentrations in their associated blanks were qualified as non-detects, "U". Naphthalene, 1,2,3- and 1,24-trichlorobenzene detected in the associated samples at concentrations less than five times the value in their blank were qualified as non-detect, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples and QC samples were analyzed in accordance with the SOW-specified analytical sequence. All of the samples were analyzed within the acceptable QC periods. None of the data were qualified on this basis.

Surrogate Recoveries

The surrogate recoveries met the applicable QC criteria for all analyses with the exception of the recoveries for 2-fluorobiphenyl for most of the water samples and some of the soil samples. Since all of the other BNA surrogates were within the control limits and since the quality of the data were not affected, none of the data were qualified on this basis.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Samples 98314002, 98314021 and 98314022 were analyzed for MS/MSD. The frequency of analysis, the recovery and relative percent differences (RPD) criteria were met for all QC analyses with the following exceptions:

- 98314002MS/MSD

  VOAs - Acetone could not be determined due to the acetone native to the sample. The recoveries for benzene, trichloroethene, 1,2-dichloropropane, dibromomethane, bromodichloromethane, toluene, chlorobenzene, bromoform, isopropyl benzene and 1,2,3-trichloropropane exceeded the control limits, indicating high bias. Since these compounds were not detected in the associated sample, none of the data were qualified on this basis. The recoveries for 1,2,4- and 1,2,3-trichlorobenzene, naphthalene, and hexachlorobutadiene indicated low bias. These compounds were already qualified on the basis of the out of control internal standards, no additional qualifiers were applied to the results on the basis of MS/MSD analyses.

  BNAs - The spike recoveries for hexachlorobutadiene and 2,4-dinitrophenol were less than 10%. These compounds

were not detected in the associated sample and were qualified as unusable, "R". The spike recoveries for the following compounds exceeded the control limits indicating high bias: 2,4-dinitrotoluene, 1,3-, 1,4- and 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, 4-nitrophenol, hexachlorocyclopentadiene, 4,6-dinitro-2-methylphenol, pentachlorophenol, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, di-n-octylphthalate, benzo(k) fluoranthene, dibenz(a,h)anthracene, indeno(cd-1,2,3) pyrene and n-nitrosodi-n-propylamine. These compounds were not detected in the associated sample and therefore, were not qualified on this basis.

- 98314021MS/MSD

VOAs - almost all of the spike recoveries for the MS analyses exceeded the control limits and indicated high bias. Since the MSD spike recoveries were within limits and since the affected compounds were not detected in the associated sample, none of the data were qualified on this basis.

BNAs - The recoveries for the following spiked target compounds grossly (<10%) exceeded the control limits, indicated low bias, not detected in the associated sample and were qualified as unusable, "R": hexachlorobutadiene, 4-chloro-3-methylphenol, hexachlorocyclopentadiene, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol and 4-nitrophenol. The spike recoveries of 2,6- and 2,4-dinitrotoluene were not recovered in the MS analysis. However, since the MSD recoveries indicated high bias and since these compounds were not detected in the associated sample, none of the 2,6- and 2,4-dinitrotoluene were qualified on this basis. The recoveries for the following compounds exceeded the recovery control limits, indicated high bias, were not detected in the associated sample and were not qualified on this basis: n-nitroso-di-n-propylamine, hexachloroethane, fluorene, isophorone, acenaphthene, n-nitroso-diphenylamine, pentachlorophenol, di-n-octylphthalate, indeno(cd-1,2,3)pyrene, dibenz(a,h)anthracene and butylbenzyl phthalate.

- 98314022MS/MSD

VOAs - the recoveries for carbon disulfide could not be determined accurately due to the presence of this compound in the sample. None of the VOA compounds were qualified on this basis.

BNAs - The recoveries for hexachlorobutadiene and hexachlorocyclopentadiene were outside the control

limits, indicating low bias. These compounds were qualified as estimated, "J/UJ" in the associated sample.

Internal Standards

The acceptance criteria for internal standards (IS) are ±0.5 minutes for retention time shifts and -50% to +100% of the IS area as compared to the IS retention time and area of the continuing calibration standard.

All of the GC/MS analyses met the IS area and retention time shift criteria with the exception of the following:

- 98314002 VOAs - the area for IS#3 was less than 50% of the continuing calibration. Due to possible high bias, the results associated with this IS were qualified as estimated, "J/UJ".

- 98314001 BNAs - the area for IS#3 was less than 50% of the continuing calibration. Due to possible high bias, the results associated with this IS were qualified as estimated, "J/UJ".

- 98314002 BNAs - the areas for IS#5 and IS#6 for the full strength run of this sample were less than 50% of the continuing calibration. The dilution run for this sample, however, had acceptable IS areas and retention times. Because of this, the quantitation limits reported for compounds associated with IS#5 and IS#6 in the dilution run were reported for this sample.

Compound Identification

All of the compounds detected were within the retention time windows, met the USEPA spectral matching criteria and were judged to be acceptable.

Tentatively Identified Compounds

Peaks that were detected in the samples with areas >10% of the internal standards and were not part of the target compound lists were identified as tentatively identified compounds (TICs). All of the TICs reported were qualified as tentatively identified at estimated concentration, "JN".

Laboratory Contact

The laboratory was not contacted for this review.

Overall Assessment

All of the samples were analyzed in accordance with the SOW and SW846 method specifications. Data results, as qualified, are acceptable and can be used for all purposes.

DATA QUALIFIERS

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.
R	-	The data are unusable for all purposes.
N	-	There is evidence the analyte is present in this sample.
JN	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
L	-	Low bias.
H	-	High bias.
Q	-	The result is estimated because the concentration is below the Contract Required Quantitation Limits (CRQLs).
K	-	Unknown Bias.

Holding Time Summary

Sample Number	Collection Date	VTSR *	VOA Analysis	Extraction Date	BNA Analysis	Pest/PCB Analysis
98314000	07/27/98	07/31/98	08/07/98	08/04/98	08/19/98	08/11/98
98314001	07/27/98	07/31/98	08/10/98	08/04/98	08/06/98	08/11/98
98314002	07/27/98	07/31/98	08/07/98	08/04/98	08/19/98	08/14/98
98314003	07/27/98	07/31/98	08/06/98	08/04/98	08/06/98	08/11/98
98314004	07/27/98	07/31/98	08/07/98	08/04/98	08/06/98	08/11/98
98314005	07/27/98	07/31/98	08/07/98	08/04/98	08/19/98	08/11/98
98314006	07/27/98	07/31/98	08/06/98	08/04/98	08/24/98	08/11/98
98314007	07/27/98	07/31/98	08/10/98	08/04/98	08/06/98	08/11/98
98314008	07/27/98	07/31/98	08/06/98	08/04/98	08/07/98	08/11/98
98314009	07/27/98	07/31/98	08/06/98	08/04/98	08/24/98	08/11/98
98314010	07/27/98	07/31/98	08/06/98	08/04/98	08/19/98	08/11/98
98314011	07/27/98	07/31/98	08/06/98	08/04/98	08/06/98	08/12/98
98314012	07/27/98	07/31/98	08/06/98	08/04/98	08/19/98	08/12/98
98314013	07/27/98	07/31/98	08/07/98	08/04/98	08/06/98	08/12/98
98314014	07/27/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314015	07/27/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314021	07/28/98	07/31/98	08/13/98	08/04/98	08/06/98	08/12/98
98314022	07/28/98	07/31/98	08/05/98	08/05/98	08/06/98	08/08/98
98314023	07/28/98	07/31/98	08/07/98	08/04/98	08/06/98	08/12/98
98314024	07/28/98	07/31/98	08/05/98	08/05/98	08/05/98	08/08/98
98314025	07/28/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314027	07/28/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314028	07/28/98	07/31/98	08/05/98	08/05/98	08/05/98	08/08/98
98314029	07/28/98	07/31/98	08/13/98	08/04/98	08/06/98	08/12/98
98314030	07/28/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314031	07/28/98	07/31/98	08/07/98	08/04/98	08/19/98	08/12/98
98314032	07/28/98	07/31/98	08/05/98	08/05/98	08/05/98	08/08/98
98314034	07/28/98	07/31/98	08/05/98	NA	NA	NA
98314047	07/28/98	07/31/98	08/05/98	08/05/98	08/05/98	08/08/98

* - VTSR - Verified Time of Sample Receipt in the laboratory

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314000
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	2.0	ug/kg	U
319846	Alpha-BHC	2.0	ug/kg	U
319857	Beta-BHC	2.0	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	2.0	ug/kg	U
319868	Delta-BHC	2.0	ug/kg	U
60571	Dieldrin	4.1	ug/kg	U
959988	Endosulfan I	2.0	ug/kg	U
33213659	Endosulfan II	4.1	ug/kg	U
1031078	Endosulfan Sulfate	4 1	ug/kg	U
72208	Endrin	4.1	ug/kg	U
7421934	Endrin Aldehyde	4 1	ug/kg	U
53494705	Endrin Ketone	4 1	ug/kg	U
5103742	Gamma-Chlordane	2.0	ug/kg	U
76448	Heptachlor	2.0	ug/kg	U
1024573	Heptachlor Epoxide	2.0	ug/kg	U
58899	Lindane	2.0	ug/kg	U
72435	Methoxychlor	20	ug/kg	U
72548	P,P'-DDD	4.1	ug/kg	U
72559	P,P'-DDE	4.1	ug/kg	U
50293	P,P'-DDT	4.1	ug/kg	U
12674112	PCB-1016	41	ug/kg	U
11104282	PCB-1221	82	ug/kg	U
11141165	PCB-1232	41	ug/kg	U
53469219	PCB-1242	41	ug/kg	U
12672296	PCB-1248	41	ug/kg	U
11097691	PCB-1254	41	ug/kg	U
11096825	PCB-1260	41	ug/kg	U
8001352	Toxaphene	205	ug/kg	U
*2051243	Decachlorobiphenyl	96	%Rec	
*300105	Tetrachlorometaxylene	74	%Rec	

Sent to-
David Bennett
Paul Cooley

GCMS

Parameter Semi-volatiles
Method 8270-M
Prep Method

Analytes				
120821	1,2,4-Trichlorobenzene	205	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	205	ug/kg	U
	95954	2,4,5-Trichlorophenol	205	ug/kg	U
	88062	2,4,6-Trichlorophenol	205	ug/kg	U
	120832	2,4-Dichlorophenol	410	ug/kg	U
	105679	2,4-Dimethylphenol	205	ug/kg	U
	51285	2,4-Dinitrophenol	2050	ug/kg	U
	121142	2,4-Dinitrotoluene	410	ug/kg	U
	606202	2,6-Dinitrotoluene	410	ug/kg	U
	91587	2-Chloronaphthalene	205	ug/kg	U
	95578	2-Chlorophenol	205	ug/kg	U
	88744	2-Nitroaniline	1020	ug/kg	U
	88755	2-Nitrophenol	1020	ug/kg	U
	91941	3,3'-Dichlorobenzidine	820	ug/kg	UJK
	99092	3-Nitroaniline	410	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2050	ug/kg	U
	101553	4-Bromophenyl-Phenylether	205	ug/kg	U
	59507	4-Chloro-3-methylphenol	1020	ug/kg	U
	106478	4-Chloroaniline	205	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	205	ug/kg	U
	106445	4-Methylphenol	205	ug/kg	U
	100016	4-Nitroaniline	1020	ug/kg	U
	100027	4-Nitrophenol	1020	ug/kg	U
	86748	9H-Carbazole	205	ug/kg	U
	86737	9H-Fluorene	205	ug/kg	U
	83329	Acenaphthene	205	ug/kg	U
	208968	Acenaphthylene	205	ug/kg	U
	62533	Aniline	205	ug/kg	U
	120127	Anthracene	205	ug/kg	U
	95501	Benzene, 1,2-dichloro-	205	ug/kg	U
	541731	Benzene, 1,3-dichloro-	205	ug/kg	U
	106467	Benzene, 1,4-dichloro-	205	ug/kg	U
	100516	Benzenemethanol	1020	ug/kg	U
	92875	Benzidine	820	ug/kg	UJK
	56553	Benzo(a)anthracene	205	ug/kg	U
	50328	Benzo(a)pyrene	205	ug/kg	U
	191242	Benzo(g,h,i)perylene	410	ug/kg	U
	205992	Benzo[b]Fluoranthene	205	ug/kg	U
	207089	Benzo[k]fluoranthene	205	ug/kg	U
	65850	Benzoic acid	2050	ug/kg	U
	111444	bis(2-Chloroethyl)ether	205	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	205	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1210	ug/kg	
	85687	Butylbenzylphthalate	205	ug/kg	U
	218019	Chrysene	205	ug/kg	U
	84742	Di-n-Butylphthalate	205	ug/kg	U
	117840	Di-n-octylphthalate	410	ug/kg	U
	53703	Dibenz[a,h]anthracene	205	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	205	ug/kg	U
	84662	Diethyl phthalate	205	ug/kg	U
	131113	Dimethylphthalate	205	ug/kg	U
	206440	Fluoranthene	205	ug/kg	U
	118741	Hexachlorobenzene	205	ug/kg	U
	87683	Hexachlorobutadiene	1020	ug/kg	U
	77474	Hexachlorocyclopentadiene	1020	ug/kg	U
	67721	Hexachloroethane	205	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	205	ug/kg	U
	78591	Isophorone	205	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	205	ug/kg	U
	621647	N-Nitrosodinpropylamine	205	ug/kg	U
	86306	n-Nitrosodiphenylamine	205	ug/kg	U
	91203	Naphthalene	204	ug/kg	JQ
	90120	Naphthalene, 1-methyl-	205	ug/kg	U
	91576	Naphthalene, 2-methyl-	313	ug/kg	
	98953	Nitrobenzene	205	ug/kg	U
	87865	Pentachlorophenol	410	ug/kg	U
	85018	Phenanthrene	205	ug/kg	U
	108952	Phenol	205	ug/kg	U
	95487	Phenol, 2-methyl-	205	ug/kg	U
	129000	Pyrene	205	ug/kg	U
	483658	Retene	205	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	103	%Rec	
	2199691	1,2-Dichlorobenzene-d4	80 3	%Rec	
	93951736	2-chlorophenol-d4	97 2	%Rec	
	1718521	D10-Pyrene	95 2	%Rec	
	4165600	Nitrobenzene-d5	95 8	%Rec	
	367124	Phenol, 2-fluoro-	92.8	%Rec	
	4165622	Phenol-d5	85 4	%Rec	
	1718510	Terphenyl-d14	97.7	%Rec	
Parameter :	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes :	83476	.gamma.-Sitosterol	5190	ug/kg	NJ
	31230134	1H-Indene, octahydro-2,3a,4-trimethyl-2-	3510	ug/kg	NJ
	54833237	Eicosane, 10-methyl-	4650	ug/kg	NJ
	7098228	Tetratetracontane	5160	ug/kg	NJ
	*3008001	Unknown 01	4090	ug/kg	NJ
	*3008002	Unknown 02	3850	ug/kg	NJ
	*3008003	Unknown 03	4200	ug/kg	NJ
	*3008004	Unknown 04	3460	ug/kg	NJ
	*3008005	Unknown 05	3940	ug/kg	NJ
	*3008006	Unknown 06	5160	ug/kg	NJ
	*3008007	Unknown 07	7230	ug/kg	NJ
	*3008008	Unknown 08	3670	ug/kg	NJ

			Result	Units	Qlfr
Analytes	: *3008009	Unknown 09	3360	ug/kg	NJ
	*3008010	Unknown 10	4510	ug/kg	NJ
	*3008011	Unknown 11	11700	ug/kg	NJ
	*3008012	Unknown 12	16100	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method.					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	6.2	ug/kg	U
	71556	1,1,1-Trichloroethane	6.2	ug/kg	U
	79005	1,1,2-Trichloroethane	6.2	ug/kg	U
	75343	1,1-Dichloroethane	6.2	ug/kg	U
	75354	1,1-Dichloroethene	6.2	ug/kg	U
	563586	1,1-Dichloropropene	6.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	12.5	ug/kg	U
	96184	1,2,3-Trichloropropane	6.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	12.5	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	12.5	ug/kg	U
	107062	1,2-Dichloroethane	6.2	ug/kg	U
	78875	1,2-Dichloropropane	6.2	ug/kg	U
	142289	1,3-Dichloropropane	6.2	ug/kg	U
	594207	2,2-Dichloropropane	6.2	ug/kg	U
	78933	2-Butanone	62.3	ug/kg	UJK
	95498	2-Chlorotoluene	6.2	ug/kg	U
	591786	2-Hexanone	24.9	ug/kg	U
	108101	2-Pentanone, 4-methyl-	6.2	ug/kg	U
	67641	2-Propanone	125	ug/kg	U
	106434	4-Chlorotoluene	6.2	ug/kg	U
	71432	Benzene	6.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	6.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	6.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	6.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	6.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	6.2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	6.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	6.2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	6.2	ug/kg	U
	108907	Benzene, chloro-	6.2	ug/kg	U
	100425	Benzene, ethenyl-	6.2	ug/kg	U
	103651	Benzene, propyl-	6 2	ug/kg	U
	98066	Benzene, tert-butyl-	6 2	ug/kg	U
	108861	Bromobenzene	6.2	ug/kg	U
	74975	Bromochloromethane	12.5	ug/kg	U
	75274	Bromodichloromethane	6.2	ug/kg	U
	75252	Bromoform	12 5	ug/kg	U
	74839	Bromomethane	6 2	ug/kg	U
	75150	Carbon disulfide	6 2	ug/kg	U
	56235	Carbon Tetrachloride	6 2	ug/kg	U

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			Result	Units	Qlfr
Analytes :	156592	cis-1,2-Dichloroethene	6.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	6.6	ug/kg	U
	124481	Dibromochloromethane	6.2	ug/kg	U
	74953	Dibromomethane	6.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	6.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	6.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	6.2	ug/kg	U
	79016	Ethene, trichloro-	12.5	ug/kg	U
	75003	Ethyl Chloride	6.2	ug/kg	U
	100414	Ethylbenzene	6.2	ug/kg	U
	75694	Freon 11	12 5	ug/kg	U
	75718	Freon 12	6.2	ug/kg	U
	87683	Hexachlorobutadiene	6.2	ug/kg	U
	74873	Methane, chloro-	6.2	ug/kg	U
	67663	Methane, trichloro-	6.2	ug/kg	U
	75092	Methylene Chloride	62.3	ug/kg	U
	*1330207	MP-Xylene	12.5	ug/kg	U
	104518	n-Butylbenzene	6.2	ug/kg	U
	91203	Naphthalene	12.5	ug/kg	U
	135988	sec-Butylbenzene	6.2	ug/kg	U
	127184	Tetrachloroethene	6.2	ug/kg	U
	108883	Toluene	6.2	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	11.7	ug/kg	U
	75014	Vinyl Chloride	6.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	94.3	%Rec	
	17060070	1,2-Dichloroethane-d4	109	%Rec	
	540363	Benzene, 1,4-difluoro-	98.5	%Rec	
	460004	p-Bromofluorobenzene	89 0	%Rec	
	2037265	Toluene-d8	100	%Rec	
Parameter	Volatiles - Tentatives				
Method :	8260-M				
Prep Method.					
Analytes	2236604	4(1H)-Pteridinone, 2-amino-	1250	ug/kg	NJ
	74630038	4H-1,3,2-Dioxaborin, 4,6-dieth enyl-2-eth	1000	ug/kg	NJ
	93174	Benzeneacetonitrile, 3,4-dimet hoxy-	6660	ug/kg	NJ
	52184131	Phenol, 2-(1,1-dimethylethyl)- 4-(1-methy	273	ug/kg	NJ
	995459	Silane, tributylchloro-	1700	ug/kg	NJ
	702794	Tricyclo[3.3.1.1(3,7)]decane, 1,3-dimeth	201	ug/kg	NJ
	*3008001	Unknown 01	378	ug/kg	NJ
	*3008002	Unknown 02	282	ug/kg	NJ
	*3008003	Unknown 03	97.8	ug/kg	NJ
	*3008004	Unknown 04	506	ug/kg	NJ

			Result	Units	Qlfr
Analytes	: *3001401	**Unknown Phthalate**	**255**	**ug/kg**	**NJ**

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314001
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	2.8	ug/kg	U
	319846	Alpha-BHC	2.8	ug/kg	U
	319857	Beta-BHC	2.8	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	2.8	ug/kg	U
	319868	Delta-BHC	2 8	ug/kg	U
	60571	Dieldrin	5.6	ug/kg	U
	959988	Endosulfan I	2.8	ug/kg	U
	33213659	Endosulfan II	5.6	ug/kg	U
	1031078	Endosulfan Sulfate	5.6	ug/kg	U
	72208	Endrin	5.6	ug/kg	U
	7421934	Endrin Aldehyde	5 6	ug/kg	U
	53494705	Endrin Ketone	5.6	ug/kg	U
	5103742	Gamma-Chlordane	2.8	ug/kg	U
	76448	Heptachlor	2.8	ug/kg	U
	1024573	Heptachlor Epoxide	2.8	ug/kg	U
	58899	Lindane	2.8	ug/kg	U
	72435	Methoxychlor	27	ug/kg	U
	72548	P,P'-DDD	5.6	ug/kg	U
	72559	P,P'-DDE	5 6	ug/kg	U
	50293	P,P'-DDT	5.6	ug/kg	U
	12674112	PCB-1016	56	ug/kg	U
	11104282	PCB-1221	111	ug/kg	U
	11141165	PCB-1232	56	ug/kg	U
	53469219	PCB-1242	56	ug/kg	U
	12672296	PCB-1248	56	ug/kg	U
	11097691	PCB-1254	56	ug/kg	U
	11096825	PCB-1260	56	ug/kg	U
	8001352	Toxaphene	278	ug/kg	U
	*2051243	Decachlorobiphenyl	83	%Rec	
	*300105	Tetrachlorometaxylene	74	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method:					
Analytes	120821	1,2,4-Trichlorobenzene	278	ug/kg	U

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			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	278	ug/kg	U
	95954	2,4,5-Trichlorophenol	278	ug/kg	UJK
	88062	2,4,6-Trichlorophenol	278	ug/kg	UJK
	120832	2,4-Dichlorophenol	555	ug/kg	U
	105679	2,4-Dimethylphenol	278	ug/kg	U
	51285	2,4-Dinitrophenol	2780	ug/kg	UJK
	121142	2,4-Dinitrotoluene	555	ug/kg	UJK
	606202	2,6-Dinitrotoluene	555	ug/kg	UJK
	91587	2-Chloronaphthalene	278	ug/kg	UJK
	95578	2-Chlorophenol	278	ug/kg	U
	88744	2-Nitroaniline	1390	ug/kg	UJK
	88755	2-Nitrophenol	1390	ug/kg	U
	91941	3,3'-Dichlorobenzidine	1110	ug/kg	UJK
	99092	3-Nitroaniline	555	ug/kg	UJK
	534521	4,6-Dinitro-2-methylphenol	2780	ug/kg	U
	101553	4-Bromophenyl-Phenylether	278	ug/kg	U
	59507	4-Chloro-3-methylphenol	1390	ug/kg	U
	106478	4-Chloroaniline	278	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	278	ug/kg	U
	106445	4-Methylphenol	278	ug/kg	U
	100016	4-Nitroaniline	1390	ug/kg	U
	100027	4-Nitrophenol	1390	ug/kg	UJK
	86748	9H-Carbazole	278	ug/kg	U
	86737	9H-Fluorene	6870	ug/kg	JH
	83329	Acenaphthene	278	ug/kg	UJK
	208968	Acenaphthylene	278	ug/kg	UJK
	62533	Aniline	278	ug/kg	U
	120127	Anthracene	278	ug/kg	U
	95501	Benzene, 1,2-dichloro-	278	ug/kg	U
	541731	Benzene, 1,3-dichloro-	278	ug/kg	U
	106467	Benzene, 1,4-dichloro-	278	ug/kg	U
	100516	Benzenemethanol	1390	ug/kg	U
	92875	Benzidine	1110	ug/kg	UJK
	56553	Benzo(a)anthracene	278	ug/kg	U
	50328	Benzo(a)pyrene	278	ug/kg	U
	191242	Benzo(g,h,i)perylene	555	ug/kg	U
	205992	Benzo[b]Fluoranthene	278	ug/kg	U
	207089	Benzo[k]fluoranthene	278	ug/kg	U
	65850	Benzoic acid	2780	ug/kg	U
	111444	bis(2-Chloroethyl)ether	278	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	278	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1230	ug/kg	JQ
	85687	Butylbenzylphthalate	278	ug/kg	U
	218019	Chrysene	278	ug/kg	U
	84742	Di-n-Butylphthalate	278	ug/kg	U
	117840	Di-n-octylphthalate	555	ug/kg	U
	53703	Dibenz[a,h]anthracene	278	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 132649	Dibenzofuran	2930	ug/kg	JH
	84662	Diethyl phthalate	278	ug/kg	UJK
	131113	Dimethylphthalate	278	ug/kg	UJK
	206440	Fluoranthene	278	ug/kg	U
	118741	Hexachlorobenzene	278	ug/kg	U
	87683	Hexachlorobutadiene	1390	ug/kg	U
	77474	Hexachlorocyclopentadiene	1390	ug/kg	UJK
	67721	Hexachloroethane	278	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	278	ug/kg	U
	78591	Isophorone	278	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	278	ug/kg	U
	621647	N-Nitrosodinpropylamine	278	ug/kg	U
	86306	n-Nitrosodiphenylamine	278	ug/kg	U
	91203	Naphthalene	33300	ug/kg	
	90120	Naphthalene, 1-methyl-	96700	ug/kg	
	91576	Naphthalene, 2-methyl-	184000	ug/kg	
	98953	Nitrobenzene	278	ug/kg	U
	87865	Pentachlorophenol	555	ug/kg	U
	85018	Phenanthrene	5310	ug/kg	
	108952	Phenol	278	ug/kg	U
	95487	Phenol, 2-methyl-	278	ug/kg	U
	129000	Pyrene	329	ug/kg	
	483658	Retene	452	ug/kg	
	321608	1,1'-Biphenyl, 2-fluoro-	93 6	%Rec	
	2199691	1,2-Dichlorobenzene-d4	101	%Rec	
	93951736	2-chlorophenol-d4	99 4	%Rec	
	1718521	D10-Pyrene	91.6	%Rec	
	4165600	Nitrobenzene-d5	147	%Rec	
	367124	Phenol, 2-fluoro-	93.2	%Rec	
	4165622	Phenol-d5	86.3	%Rec	
	1718510	Terphenyl-d14	97 6	%Rec	

Parameter . Semi-volatiles - Tentatives
Method : 8270-M
Prep Method·

Analytes	. 34303816	3-Hexadecene, (Z)-	7840	ug/kg	NJ
	488233	Benzene, 1,2,3,4-tetramethyl-	139000	ug/kg	NJ
	108678	Benzene, 1,3,5-trimethyl-	59500	ug/kg	NJ
	934747	Benzene, 1-ethyl-3,5-dimethyl-	54600	ug/kg	NJ
	620144	Benzene, 1-ethyl-3-methyl-	121000	ug/kg	NJ
	1758889	Benzene, 2-ethyl-1,4-dimethyl-	107000	ug/kg	NJ
	25155151	Benzene, methyl(1-methylethyl) -	128000	ug/kg	NJ
	2097850	Cholestan-3-one, 4,4-dimethyl- , (5.alpha	33600	ug/kg	NJ
	6165442	Cyclohexane, 1,1'-(1,4-butaned iyl)bis-	44000	ug/kg	NJ
	1795160	Cyclohexane, decyl-	7100	ug/kg	NJ
	124185	Decane	111000	ug/kg	NJ
	112403	Dodecane	219000	ug/kg	NJ

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			Result	Units	Qlfr
Analytes :	6044719	Dodecane, 6-methyl-	111000	ug/kg	NJ
	112958	Eicosane	8330	ug/kg	NJ
	630024	Octacosane	10200	ug/kg	NJ
	75163972	Octadecane, 2,6-dimethyl-	37500	ug/kg	NJ
	1120214	Undecane	294000	ug/kg	NJ
	17301289	Undecane, 3,6-dimethyl-	15500	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method:					
Analytes :	630206	1,1,1,2-Tetrachloroethane	7.3	ug/kg	U
	71556	1,1,1-Trichloroethane	7.3	ug/kg	U
	79005	1,1,2-Trichloroethane	7.3	ug/kg	U
	75343	1,1-Dichloroethane	7.3	ug/kg	U
	75354	1,1-Dichloroethene	7.3	ug/kg	U
	563586	1,1-Dichloropropene	7.3	ug/kg	U
	87616	1,2,3-Trichlorobenzene	14.6	ug/kg	U
	96184	1,2,3-Trichloropropane	7 3	ug/kg	U
	120821	1,2,4-Trichlorobenzene	14.6	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	14 6	ug/kg	U
	107062	1,2-Dichloroethane	7 3	ug/kg	U
	78875	1,2-Dichloropropane	7.3	ug/kg	U
	142289	1,3-Dichloropropane	7.3	ug/kg	U
	594207	2,2-Dichloropropane	7 3	ug/kg	U
	78933	2-Butanone	72.9	ug/kg	UJK
	95498	2-Chlorotoluene	7 3	ug/kg	U
	591786	2-Hexanone	146	ug/kg	U
	108101	2-Pentanone, 4-methyl-	1440	ug/kg	
	67641	2-Propanone	693	ug/kg	UJK
	106434	4-Chlorotoluene	310	ug/kg	U
	71432	Benzene	21.3	ug/kg	
	98828	Benzene, (1-methylethyl)-	179	ug/kg	
	95636	Benzene, 1,2,4-trimethyl-	5140	ug/kg	
	95501	Benzene, 1,2-dichloro-	7 3	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	1340	ug/kg	
	108678	Benzene, 1,3,5-trimethyl-	7490	ug/kg	
	541731	Benzene, 1,3-dichloro-	7.3	ug/kg	U
	106467	Benzene, 1,4-dichloro-	7 3	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2700	ug/kg	
	108907	Benzene, chloro-	7 3	ug/kg	U
	100425	Benzene, ethenyl-	7 3	ug/kg	U
	103651	Benzene, propyl-	175	ug/kg	U
	98066	Benzene, tert-butyl-	7 3	ug/kg	U
	108861	Bromobenzene	7 3	ug/kg	U
	74975	Bromochloromethane	14 6	ug/kg	U
	75274	Bromodichloromethane	7 3	ug/kg	U
	75252	Bromoform	14 6	ug/kg	U
	74839	Bromomethane	7 3	ug/kg	U

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			Result	Units	Qlfr
Analytes :	75150	Carbon disulfide	7.3	ug/kg	U
	56235	Carbon Tetrachloride	7.3	ug/kg	U
	156592	cis-1,2-Dichloroethene	7.3	ug/kg	U
	10061015	cis-1,3-Dichloropropene	7 7	ug/kg	U
	124481	Dibromochloromethane	7 3	ug/kg	U
	74953	Dibromomethane	7.3	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	7.3	ug/kg	U
	106934	Ethane, 1,2-dibromo-	7 3	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	7.3	ug/kg	U
	79016	Ethene, trichloro-	14 6	ug/kg	U
	75003	Ethyl Chloride	7.3	ug/kg	U
	100414	Ethylbenzene	251	ug/kg	
	75694	Freon 11	14 6	ug/kg	U
	75718	Freon 12	7.3	ug/kg	U
	87683	Hexachlorobutadiene	7.3	ug/kg	U
	74873	Methane, chloro-	7 3	ug/kg	U
	67663	Methane, trichloro-	7.3	ug/kg	U
	75092	Methylene Chloride	72.9	ug/kg	UJK
	*1330207	MP-Xylene	904	ug/kg	
	104518	n-Butylbenzene	7.3	ug/kg	U
	91203	Naphthalene	198	ug/kg	
	135988	sec-Butylbenzene	7.3	ug/kg	U
	127184	Tetrachloroethene	7 3	ug/kg	U
	108883	Toluene	12.6	ug/kg	
	10061026	Trans-1,3-Dichloropropene	13 7	ug/kg	U
	75014	Vinyl Chloride	7.3	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	120	%Rec	
	17060070	1,2-Dichloroethane-d4	104	%Rec	
	540363	Benzene, 1,4-difluoro-	105	%Rec	
	460004	p-Bromofluorobenzene	87.6	%Rec	
	2037265	Toluene-d8	210	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method.

Analytes .	17057828	1H-Indene, 2,3-dihydro-1,2-dim ethyl-	17200	ug/kg	NJ
	17059482	1H-Indene, 2,3-dihydro-1,6-dim ethyl-	7440	ug/kg	NJ
	6682719	1H-Indene, 2,3-dihydro-4,7-dim ethyl-	21900	ug/kg	NJ
	488233	Benzene, 1,2,3,4-tetramethyl-	9060	ug/kg	NJ
	527537	Benzene, 1,2,3,5-tetramethyl-	5810	ug/kg	NJ
	105055	Benzene, 1,4-diethyl-	6670	ug/kg	NJ
	620144	Benzene, 1-ethyl-3-methyl-	11100	ug/kg	NJ
	1074175	Benzene, 1-methyl-2-propyl-	10100	ug/kg	NJ
	25550134	BENZENE, DIETHYLMETHYL-	6760	ug/kg	NJ
	21564910	Naphthalene, 1,2,3,4-tetrahydr o-1,5-dime	7060	ug/kg	NJ
	89827	Pulegone	12800	ug/kg	NJ
	176636	Spiro[4 5]decane	8780	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: 7098217	Tritetracontane	6530	ug/kg	NJ
	*3008001	Unknown 01	14300	ug/kg	NJ
	*3008002	Unknown 02	12600	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314002
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	2.1	ug/kg	U
	319846	Alpha-BHC	2.1	ug/kg	U
	319857	Beta-BHC	2.1	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	2 1	ug/kg	U
	319868	Delta-BHC	2.1	ug/kg	U
	60571	Dieldrin	10.3	ug/kg	U
	959988	Endosulfan I	2.1	ug/kg	U
	33213659	Endosulfan II	10.3	ug/kg	U
	1031078	Endosulfan Sulfate	10.3	ug/kg	U
	72208	Endrin	10.3	ug/kg	U
	7421934	Endrin Aldehyde	10 3	ug/kg	U
	53494705	Endrin Ketone	10.3	ug/kg	U
	5103742	Gamma-Chlordane	2.1	ug/kg	U
	76448	Heptachlor	2.1	ug/kg	U
	1024573	Heptachlor Epoxide	2.1	ug/kg	U
	58899	Lindane	2 1	ug/kg	U
	72435	Methoxychlor	103	ug/kg	U
	72548	P,P'-DDD	4.1	ug/kg	U
	72559	P,P'-DDE	4.1	ug/kg	U
	50293	P,P'-DDT	4 1	ug/kg	U
	12674112	PCB-1016	41	ug/kg	U
	11104282	PCB-1221	83	ug/kg	U
	11141165	PCB-1232	41	ug/kg	U
	53469219	PCB-1242	41	ug/kg	U
	12672296	PCB-1248	41	ug/kg	U
	11097691	PCB-1254	41	ug/kg	U
	11096825	PCB-1260	41	ug/kg	U
	8001352	Toxaphene	207	ug/kg	U
	*2051243	Decachlorobiphenyl	71	%Rec	
	*300105	Tetrachlorometaxylene	58	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	51285	2,4-Dinitrophenol			R

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			Result	Units	Qlfr
Analytes :	87683	Hexachlorobutadiene			R
	120821	1,2,4-Trichlorobenzene	206	ug/kg	U
	122667	1,2-Diphenylhydrazine	206	ug/kg	U
	95954	2,4,5-Trichlorophenol	206	ug/kg	U
	88062	2,4,6-Trichlorophenol	206	ug/kg	U
	120832	2,4-Dichlorophenol	413	ug/kg	U
	105679	2,4-Dimethylphenol	206	ug/kg	U
	121142	2,4-Dinitrotoluene	413	ug/kg	U
	606202	2,6-Dinitrotoluene	413	ug/kg	U
	91587	2-Chloronaphthalene	206	ug/kg	U
	95578	2-Chlorophenol	206	ug/kg	U
	88744	2-Nitroaniline	1030	ug/kg	U
	88755	2-Nitrophenol	1030	ug/kg	U
	91941	3,3'-Dichlorobenzidine	8260	ug/kg	UJK
	99092	3-Nitroaniline	413	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2060	ug/kg	U
	101553	4-Bromophenyl-Phenylether	206	ug/kg	U
	59507	4-Chloro-3-methylphenol	1030	ug/kg	U
	106478	4-Chloroaniline	206	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	206	ug/kg	U
	106445	4-Methylphenol	206	ug/kg	U
	100016	4-Nitroaniline	1030	ug/kg	U
	100027	4-Nitrophenol	1030	ug/kg	U
	86748	9H-Carbazole	206	ug/kg	U
	86737	9H-Fluorene	206	ug/kg	U
	83329	Acenaphthene	206	ug/kg	U
	208968	Acenaphthylene	206	ug/kg	U
	62533	Aniline	206	ug/kg	U
	120127	Anthracene	206	ug/kg	U
	95501	Benzene, 1,2-dichloro-	206	ug/kg	U
	541731	Benzene, 1,3-dichloro-	206	ug/kg	U
	106467	Benzene, 1,4-dichloro-	206	ug/kg	U
	100516	Benzenemethanol	1030	ug/kg	U
	92875	Benzidine	826	ug/kg	UJK
	56553	Benzo(a)anthracene	2060	ug/kg	U
	50328	Benzo(a)pyrene	2060	ug/kg	U
	191242	Benzo(g,h,i)perylene	4130	ug/kg	U
	205992	Benzo[b]Fluoranthene	2060	ug/kg	U
	207089	Benzo[k]fluoranthene	2060	ug/kg	U
	65850	Benzoic acid	2060	ug/kg	U
	111444	bis(2-Chloroethyl)ether	206	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	206	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	10300	ug/kg	U
	85687	Butylbenzylphthalate	2060	ug/kg	U
	218019	Chrysene	2060	ug/kg	U
	84742	Di-n-Butylphthalate	206	ug/kg	U
	117840	Di-n-octylphthalate	4130	ug/kg	U

			Result	Units	Qlfr
Analytes :	53703	Dibenz[a,h]anthracene	2060	ug/kg	U
	132649	Dibenzofuran	206	ug/kg	U
	84662	Diethyl phthalate	206	ug/kg	U
	131113	Dimethylphthalate	206	ug/kg	U
	206440	Fluoranthene	206	ug/kg	U
	118741	Hexachlorobenzene	206	ug/kg	U
	77474	Hexachlorocyclopentadiene	1030	ug/kg	U
	67721	Hexachloroethane	206	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	2060	ug/kg	U
	78591	Isophorone	206	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	206	ug/kg	U
	621647	N-Nitrosodinpropylamine	206	ug/kg	U
	86306	n-Nitrosodiphenylamine	206	ug/kg	U
	91203	Naphthalene	206	ug/kg	U
	90120	Naphthalene, 1-methyl-	206	ug/kg	U
	91576	Naphthalene, 2-methyl-	206	ug/kg	U
	98953	Nitrobenzene	206	ug/kg	U
	87865	Pentachlorophenol	413	ug/kg	U
	85018	Phenanthrene	206	ug/kg	U
	108952	Phenol	206	ug/kg	U
	95487	Phenol, 2-methyl-	206	ug/kg	U
	129000	Pyrene	2060	ug/kg	UJK
	483658	Retene	2060	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	93 7	%Rec	
	2199691	1,2-Dichlorobenzene-d4	81.5	%Rec	
	93951736	2-chlorophenol-d4	91.6	%Rec	
	1718521	D10-Pyrene	141	%Rec	
	4165600	Nitrobenzene-d5	85.8	%Rec	
	367124	Phenol, 2-fluoro-	89 6	%Rec	
	4165622	Phenol-d5	84 4	%Rec	
	1718510	Terphenyl-d14	143	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes	1123097	2-Cyclohexen-1-one, 3,5-dimeth yl-	1320	ug/kg	NJ
	35365594	9-Octadecyne	2460	ug/kg	NJ
	611643	Acridine, 9-methyl-	1600	ug/kg	NJ
	3187584	Benzoic acid, 2,4-dihydroxy-6- methyl-, m	2230	ug/kg	NJ
	74810416	Cyclohexane, (2-ethyl-1-methyl butylidene	9720	ug/kg	NJ
	54125392	trans-2,3-Epoxydecane	1280	ug/kg	NJ
	*3008001	Unknown 01	1520	ug/kg	NJ
	*3008002	Unknown 02	1920	ug/kg	NJ
	*3008003	Unknown 03	1550	ug/kg	NJ
	*3008004	Unknown 04	2170	ug/kg	NJ
	*3008005	Unknown 05	1800	ug/kg	NJ

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			Result	Units	Qlfr
Analytes :	*3008006	Unknown 06	1060	ug/kg	NJ
	*3008007	Unknown 07	1570	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method:					
Analytes :	630206	1,1,1,2-Tetrachloroethane	6 3	ug/kg	U
	71556	1,1,1-Trichloroethane	6.3	ug/kg	U
	79005	1,1,2-Trichloroethane	6.3	ug/kg	U
	75343	1,1-Dichloroethane	6 3	ug/kg	U
	75354	1,1-Dichloroethene	6 3	ug/kg	U
	563586	1,1-Dichloropropene	6.3	ug/kg	U
	87616	1,2,3-Trichlorobenzene	12.6	ug/kg	UJK
	96184	1,2,3-Trichloropropane	6 3	ug/kg	UJK
	120821	1,2,4-Trichlorobenzene	12.6	ug/kg	UJK
	96128	1,2-Dibromo-3-chloropropane	12.6	ug/kg	UJK
	107062	1,2-Dichloroethane	6.3	ug/kg	U
	78875	1,2-Dichloropropane	6.3	ug/kg	U
	142289	1,3-Dichloropropane	6.3	ug/kg	U
	594207	2,2-Dichloropropane	6.3	ug/kg	U
	78933	2-Butanone	63.1	ug/kg	UJK
	95498	2-Chlorotoluene	6.3	ug/kg	UJK
	591786	2-Hexanone	25.2	ug/kg	U
	108101	2-Pentanone, 4-methyl-	6.3	ug/kg	U
	67641	2-Propanone	214	ug/kg	U
	106434	4-Chlorotoluene	6 3	ug/kg	UJK
	71432	Benzene	6.3	ug/kg	U
	98828	Benzene, (1-methylethyl)-	6.3	ug/kg	UJK
	95636	Benzene, 1,2,4-trimethyl-	6 3	ug/kg	UJK
	95501	Benzene, 1,2-dichloro-	6.3	ug/kg	UJK
	95476	Benzene, 1,2-dimethyl-	6 3	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	6 3	ug/kg	UJK
	541731	Benzene, 1,3-dichloro-	6.3	ug/kg	UJK
	106467	Benzene, 1,4-dichloro-	6 3	ug/kg	UJK
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	6 3	ug/kg	UJK
	108907	Benzene, chloro-	6.3	ug/kg	U
	100425	Benzene, ethenyl-	6 3	ug/kg	U
	103651	Benzene, propyl-	6 3	ug/kg	UJK
	98066	Benzene, tert-butyl-	6.3	ug/kg	UJK
	108861	Bromobenzene	6 3	ug/kg	UJK
	74975	Bromochloromethane	12.6	ug/kg	U
	75274	Bromodichloromethane	6.3	ug/kg	U
	75252	Bromoform	12.6	ug/kg	UJK
	74839	Bromomethane	6.3	ug/kg	U
	75150	Carbon disulfide	6.3	ug/kg	U
	56235	Carbon Tetrachloride	6.3	ug/kg	U
	156592	cis-1,2-Dichloroethene	6 3	ug/kg	U
	10061015	cis-1,3-Dichloropropene	6 7	ug/kg	U

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			Result	Units	Qlfr
Analytes :	124481	Dibromochloromethane	6.3	ug/kg	U
	74953	Dibromomethane	6.3	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	6.3	ug/kg	U
	106934	Ethane, 1,2-dibromo-	6 3	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	6.3	ug/kg	U
	79016	Ethene, trichloro-	12 6	ug/kg	U
	75003	Ethyl Chloride	6.3	ug/kg	U
	100414	Ethylbenzene	6.3	ug/kg	U
	75694	Freon 11	12 6	ug/kg	U
	75718	Freon 12	6 3	ug/kg	U
	87683	Hexachlorobutadiene	6.3	ug/kg	UJK
	74873	Methane, chloro-	6 3	ug/kg	U
	67663	Methane, trichloro-	6 3	ug/kg	U
	75092	Methylene Chloride	81 7	ug/kg	UJK
	*1330207	MP-Xylene	12.6	ug/kg	U
	104518	n-Butylbenzene	6.3	ug/kg	UJK
	91203	Naphthalene	12.6	ug/kg	UJK
	135988	sec-Butylbenzene	6.3	ug/kg	UJK
	127184	Tetrachloroethene	6.3	ug/kg	U
	108883	**Toluene**	**7.0**	**ug/kg**	
	10061026	Trans-1,3-Dichloropropene	11.8	ug/kg	U
	75014	Vinyl Chloride	6.3	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	89.0	%Rec	
	17060070	1,2-Dichloroethane-d4	94 8	%Rec	
	540363	Benzene, 1,4-difluoro-	96 9	%Rec	
	460004	p-Bromofluorobenzene	74 1	%Rec	
	2037265	Toluene-d8	128	%Rec	
Parameter :	Volatiles - Tentatives				
Method :	8260-M				
Prep Method.					
Analytes .	119517	1,2-Propanedione, 1-phenyl-, 2 -oxime	14.2	ug/kg	NJ
	2236604	4(1H)-Pteridinone, 2-amino-	206	ug/kg	NJ
	68568241	6-Amino-3-cyano-5-methylpyrazi ne-2-carbo	560	ug/kg	NJ
	54549723	Ethanone, 1-[4-(1-hydroxy-1-me thylethyl)	90.1	ug/kg	NJ
	98271	Phenol, 4-(1,1-dimethylethyl)- 2-methyl	228	ug/kg	NJ
	21898964	TRICYCLO[4.3.1.13,8]UNDECANE, 1-BROMO-	71.8	ug/kg	NJ
	*3008001	Unknown 01	78.6	ug/kg	NJ
	*3008002	Unknown 02	363	ug/kg	NJ
	*3008003	Unknown 03	674	ug/kg	NJ
	*3008004	Unknown 04	516	ug/kg	NJ
	*3008005	Unknown 05	579	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314002
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method.

		Result	Units	Qlfr
Analytes : 51285	2,4-Dinitrophenol			NAR
121142	2,4-Dinitrotoluene			NAR
207089	Benzo[k]fluoranthene			NAR
321608	1,1'-Biphenyl, 2-fluoro-	116.82	%Rec	
120821	1,2,4-Trichlorobenzene	102.8	%Rec	
2199691	1,2-Dichlorobenzene-d4	103.84	%Rec	
122667	1,2-Diphenylhydrazine	112.6	%Rec	
95954	2,4,5-Trichlorophenol	115.7	%Rec	
88062	2,4,6-Trichlorophenol	177.8	%Rec	
120832	2,4-Dichlorophenol	101.8	%Rec	
105679	2,4-Dimethylphenol	96.9	%Rec	
606202	2,6-Dinitrotoluene	184 3	%Rec	
91587	2-Chloronaphthalene	110.0	%Rec	
95578	2-Chlorophenol	118.7	%Rec	
93951736	2-chlorophenol-d4	118.40	%Rec	
88755	2-Nitrophenol	94 1	%Rec	
534521	4,6-Dinitro-2-methylphenol	282.8	%Rec	
101553	4-Bromophenyl-Phenylether	134.8	%Rec	
59507	4-Chloro-3-methylphenol	155.2	%Rec	
7005723	4-Chlorophenyl-Phenylether	125.5	%Rec	
106445	4-Methylphenol	107.0	%Rec	
100027	4-Nitrophenol	326 3	%Rec	
86737	9H-Fluorene	129.0	%Rec	
83329	Acenaphthene	116 7	%Rec	
208968	Acenaphthylene	117 4	%Rec	
120127	Anthracene	97 2	%Rec	
95501	Benzene, 1,2-dichloro-	102 5	%Rec	
541731	Benzene, 1,3-dichloro-	101 9	%Rec	
106467	Benzene, 1,4-dichloro-	105 6	%Rec	
100516	Benzenemethanol	107 7	%Rec	
56553	Benzo(a)anthracene	121.1	%Rec	
50328	Benzo(a)pyrene	145.4	%Rec	
191242	Benzo(g,h,i)perylene	211 5	%Rec	
205992	Benzo[b]Fluoranthene	79 0	%Rec	
111444	bis(2-Chloroethyl)ether	101.5	%Rec	
117817	Bis(2-ethylhexyl) phthalate	227 7	%Rec	

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			Result	Units	Qlfr
Analytes	85687	Butylbenzylphthalate	409 8	%Rec	
	218019	Chrysene	142 4	%Rec	
	1718521	D10-Pyrene	151.48	%Rec	
	84742	Di-n-Butylphthalate	129 9	%Rec	
	117840	Di-n-octylphthalate	307 0	%Rec	
	53703	Dibenz[a,h]anthracene	252.0	%Rec	
	132649	Dibenzofuran	116.0	%Rec	
	84662	Diethyl phthalate	127 1	%Rec	
	131113	Dimethylphthalate	116 8	%Rec	
	206440	Fluoranthene	114 7	%Rec	
	118741	Hexachlorobenzene	92.2	%Rec	
	87683	Hexachlorobutadiene	6 0	%Rec	
	77474	Hexachlorocyclopentadiene	203.5	%Rec	
	67721	Hexachloroethane	99 7	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	126.2	%Rec	
	78591	Isophorone	118.2	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	106.7	%Rec	
	621647	N-Nitrosodipropylamine	127 1	%Rec	
	86306	n-Nitrosodiphenylamine	97.2	%Rec	
	91203	Naphthalene	117.2	%Rec	
	91576	Naphthalene, 2-methyl-	113.21	%Rec	
	98953	Nitrobenzene	123 8	%Rec	
	4165600	Nitrobenzene-d5	122 36	%Rec	
	87865	Pentachlorophenol	206 9	%Rec	
	85018	Phenanthrene	118.1	%Rec	
	108952	Phenol	117 7	%Rec	
	367124	Phenol, 2-fluoro-	112.97	%Rec	
	95487	Phenol, 2-methyl-	105.3	%Rec	
	4165622	Phenol-d5	105.73	%Rec	
	129000	Pyrene	157.2	%Rec	
	1718510	Terphenyl-d14	155 67	%Rec	
Parameter	Volatiles				
Method	8260-M				
Prep Method					
Analytes	67641	2-Propanone			NAR
	630206	1,1,1,2-Tetrachloroethane	85 5	%Rec	
	71556	1,1,1-Trichloroethane	132 0	%Rec	
	79005	1,1,2-Trichloroethane	105 7	%Rec	
	75343	1,1-Dichloroethane	100 9	%Rec	
	75354	1,1-Dichloroethene	98 9	%Rec	
	563586	1,1-Dichloropropene	131 2	%Rec	
	87616	1,2,3-Trichlorobenzene	19 6	%Rec	
	96184	1,2,3-Trichloropropane	169 9	%Rec	
	120821	1,2,4-Trichlorobenzene	23 7	%Rec	
	96128	1,2-Dibromo-3-chloropropane	121 2	%Rec	
	2199691	1,2-Dichlorobenzene-d4	87 75	%Rec	
	107062	1,2-Dichloroethane	88 4	%Rec	

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			Result	Units	Qlfr
Analytes	: 17060070	1,2-Dichloroethane-d4	92.67	%Rec	
	78875	1,2-Dichloropropane	129.4	%Rec	
	142289	1,3-Dichloropropane	101.8	%Rec	
	594207	2,2-Dichloropropane	100.5	%Rec	
	78933	2-Butanone	81.1	%Rec	
	95498	2-Chlorotoluene	110.8	%Rec	
	591786	2-Hexanone	61.9	%Rec	
	108101	2-Pentanone, 4-methyl-	81.7	%Rec	
	106434	4-Chlorotoluene	112.0	%Rec	
	71432	Benzene	137.2	%Rec	
	98828	Benzene, (1-methylethyl)-	140.0	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	83 0	%Rec	
	95501	Benzene, 1,2-dichloro-	62.3	%Rec	
	95476	Benzene, 1,2-dimethyl-	73.5	%Rec	
	108678	Benzene, 1,3,5-trimethyl-	94.9	%Rec	
	541731	Benzene, 1,3-dichloro-	76.1	%Rec	
	106467	Benzene, 1,4-dichloro-	73.1	%Rec	
	540363	Benzene, 1,4-difluoro-	97.27	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	76.4	%Rec	
	108907	Benzene, chloro-	91.5	%Rec	
	100425	Benzene, ethenyl-	70.8	%Rec	
	103651	Benzene, propyl-	121.0	%Rec	
	98066	Benzene, tert-butyl-	99.3	%Rec	
	108861	Bromobenzene	111.6	%Rec	
	74975	Bromochloromethane	90.4	%Rec	
	75274	Bromodichloromethane	119.2	%Rec	
	75252	Bromoform	173.1	%Rec	
	74839	Bromomethane	103.9	%Rec	
	75150	Carbon disulfide	105.3	%Rec	
	56235	Carbon Tetrachloride	126.6	%Rec	
	156592	cis-1,2-Dichloroethene	100.1	%Rec	
	10061015	cis-1,3-Dichloropropene	119.3	%Rec	
	124481	Dibromochloromethane	98.2	%Rec	
	74953	Dibromomethane	114.5	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	72 4	%Rec	
	106934	Ethane, 1,2-dibromo-	101.5	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	102 1	%Rec	
	79016	Ethene, trichloro-	127.1	%Rec	
	75003	Ethyl Chloride	94 9	%Rec	
	100414	Ethylbenzene	90 0	%Rec	
	75694	Freon 11	98 0	%Rec	
	75718	Freon 12	97 1	%Rec	
	87683	Hexachlorobutadiene	27.7	%Rec	
	74873	Methane, chloro-	101.4	%Rec	
	67663	Methane, trichloro-	94 0	%Rec	
	75092	Methylene Chloride	103 3	%Rec	
	*1330207	MP-Xylene	84 2	%Rec	

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			Result	Units	Qlfr
Analytes	: 104518	n-Butylbenzene	70 4	%Rec	
	91203	Naphthalene	33.0	%Rec	
	460004	p-Bromofluorobenzene	75.35	%Rec	
	135988	sec-Butylbenzene	87 0	%Rec	
	127184	Tetrachloroethene	93.2	%Rec	
	108883	Toluene	118.3	%Rec	
	2037265	Toluene-d8	122 09	%Rec	
	10061026	Trans-1,3-Dichloropropene	99.6	%Rec	
	75014	Vinyl Chloride	109.0	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314002
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

		Result	Units	Qlfr
Analytes 51285	2,4-Dinitrophenol			NAR
121142	2,4-Dinitrotoluene			NAR
207089	Benzo[k]fluoranthene			NAR
321608	1,1'-Biphenyl, 2-fluoro-	105.02	%Rec	
120821	1,2,4-Trichlorobenzene	90.3	%Rec	
2199691	1,2-Dichlorobenzene-d4	89.82	%Rec	
122667	1,2-Diphenylhydrazine	96.5	%Rec	
95954	2,4,5-Trichlorophenol	103.1	%Rec	
88062	2,4,6-Trichlorophenol	149.3	%Rec	
120832	2,4-Dichlorophenol	87.9	%Rec	
105679	2,4-Dimethylphenol	82.4	%Rec	
606202	2,6-Dinitrotoluene	194.0	%Rec	
91587	2-Chloronaphthalene	98 1	%Rec	
95578	2-Chlorophenol	106.0	%Rec	
93951736	2-chlorophenol-d4	106.81	%Rec	
88755	2-Nitrophenol	82.3	%Rec	
534521	4,6-Dinitro-2-methylphenol	280.5	%Rec	
101553	4-Bromophenyl-Phenylether	98.5	%Rec	
59507	4-Chloro-3-methylphenol	114.1	%Rec	
7005723	4-Chlorophenyl-Phenylether	103.1	%Rec	
106445	4-Methylphenol	92.2	%Rec	
100027	4-Nitrophenol	261.2	%Rec	
86737	9H-Fluorene	102 9	%Rec	
83329	Acenaphthene	100.4	%Rec	
208968	Acenaphthylene	93.2	%Rec	
120127	Anthracene	82.1	%Rec	
95501	Benzene, 1,2-dichloro-	90 6	%Rec	
541731	Benzene, 1,3-dichloro-	88 7	%Rec	
106467	Benzene, 1,4-dichloro-	84 0	%Rec	
100516	Benzenemethanol	96.8	%Rec	
56553	Benzo(a)anthracene	114 8	%Rec	
50328	Benzo(a)pyrene	122.3	%Rec	
191242	Benzo(g,h,i)perylene	146 8	%Rec	
205992	Benzo[b]Fluoranthene	136 3	%Rec	
111444	bis(2-Chloroethyl)ether	97 3	%Rec	
117817	Bis(2-ethylhexyl) phthalate	236 5	%Rec	

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			Result	Units	Qlfr
Analytes :	85687	Butylbenzylphthalate	224 3	%Rec	
	218019	Chrysene	125.8	%Rec	
	1718521	D10-Pyrene	105.16	%Rec	
	84742	Di-n-Butylphthalate	115 5	%Rec	
	117840	Di-n-octylphthalate	285.6	%Rec	
	53703	Dibenz[a,h]anthracene	208.3	%Rec	
	132649	Dibenzofuran	98.0	%Rec	
	84662	Diethyl phthalate	108.5	%Rec	
	131113	Dimethylphthalate	113.5	%Rec	
	206440	Fluoranthene	99 6	%Rec	
	118741	Hexachlorobenzene	98.2	%Rec	
	87683	Hexachlorobutadiene	0 0	%Rec	
	77474	Hexachlorocyclopentadiene	196.0	%Rec	
	67721	Hexachloroethane	88 4	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	269.7	%Rec	
	78591	Isophorone	95.5	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	97.2	%Rec	
	621647	N-Nitrosodinpropylamine	107.1	%Rec	
	86306	n-Nitrosodiphenylamine	66.8	%Rec	
	91203	Naphthalene	97.8	%Rec	
	91576	Naphthalene, 2-methyl-	105 0	%Rec	
	98953	Nitrobenzene	100.1	%Rec	
	4165600	Nitrobenzene-d5	102 40	%Rec	
	87865	Pentachlorophenol	178 5	%Rec	
	85018	Phenanthrene	91 3	%Rec	
	108952	Phenol	108.2	%Rec	
	367124	Phenol, 2-fluoro-	95.16	%Rec	
	95487	Phenol, 2-methyl-	97 9	%Rec	
	4165622	Phenol-d5	92.33	%Rec	
	129000	Pyrene	103.9	%Rec	
	1718510	Terphenyl-d14	109 00	%Rec	
Parameter .	Volatiles				
Method :	8260-M				
Prep Method					
Analytes	67641	2-Propanone			NAR
	630206	1,1,1,2-Tetrachloroethane	104 7	%Rec	
	71556	1,1,1-Trichloroethane	156.9	%Rec	
	79005	1,1,2-Trichloroethane	135 7	%Rec	
	75343	1,1-Dichloroethane	123 9	%Rec	
	75354	1,1-Dichloroethene	117 0	%Rec	
	563586	1,1-Dichloropropene	159 4	%Rec	
	87616	1,2,3-Trichlorobenzene	26 4	%Rec	
	96184	1,2,3-Trichloropropane	215 2	%Rec	
	120821	1,2,4-Trichlorobenzene	32 5	%Rec	
	96128	1,2-Dibromo-3-chloropropane	146 2	%Rec	
	2199691	1,2-Dichlorobenzene-d4	83 57	%Rec	
	107062	1,2-Dichloroethane	118 4	%Rec	

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			Result	Units	Qlfr
Analytes	: 17060070	1,2-Dichloroethane-d4	98.57	%Rec	
	78875	1,2-Dichloropropane	151.4	%Rec	
	142289	1,3-Dichloropropane	136.5	%Rec	
	594207	2,2-Dichloropropane	124.6	%Rec	
	78933	2-Butanone	110.6	%Rec	
	95498	2-Chlorotoluene	123.3	%Rec	
	591786	2-Hexanone	64.3	%Rec	
	108101	2-Pentanone, 4-methyl-	81.3	%Rec	
	106434	4-Chlorotoluene	114.6	%Rec	
	71432	Benzene	156.6	%Rec	
	98828	Benzene, (1-methylethyl)-	152.7	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	87.2	%Rec	
	95501	Benzene, 1,2-dichloro-	75.0	%Rec	
	95476	Benzene, 1,2-dimethyl-	87.5	%Rec	
	108678	Benzene, 1,3,5-trimethyl-	104.0	%Rec	
	541731	Benzene, 1,3-dichloro-	82.2	%Rec	
	106467	Benzene, 1,4-dichloro-	92 9	%Rec	
	540363	Benzene, 1,4-difluoro-	99.27	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	85.2	%Rec	
	108907	Benzene, chloro-	108.2	%Rec	
	100425	Benzene, ethenyl-	85.5	%Rec	
	103651	Benzene, propyl-	128.8	%Rec	
	98066	Benzene, tert-butyl-	103.6	%Rec	
	108861	Bromobenzene	133.5	%Rec	
	74975	Bromochloromethane	115.9	%Rec	
	75274	Bromodichloromethane	152.4	%Rec	
	75252	Bromoform	221.4	%Rec	
	74839	Bromomethane	122.4	%Rec	
	75150	Carbon disulfide	127 1	%Rec	
	56235	Carbon Tetrachloride	147.9	%Rec	
	156592	cis-1,2-Dichloroethene	115 1	%Rec	
	10061015	cis-1,3-Dichloropropene	143 4	%Rec	
	124481	Dibromochloromethane	125.9	%Rec	
	74953	Dibromomethane	152.2	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	100 3	%Rec	
	106934	Ethane, 1,2-dibromo-	130.5	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	125.4	%Rec	
	79016	Ethene, trichloro-	149 1	%Rec	
	75003	Ethyl Chloride	116 3	%Rec	
	100414	Ethylbenzene	104.8	%Rec	
	75694	Freon 11	123.2	%Rec	
	75718	Freon 12	119.9	%Rec	
	87683	Hexachlorobutadiene	31 6	%Rec	
	74873	Methane, chloro-	124.8	%Rec	
	67663	Methane, trichloro-	116 2	%Rec	
	75092	Methylene Chloride	100 8	%Rec	
	*1330207	MP-Xylene	98 0	%Rec	

			Result	Units	Qlfr
Analytes	: 104518	n-Butylbenzene	78 9	%Rec	
	91203	Naphthalene	39.1	%Rec	
	460004	p-Bromofluorobenzene	76 84	%Rec	
	135988	sec-Butylbenzene	101 4	%Rec	
	127184	Tetrachloroethene	111 0	%Rec	
	108883	Toluene	143 0	%Rec	
	2037265	Toluene-d8	125 88	%Rec	
	10061026	Trans-1,3-Dichloropropene	120 0	%Rec	
	75014	Vinyl Chloride	129 9	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314002W
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

			Result	Units	Qlfr
GC					
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3510	Separatory funnel liq-liq extraction			
Analytes	: 309002	Aldrin	65	%Rec	
	*2051243	Decachlorobiphenyl	63	%Rec	
	60571	Dieldrin	60	%Rec	
	72208	Endrin	79	%Rec	
	76448	Heptachlor	89	%Rec	
	58899	Lindane	92	%Rec	
	50293	P,P'-DDT	83	%Rec	
	*300105	Tetrachlorometaxylene	89	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314002X
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3540/608	Soxhlet extraction			
Analytes	. 309002	Aldrin	74	%Rec	
	*2051243	Decachlorobiphenyl	63	%Rec	
	60571	Dieldrin	73	%Rec	
	72208	Endrin	94	%Rec	
	76448	Heptachlor	95	%Rec	
	58899	Lindane	95	%Rec	
	50293	P,P'-DDT	87	%Rec	
	*300105	Tetrachlorometaxylene	92	%Rec	

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314003
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	1.6	ug/kg	U
	319846	Alpha-BHC	1.6	ug/kg	U
	319857	Beta-BHC	1.6	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
	319868	Delta-BHC	1.6	ug/kg	U
	60571	Dieldrin	3.1	ug/kg	U
	959988	Endosulfan I	1.6	ug/kg	U
	33213659	Endosulfan II	3.1	ug/kg	U
	1031078	Endosulfan Sulfate	3.1	ug/kg	U
	72208	Endrin	3 1	ug/kg	U
	7421934	Endrin Aldehyde	3 1	ug/kg	U
	53494705	Endrin Ketone	3.1	ug/kg	U
	5103742	Gamma-Chlordane	1.6	ug/kg	U
	76448	Heptachlor	1.6	ug/kg	U
	1024573	Heptachlor Epoxide	1.6	ug/kg	U
	58899	Lindane	1.6	ug/kg	U
	72435	Methoxychlor	16	ug/kg	U
	72548	P,P'-DDD	3 1	ug/kg	U
	72559	P,P'-DDE	3 1	ug/kg	U
	50293	P,P'-DDT	3.1	ug/kg	U
	12674112	PCB-1016	31	ug/kg	U
	11104282	PCB-1221	62	ug/kg	U
	11141165	PCB-1232	31	ug/kg	U
	53469219	PCB-1242	31	ug/kg	U
	12672296	PCB-1248	31	ug/kg	U
	11097691	PCB-1254	31	ug/kg	U
	11096825	PCB-1260	31	ug/kg	U
	8001352	Toxaphene	156	ug/kg	U
	*2051243	Decachlorobiphenyl	93	%Rec	
	*300105	Tetrachlorometaxylene	98	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	: 120821	1,2,4-Trichlorobenzene	156	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	156	ug/kg	U
	95954	2,4,5-Trichlorophenol	156	ug/kg	U
	88062	2,4,6-Trichlorophenol	156	ug/kg	U
	120832	2,4-Dichlorophenol	312	ug/kg	U
	105679	2,4-Dimethylphenol	156	ug/kg	U
	51285	2,4-Dinitrophenol	1560	ug/kg	U
	121142	2,4-Dinitrotoluene	312	ug/kg	U
	606202	2,6-Dinitrotoluene	312	ug/kg	U
	91587	2-Chloronaphthalene	156	ug/kg	U
	95578	2-Chlorophenol	156	ug/kg	U
	88744	2-Nitroaniline	780	ug/kg	U
	88755	2-Nitrophenol	780	ug/kg	U
	91941	3,3'-Dichlorobenzidine	624	ug/kg	UJK
	99092	3-Nitroaniline	312	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1560	ug/kg	U
	101553	4-Bromophenyl-Phenylether	156	ug/kg	U
	59507	4-Chloro-3-methylphenol	780	ug/kg	U
	106478	4-Chloroaniline	156	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	156	ug/kg	U
	106445	4-Methylphenol	156	ug/kg	U
	100016	4-Nitroaniline	780	ug/kg	U
	100027	4-Nitrophenol	780	ug/kg	U
	86748	9H-Carbazole	156	ug/kg	U
	86737	9H-Fluorene	156	ug/kg	U
	83329	Acenaphthene	156	ug/kg	U
	208968	Acenaphthylene	156	ug/kg	U
	62533	Aniline	156	ug/kg	U
	120127	Anthracene	156	ug/kg	U
	95501	Benzene, 1,2-dichloro-	156	ug/kg	U
	541731	Benzene, 1,3-dichloro-	156	ug/kg	U
	106467	Benzene, 1,4-dichloro-	156	ug/kg	U
	100516	Benzenemethanol	780	ug/kg	U
	92875	Benzidine	624	ug/kg	UJK
	56553	Benzo(a)anthracene	156	ug/kg	U
	50328	Benzo(a)pyrene	156	ug/kg	U
	191242	Benzo(g,h,i)perylene	312	ug/kg	U
	205992	Benzo[b]Fluoranthene	156	ug/kg	U
	207089	Benzo[k]fluoranthene	156	ug/kg	U
	65850	Benzoic acid	1560	ug/kg	U
	111444	bis(2-Chloroethyl)ether	156	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	156	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	780	ug/kg	U
	85687	Butylbenzylphthalate	156	ug/kg	U
	218019	Chrysene	156	ug/kg	U
	84742	Di-n-Butylphthalate	156	ug/kg	U
	117840	Di-n-octylphthalate	312	ug/kg	U
	53703	Dibenz[a,h]anthracene	156	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	156	ug/kg	U
	84662	Diethyl phthalate	156	ug/kg	U
	131113	Dimethylphthalate	156	ug/kg	U
	206440	Fluoranthene	156	ug/kg	U
	118741	Hexachlorobenzene	156	ug/kg	U
	87683	Hexachlorobutadiene	780	ug/kg	U
	77474	Hexachlorocyclopentadiene	780	ug/kg	U
	67721	Hexachloroethane	156	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	156	ug/kg	U
	78591	Isophorone	156	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	156	ug/kg	U
	621647	N-Nitrosodinpropylamine	156	ug/kg	U
	86306	n-Nitrosodiphenylamine	156	ug/kg	U
	91203	Naphthalene	156	ug/kg	U
	90120	Naphthalene, 1-methyl-	156	ug/kg	U
	91576	Naphthalene, 2-methyl-	156	ug/kg	U
	98953	Nitrobenzene	156	ug/kg	U
	87865	Pentachlorophenol	312	ug/kg	U
	85018	Phenanthrene	156	ug/kg	U
	108952	Phenol	156	ug/kg	U
	95487	Phenol, 2-methyl-	156	ug/kg	U
	129000	Pyrene	156	ug/kg	U
	483658	Retene	156	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	97.9	%Rec	
	2199691	1,2-Dichlorobenzene-d4	83 8	%Rec	
	93951736	2-chlorophenol-d4	101	%Rec	
	1718521	D10-Pyrene	99.3	%Rec	
	4165600	Nitrobenzene-d5	94.2	%Rec	
	367124	Phenol, 2-fluoro-	98.2	%Rec	
	4165622	Phenol-d5	87.1	%Rec	
	1718510	Terphenyl-d14	100	%Rec	
Parameter :	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes .	*3008001	Unknown 01	3790	ug/kg	NJ
	*3008002	Unknown 02	1090	ug/kg	NJ
Parameter	Volatiles				
Method :	8260-M				
Prep Method					
Analytes ·	630206	1,1,1,2-Tetrachloroethane	2 0	ug/kg	U
	71556	1,1,1-Trichloroethane	2.0	ug/kg	U
	79005	1,1,2-Trichloroethane	2 0	ug/kg	U
	75343	1,1-Dichloroethane	2 0	ug/kg	U
	75354	1,1-Dichloroethene	2 0	ug/kg	U
	563586	1,1-Dichloropropene	2.0	ug/kg	U
	87616	1,2,3-Trichlorobenzene	10 1	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 96184	1,2,3-Trichloropropane	2 0	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4.0	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4.0	ug/kg	U
	107062	1,2-Dichloroethane	2 0	ug/kg	U
	78875	1,2-Dichloropropane	2.0	ug/kg	U
	142289	1,3-Dichloropropane	2.0	ug/kg	U
	594207	2,2-Dichloropropane	2.0	ug/kg	U
	78933	2-Butanone	8 1	ug/kg	UJK
	95498	2-Chlorotoluene	2.0	ug/kg	U
	591786	2-Hexanone	8.1	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/kg	U
	67641	2-Propanone	62.6	ug/kg	
	106434	4-Chlorotoluene	2 0	ug/kg	U
	71432	Benzene	2.0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.0	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2 0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.0	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.0	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2 0	ug/kg	U
	108907	Benzene, chloro-	2 0	ug/kg	U
	100425	Benzene, ethenyl-	2 0	ug/kg	U
	103651	Benzene, propyl-	2.0	ug/kg	U
	98066	Benzene, tert-butyl-	2.0	ug/kg	U
	108861	Bromobenzene	2 0	ug/kg	U
	74975	Bromochloromethane	2 0	ug/kg	U
	75274	Bromodichloromethane	2.0	ug/kg	U
	75252	Bromoform	2 0	ug/kg	U
	74839	Bromomethane	2 0	ug/kg	U
	75150	Carbon disulfide	4 0	ug/kg	U
	56235	Carbon Tetrachloride	2 0	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 1	ug/kg	U
	124481	Dibromochloromethane	2 0	ug/kg	U
	74953	Dibromomethane	2 0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 0	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2 0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2 0	ug/kg	U
	79016	Ethene, trichloro-	2 0	ug/kg	U
	75003	Ethyl Chloride	2 0	ug/kg	U
	100414	Ethylbenzene	2 0	ug/kg	U
	75694	Freon 11	4 0	ug/kg	U
	75718	Freon 12	2 0	ug/kg	U
	87683	Hexachlorobutadiene	2 0	ug/kg	U
	74873	Methane, chloro-	2 0	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 67663	Methane, trichloro-	4.0	ug/kg	U
	75092	Methylene Chloride	50.2	ug/kg	UJK
	*1330207	MP-Xylene	4.0	ug/kg	U
	104518	n-Butylbenzene	2.0	ug/kg	U
	91203	Naphthalene	4.0	ug/kg	U
	135988	sec-Butylbenzene	2.0	ug/kg	U
	127184	Tetrachloroethene	2.0	ug/kg	U
	108883	Toluene	2.0	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	3.8	ug/kg	U
	75014	Vinyl Chloride	4.0	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	101	%Rec	
	17060070	1,2-Dichloroethane-d4	112	%Rec	
	540363	Benzene, 1,4-difluoro-	97 6	%Rec	
	460004	p-Bromofluorobenzene	104	%Rec	
	2037265	Toluene-d8	101	%Rec	

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314004
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes : 309002	Aldrin	1 6	ug/kg	U
319846	Alpha-BHC	1 6	ug/kg	U
319857	Beta-BHC	1.6	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
319868	Delta-BHC	1 6	ug/kg	U
60571	Dieldrin	3 2	ug/kg	U
959988	Endosulfan I	1 6	ug/kg	U
33213659	Endosulfan II	3.2	ug/kg	U
1031078	Endosulfan Sulfate	3.2	ug/kg	U
72208	Endrin	3.2	ug/kg	U
7421934	Endrin Aldehyde	3 2	ug/kg	U
53494705	Endrin Ketone	3 2	ug/kg	U
5103742	Gamma-Chlordane	1 6	ug/kg	U
76448	Heptachlor	1.6	ug/kg	U
1024573	Heptachlor Epoxide	1 6	ug/kg	U
58899	Lindane	1 6	ug/kg	U
72435	Methoxychlor	16	ug/kg	U
72548	P,P'-DDD	3.2	ug/kg	U
72559	P,P'-DDE	3.2	ug/kg	U
50293	P,P'-DDT	3.2	ug/kg	U
12674112	PCB-1016	32	ug/kg	U
11104282	PCB-1221	63	ug/kg	U
11141165	PCB-1232	32	ug/kg	U
53469219	PCB-1242	32	ug/kg	U
12672296	PCB-1248	32	ug/kg	U
11097691	PCB-1254	32	ug/kg	U
11096825	PCB-1260	32	ug/kg	U
8001352	Toxaphene	159	ug/kg	U
*2051243	Decachlorobiphenyl	109	%Rec	
*300105	Tetrachlorometaxylene	104	%Rec	

GCMS

Parameter Semi-volatiles
Method : 8270-M
Prep Method:

		Result	Units	Qlfr
Analytes 120821	1,2,4-Trichlorobenzene	159	ug/kg	U

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			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	159	ug/kg	U
	95954	2,4,5-Trichlorophenol	159	ug/kg	U
	88062	2,4,6-Trichlorophenol	159	ug/kg	U
	120832	2,4-Dichlorophenol	317	ug/kg	U
	105679	2,4-Dimethylphenol	159	ug/kg	U
	51285	2,4-Dinitrophenol	1590	ug/kg	U
	121142	2,4-Dinitrotoluene	317	ug/kg	U
	606202	2,6-Dinitrotoluene	317	ug/kg	U
	91587	2-Chloronaphthalene	159	ug/kg	U
	95578	2-Chlorophenol	159	ug/kg	U
	88744	2-Nitroaniline	794	ug/kg	U
	88755	2-Nitrophenol	794	ug/kg	U
	91941	3,3'-Dichlorobenzidine	635	ug/kg	UJK
	99092	3-Nitroaniline	317	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1590	ug/kg	U
	101553	4-Bromophenyl-Phenylether	159	ug/kg	U
	59507	4-Chloro-3-methylphenol	794	ug/kg	U
	106478	4-Chloroaniline	159	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	159	ug/kg	U
	106445	4-Methylphenol	159	ug/kg	U
	100016	4-Nitroaniline	794	ug/kg	U
	100027	4-Nitrophenol	794	ug/kg	U
	86748	9H-Carbazole	159	ug/kg	U
	86737	9H-Fluorene	159	ug/kg	U
	83329	Acenaphthene	159	ug/kg	U
	208968	Acenaphthylene	159	ug/kg	U
	62533	Aniline	159	ug/kg	U
	120127	Anthracene	159	ug/kg	U
	95501	Benzene, 1,2-dichloro-	159	ug/kg	U
	541731	Benzene, 1,3-dichloro-	159	ug/kg	U
	106467	Benzene, 1,4-dichloro-	159	ug/kg	U
	100516	Benzenemethanol	794	ug/kg	U
	92875	Benzidine	635	ug/kg	UJK
	56553	Benzo(a)anthracene	159	ug/kg	U
	50328	Benzo(a)pyrene	159	ug/kg	U
	191242	Benzo(g,h,i)perylene	317	ug/kg	U
	205992	Benzo[b]Fluoranthene	159	ug/kg	U
	207089	Benzo[k]fluoranthene	159	ug/kg	U
	65850	Benzoic acid	1590	ug/kg	U
	111444	bis(2-Chloroethyl)ether	159	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	159	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	794	ug/kg	U
	85687	Butylbenzylphthalate	159	ug/kg	U
	218019	Chrysene	159	ug/kg	U
	84742	Di-n-Butylphthalate	159	ug/kg	U
	117840	Di-n-octylphthalate	317	ug/kg	U
	53703	Dibenz[a,h]anthracene	159	ug/kg	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	159	ug/kg	U
	84662	Diethyl phthalate	159	ug/kg	U
	131113	Dimethylphthalate	159	ug/kg	U
	206440	Fluoranthene	159	ug/kg	U
	118741	Hexachlorobenzene	159	ug/kg	U
	87683	Hexachlorobutadiene	794	ug/kg	U
	77474	Hexachlorocyclopentadiene	794	ug/kg	U
	67721	Hexachloroethane	159	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	159	ug/kg	U
	78591	Isophorone	159	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	159	ug/kg	U
	621647	N-Nitrosodinpropylamine	159	ug/kg	U
	86306	n-Nitrosodiphenylamine	159	ug/kg	U
	91203	Naphthalene	159	ug/kg	U
	90120	Naphthalene, 1-methyl-	159	ug/kg	U
	91576	Naphthalene, 2-methyl-	159	ug/kg	U
	98953	Nitrobenzene	159	ug/kg	U
	87865	Pentachlorophenol	317	ug/kg	U
	85018	Phenanthrene	159	ug/kg	U
	108952	Phenol	159	ug/kg	U
	95487	Phenol, 2-methyl-	159	ug/kg	U
	129000	Pyrene	159	ug/kg	U
	483658	Retene	159	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	110	%Rec	
	2199691	1,2-Dichlorobenzene-d4	95 2	%Rec	
	93951736	2-chlorophenol-d4	112	%Rec	
	1718521	D10-Pyrene	104	%Rec	
	4165600	Nitrobenzene-d5	109	%Rec	
	367124	Phenol, 2-fluoro-	106	%Rec	
	4165622	Phenol-d5	97 0	%Rec	
	1718510	Terphenyl-d14	108	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method					
Analytes	106423	Benzene, 1,4-dimethyl-	952	ug/kg	NJ
	*3008001	Unknown 01	7560	ug/kg	NJ
	*3008002	Unknown 02	852	ug/kg	NJ
	*3008003	Unknown 03	3610	ug/kg	NJ
	*3008004	Unknown 04	1480	ug/kg	NJ
	*3008005	Unknown 05	1040	ug/kg	NJ
	*3008006	Unknown 06	1420	ug/kg	NJ
	*3008007	Unknown 07	1590	ug/kg	NJ
	*3008008	Unknown 08	943	ug/kg	NJ

			Result	Units	Qlfr
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method	:				
Analytes	: 630206	1,1,1,2-Tetrachloroethane	2.2	ug/kg	U
	71556	1,1,1-Trichloroethane	2.2	ug/kg	U
	79005	1,1,2-Trichloroethane	2.2	ug/kg	U
	75343	1,1-Dichloroethane	2.2	ug/kg	U
	75354	1,1-Dichloroethene	2.2	ug/kg	U
	563586	1,1-Dichloropropene	2.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	4 4	ug/kg	U
	96184	1,2,3-Trichloropropane	2.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4.4	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4 4	ug/kg	U
	107062	1,2-Dichloroethane	2.2	ug/kg	U
	78875	1,2-Dichloropropane	2.2	ug/kg	U
	142289	1,3-Dichloropropane	2.2	ug/kg	U
	594207	2,2-Dichloropropane	2.2	ug/kg	U
	78933	2-Butanone	22.2	ug/kg	UJK
	95498	2-Chlorotoluene	2.2	ug/kg	U
	591786	2-Hexanone	8.9	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.2	ug/kg	U
	67641	2-Propanone	67 7	ug/kg	U
	106434	4-Chlorotoluene	2.2	ug/kg	U
	71432	Benzene	2.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.2	ug/kg	U
	108907	Benzene, chloro-	2.2	ug/kg	U
	100425	Benzene, ethenyl-	2.2	ug/kg	U
	103651	Benzene, propyl-	2.2	ug/kg	U
	98066	Benzene, tert-butyl-	2 2	ug/kg	U
	108861	Bromobenzene	2 2	ug/kg	U
	74975	Bromochloromethane	4.4	ug/kg	U
	75274	Bromodichloromethane	2.2	ug/kg	U
	75252	Bromoform	4 4	ug/kg	U
	74839	Bromomethane	2 2	ug/kg	U
	75150	Carbon disulfide	2.2	ug/kg	U
	56235	Carbon Tetrachloride	2 2	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 3	ug/kg	U
	124481	Dibromochloromethane	2.2	ug/kg	U
	74953	Dibromomethane	2 2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 2	ug/kg	U

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			Result	Units	Qlfr
Analytes	106934	Ethane, 1,2-dibromo-	2.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.2	ug/kg	U
	79016	Ethene, trichloro-	4 4	ug/kg	U
	75003	Ethyl Chloride	2 2	ug/kg	U
	100414	Ethylbenzene	2.2	ug/kg	U
	75694	Freon 11	4 4	ug/kg	U
	75718	Freon 12	2.2	ug/kg	U
	87683	Hexachlorobutadiene	2.2	ug/kg	U
	74873	Methane, chloro-	2.2	ug/kg	U
	67663	Methane, trichloro-	2 2	ug/kg	U
	75092	Methylene Chloride	22.9	ug/kg	UJK
	*1330207	MP-Xylene	4.4	ug/kg	U
	104518	n-Butylbenzene	2 2	ug/kg	U
	91203	Naphthalene	4 4	ug/kg	U
	135988	sec-Butylbenzene	2 2	ug/kg	U
	127184	Tetrachloroethene	2.2	ug/kg	U
	108883	**Toluene**	**31.1**	**ug/kg**	
	10061026	Trans-1,3-Dichloropropene	4 2	ug/kg	U
	75014	Vinyl Chloride	2.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	102	%Rec	
	17060070	1,2-Dichloroethane-d4	110	%Rec	
	540363	Benzene, 1,4-difluoro-	98.3	%Rec	
	460004	p-Bromofluorobenzene	95 6	%Rec	
	2037265	Toluene-d8	101	%Rec	
Parameter	Volatiles - Tentatives				
Method	8260-M				
Prep Method	-				
Analytes	***3008001**	**Unknown 01**	**4.8**	**ug/kg**	**NJ**

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314005
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	1.6	ug/kg	U
319846	Alpha-BHC	1 6	ug/kg	U
319857	Beta-BHC	1.6	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
319868	Delta-BHC	1 6	ug/kg	U
60571	Dieldrin	3.2	ug/kg	U
959988	Endosulfan I	1.6	ug/kg	U
33213659	Endosulfan II	3.2	ug/kg	U
1031078	Endosulfan Sulfate	3.2	ug/kg	U
72208	Endrin	3.2	ug/kg	U
7421934	Endrin Aldehyde	3.2	ug/kg	U
53494705	Endrin Ketone	3.2	ug/kg	U
5103742	Gamma-Chlordane	1.6	ug/kg	U
76448	Heptachlor	1.6	ug/kg	U
1024573	Heptachlor Epoxide	1 6	ug/kg	U
58899	Lindane	1 6	ug/kg	U
72435	Methoxychlor	16	ug/kg	U
72548	P,P'-DDD	3 2	ug/kg	U
72559	P,P'-DDE	3 2	ug/kg	U
50293	P,P'-DDT	3.2	ug/kg	U
12674112	PCB-1016	32	ug/kg	U
11104282	PCB-1221	64	ug/kg	U
11141165	PCB-1232	32	ug/kg	U
53469219	PCB-1242	32	ug/kg	U
12672296	PCB-1248	32	ug/kg	U
11097691	PCB-1254	32	ug/kg	U
11096825	PCB-1260	32	ug/kg	U
8001352	Toxaphene	160	ug/kg	U
*2051243	Decachlorobiphenyl	109	%Rec	
*300105	Tetrachlorometaxylene	69	%Rec	

GCMS

Parameter : Semi-volatiles
Method 8270 Semi
Prep Method

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Analytes				
120821	1,2,4-Trichlorobenzene	160	ug/kg	U

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	160	ug/kg	U
	95954	2,4,5-Trichlorophenol	160	ug/kg	U
	88062	2,4,6-Trichlorophenol	160	ug/kg	U
	120832	2,4-Dichlorophenol	320	ug/kg	U
	105679	2,4-Dimethylphenol	160	ug/kg	U
	51285	2,4-Dinitrophenol	1600	ug/kg	U
	121142	2,4-Dinitrotoluene	320	ug/kg	U
	606202	2,6-Dinitrotoluene	320	ug/kg	U
	91587	2-Chloronaphthalene	160	ug/kg	U
	95578	2-Chlorophenol	160	ug/kg	U
	88744	2-Nitroaniline	799	ug/kg	U
	88755	2-Nitrophenol	799	ug/kg	U
	91941	3,3'-Dichlorobenzidine	639	ug/kg	UJK
	99092	3-Nitroaniline	320	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1600	ug/kg	U
	101553	4-Bromophenyl-Phenylether	160	ug/kg	U
	59507	4-Chloro-3-methylphenol	799	ug/kg	U
	106478	4-Chloroaniline	160	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	160	ug/kg	U
	106445	4-Methylphenol	160	ug/kg	U
	100016	4-Nitroaniline	799	ug/kg	U
	100027	4-Nitrophenol	799	ug/kg	U
	86748	9H-Carbazole	160	ug/kg	U
	86737	9H-Fluorene	160	ug/kg	U
	83329	Acenaphthene	160	ug/kg	U
	208968	Acenaphthylene	160	ug/kg	U
	62533	Aniline	160	ug/kg	U
	120127	Anthracene	160	ug/kg	U
	95501	Benzene, 1,2-dichloro-	160	ug/kg	U
	541731	Benzene, 1,3-dichloro-	160	ug/kg	U
	106467	Benzene, 1,4-dichloro-	160	ug/kg	U
	100516	Benzenemethanol	799	ug/kg	U
	92875	Benzidine	639	ug/kg	UJK
	56553	Benzo(a)anthracene	160	ug/kg	U
	50328	Benzo(a)pyrene	160	ug/kg	U
	191242	Benzo(g,h,i)perylene	320	ug/kg	U
	205992	Benzo[b]Fluoranthene	160	ug/kg	U
	207089	Benzo[k]fluoranthene	160	ug/kg	U
	65850	Benzoic acid	1600	ug/kg	U
	111444	bis(2-Chloroethyl)ether	160	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	160	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	799	ug/kg	U
	85687	Butylbenzylphthalate	160	ug/kg	U
	218019	Chrysene	160	ug/kg	U
	84742	Di-n-Butylphthalate	160	ug/kg	U
	117840	Di-n-octylphthalate	320	ug/kg	U
	53703	Dibenz[a,h]anthracene	160	ug/kg	U

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			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	160	ug/kg	U
	84662	Diethyl phthalate	160	ug/kg	U
	131113	Dimethylphthalate	160	ug/kg	U
	206440	Fluoranthene	160	ug/kg	U
	118741	Hexachlorobenzene	160	ug/kg	U
	87683	Hexachlorobutadiene	799	ug/kg	U
	77474	Hexachlorocyclopentadiene	799	ug/kg	U
	67721	Hexachloroethane	160	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	160	ug/kg	U
	78591	Isophorone	160	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	160	ug/kg	U
	621647	N-Nitrosodinpropylamine	160	ug/kg	U
	86306	n-Nitrosodiphenylamine	160	ug/kg	U
	91203	Naphthalene	160	ug/kg	U
	90120	Naphthalene, 1-methyl-	160	ug/kg	U
	91576	Naphthalene, 2-methyl-	160	ug/kg	U
	98953	Nitrobenzene	160	ug/kg	U
	87865	Pentachlorophenol	320	ug/kg	U
	85018	Phenanthrene	160	ug/kg	U
	108952	Phenol	160	ug/kg	U
	95487	Phenol, 2-methyl-	160	ug/kg	U
	129000	Pyrene	160	ug/kg	U
	483658	Retene	160	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	101	%Rec	
	2199691	1,2-Dichlorobenzene-d4	77.2	%Rec	
	93951736	2-chlorophenol-d4	92.9	%Rec	
	1718521	D10-Pyrene	103	%Rec	
	4165600	Nitrobenzene-d5	80.3	%Rec	
	367124	Phenol, 2-fluoro-	86.5	%Rec	
	4165622	Phenol-d5	83.1	%Rec	
	1718510	Terphenyl-d14	102	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method

Analytes	611643	Acridine, 9-methyl-	6520	ug/kg	NJ
	61142709	Cyclohexane, 2,4-diethyl-1-met hyl-	2130	ug/kg	NJ
	702794	Tricyclo[3.3.1.1(3,7)]decane, 1,3-dimeth	1780	ug/kg	NJ
	*3008001	Unknown 01	2180	ug/kg	NJ
	*3008002	Unknown 02	3180	ug/kg	NJ
	*3008003	Unknown 03	3160	ug/kg	NJ
	*3008004	Unknown 04	3680	ug/kg	NJ
	*3008005	Unknown 05	3170	ug/kg	NJ
	*3008006	Unknown 06	1580	ug/kg	NJ
	*3008007	Unknown 07	2520	ug/kg	NJ
	*3008008	Unknown 08	2340	ug/kg	NJ
	*3008009	Unknown 09	10900	ug/kg	NJ

			Result	Units	Qlfr
Analytes :	*3008010	Unknown 10	8710	ug/kg	NJ
	*3008011	Unknown 11	3470	ug/kg	NJ
	*3008012	Unknown 12	3820	ug/kg	NJ
	*3008013	Unknown 13	6850	ug/kg	NJ
	*3008014	Unknown 14	16400	ug/kg	NJ
	*3008015	Unknown 15	3470	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method:					
Analytes :	630206	1,1,1,2-Tetrachloroethane	2.2	ug/kg	U
	71556	1,1,1-Trichloroethane	2.2	ug/kg	U
	79005	1,1,2-Trichloroethane	2.2	ug/kg	U
	75343	1,1-Dichloroethane	2.2	ug/kg	U
	75354	1,1-Dichloroethene	2.2	ug/kg	U
	563586	1,1-Dichloropropene	2.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	10 8	ug/kg	U
	96184	1,2,3-Trichloropropane	2.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4.3	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4.3	ug/kg	U
	107062	1,2-Dichloroethane	2.2	ug/kg	U
	78875	1,2-Dichloropropane	2.2	ug/kg	U
	142289	1,3-Dichloropropane	2.2	ug/kg	U
	594207	2,2-Dichloropropane	2.2	ug/kg	U
	78933	2-Butanone	8 6	ug/kg	UJK
	95498	2-Chlorotoluene	2.2	ug/kg	U
	591786	2-Hexanone	8 6	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.2	ug/kg	U
	67641	2-Propanone	43.7	ug/kg	U
	106434	4-Chlorotoluene	2.2	ug/kg	U
	71432	Benzene	2.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2 2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.2	ug/kg	U
	108907	Benzene, chloro-	2.2	ug/kg	U
	100425	Benzene, ethenyl-	2 2	ug/kg	U
	103651	Benzene, propyl-	2.2	ug/kg	U
	98066	Benzene, tert-butyl-	2.2	ug/kg	U
	108861	Bromobenzene	2.2	ug/kg	U
	74975	Bromochloromethane	2.2	ug/kg	U
	75274	Bromodichloromethane	2 2	ug/kg	U
	75252	Bromoform	2 2	ug/kg	U
	74839	Bromomethane	2 2	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 75150	Carbon disulfide	4.3	ug/kg	U
	56235	Carbon Tetrachloride	2.2	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 3	ug/kg	U
	124481	Dibromochloromethane	2.2	ug/kg	U
	74953	Dibromomethane	2.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.2	ug/kg	U
	79016	Ethene, trichloro-	2.2	ug/kg	U
	75003	Ethyl Chloride	2.2	ug/kg	U
	100414	Ethylbenzene	2.2	ug/kg	U
	75694	Freon 11	4 3	ug/kg	U
	75718	Freon 12	2.2	ug/kg	U
	87683	Hexachlorobutadiene	2.2	ug/kg	U
	74873	Methane, chloro-	2.2	ug/kg	U
	67663	Methane, trichloro-	4.3	ug/kg	U
	75092	Methylene Chloride	57.1	ug/kg	UJK
	*1330207	MP-Xylene	4.3	ug/kg	U
	104518	n-Butylbenzene	2.2	ug/kg	U
	91203	Naphthalene	4.3	ug/kg	U
	135988	sec-Butylbenzene	2.2	ug/kg	U
	127184	Tetrachloroethene	2.2	ug/kg	U
	108883	Toluene	2.2	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	4 0	ug/kg	U
	75014	Vinyl Chloride	4.3	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	116	%Rec	
	17060070	1,2-Dichloroethane-d4	107	%Rec	
	540363	Benzene, 1,4-difluoro-	97.6	%Rec	
	460004	p-Bromofluorobenzene	104	%Rec	
	2037265	Toluene-d8	102	%Rec	

Parameter . Volatiles - Tentatives
Method : 8260-M
Prep Method.

Analytes	: 29253643	1,3-Hexadiene, 2,5-dimethyl-	21.3	ug/kg	NJ
	4057425	2-Octene, 2,6-dimethyl-	18.5	ug/kg	NJ
	50876329	Cyclohexane, 1,1,3,5-tetrameth yl-, cis-	39.7	ug/kg	NJ
	50876318	Cyclohexane, 1,1,3,5-tetrameth yl-, trans	23.0	ug/kg	NJ
	74663664	Cyclohexane, 1,5-diethyl-2,3-d imethyl-	8.1	ug/kg	NJ
	61142709	Cyclohexane, 2,4-diethyl-1-met hyl-	18.9	ug/kg	NJ
	26510929	Cyclohexanol, 5-methyl-2-(1-me thylethyl)	31.4	ug/kg	NJ
	54549814	Cyclopentanone, 2-methyl-3-(1-methylethy	21.1	ug/kg	NJ
	74792873	Phosphonous dichloride, [methy l(1-methyl	6 8	ug/kg	NJ

			Result	Units	Qlfr
Analytes	: 702794	Tricyclo[3.3.1.1(3,7)]decane, 1,3-dimeth	238	ug/kg	NJ
	*3008001	Unknown 01	12.9	ug/kg	NJ
	*3008002	Unknown 02	16.6	ug/kg	NJ
	*3008003	Unknown 03	31.2	ug/kg	NJ
	*3008004	Unknown 04	1350	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14006
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

			Result	Units	Qlfr
Analytes :	309002	Aldrin	1.6	ug/kg	U
	319846	Alpha-BHC	1.6	ug/kg	U
	319857	Beta-BHC	1.6	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
	319868	Delta-BHC	1.6	ug/kg	U
	60571	Dieldrin	3.2	ug/kg	U
	959988	Endosulfan I	1.6	ug/kg	U
	33213659	Endosulfan II	3.2	ug/kg	U
	1031078	Endosulfan Sulfate	3.2	ug/kg	U
	72208	Endrin	3.2	ug/kg	U
	7421934	Endrin Aldehyde	3.2	ug/kg	U
	53494705	Endrin Ketone	3.2	ug/kg	U
	5103742	Gamma-Chlordane	1.6	ug/kg	U
	76448	Heptachlor	1.6	ug/kg	U
	1024573	Heptachlor Epoxide	1.6	ug/kg	U
	58899	Lindane	1.6	ug/kg	U
	72435	Methoxychlor	16	ug/kg	U
	72548	P,P'-DDD	3.2	ug/kg	U
	72559	P,P'-DDE	3.2	ug/kg	U
	50293	P,P'-DDT	3.2	ug/kg	U
	12674112	PCB-1016	32	ug/kg	U
	11104282	PCB-1221	64	ug/kg	U
	11141165	PCB-1232	32	ug/kg	U
	53469219	PCB-1242	32	ug/kg	U
	12672296	PCB-1248	32	ug/kg	U
	11097691	PCB-1254	32	ug/kg	U
	11096825	PCB-1260	32	ug/kg	U
	8001352	Toxaphene	161	ug/kg	U
	*2051243	Decachlorobiphenyl	80	%Rec	
	*300105	Tetrachlorometaxylene	87	%Rec	

GCMS

Parameter . Semi-volatiles
Method 8270-NT
Prep Method

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Analytes	120821	1,2,4-Trichlorobenzene	161	ug/kg	U

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	161	ug/kg	U
	95954	2,4,5-Trichlorophenol	161	ug/kg	U
	88062	2,4,6-Trichlorophenol	161	ug/kg	U
	120832	2,4-Dichlorophenol	322	ug/kg	U
	105679	2,4-Dimethylphenol	161	ug/kg	U
	51285	2,4-Dinitrophenol	1610	ug/kg	U
	121142	2,4-Dinitrotoluene	322	ug/kg	U
	606202	2,6-Dinitrotoluene	322	ug/kg	U
	91587	2-Chloronaphthalene	161	ug/kg	U
	95578	2-Chlorophenol	161	ug/kg	U
	88744	2-Nitroaniline	804	ug/kg	U
	88755	2-Nitrophenol	804	ug/kg	U
	91941	3,3'-Dichlorobenzidine	643	ug/kg	UJK
	99092	3-Nitroaniline	322	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1610	ug/kg	U
	101553	4-Bromophenyl-Phenylether	161	ug/kg	U
	59507	4-Chloro-3-methylphenol	804	ug/kg	U
	106478	4-Chloroaniline	161	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	161	ug/kg	U
	106445	4-Methylphenol	161	ug/kg	U
	100016	4-Nitroaniline	804	ug/kg	U
	100027	4-Nitrophenol	804	ug/kg	U
	86748	9H-Carbazole	161	ug/kg	U
	86737	9H-Fluorene	161	ug/kg	U
	83329	Acenaphthene	161	ug/kg	U
	208968	Acenaphthylene	161	ug/kg	U
	62533	Aniline	161	ug/kg	U
	120127	Anthracene	161	ug/kg	U
	95501	Benzene, 1,2-dichloro-	161	ug/kg	U
	541731	Benzene, 1,3-dichloro-	161	ug/kg	U
	106467	Benzene, 1,4-dichloro-	161	ug/kg	U
	100516	Benzenemethanol	804	ug/kg	U
	92875	Benzidine	643	ug/kg	UJK
	56553	Benzo(a)anthracene	161	ug/kg	U
	50328	Benzo(a)pyrene	161	ug/kg	U
	191242	Benzo(g,h,i)perylene	322	ug/kg	U
	205992	Benzo[b]Fluoranthene	161	ug/kg	U
	207089	Benzo[k]fluoranthene	161	ug/kg	U
	65850	Benzoic acid	1610	ug/kg	U
	111444	bis(2-Chloroethyl)ether	161	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	161	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	804	ug/kg	U
	85687	Butylbenzylphthalate	161	ug/kg	U
	218019	Chrysene	161	ug/kg	U
	84742	Di-n-Butylphthalate	161	ug/kg	U
	117840	Di-n-octylphthalate	322	ug/kg	U
	53703	Dibenz[a,h]anthracene	161	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	161	ug/kg	U
	84662	Diethyl phthalate	161	ug/kg	U
	131113	Dimethylphthalate	161	ug/kg	U
	206440	Fluoranthene	161	ug/kg	U
	118741	Hexachlorobenzene	161	ug/kg	U
	87683	Hexachlorobutadiene	804	ug/kg	U
	77474	Hexachlorocyclopentadiene	804	ug/kg	U
	67721	Hexachloroethane	161	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	161	ug/kg	U
	78591	Isophorone	161	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	161	ug/kg	U
	621647	N-Nitrosodinpropylamine	161	ug/kg	U
	86306	n-Nitrosodiphenylamine	161	ug/kg	U
	91203	Naphthalene	161	ug/kg	U
	90120	Naphthalene, 1-methyl-	161	ug/kg	U
	91576	Naphthalene, 2-methyl-	161	ug/kg	U
	98953	Nitrobenzene	161	ug/kg	U
	87865	Pentachlorophenol	322	ug/kg	U
	85018	Phenanthrene	161	ug/kg	U
	108952	Phenol	161	ug/kg	U
	95487	Phenol, 2-methyl-	161	ug/kg	U
	129000	Pyrene	161	ug/kg	U
	483658	Retene	161	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	106	%Rec	
	2199691	1,2-Dichlorobenzene-d4	93.2	%Rec	
	93951736	2-chlorophenol-d4	101	%Rec	
	1718521	D10-Pyrene	106	%Rec	
	4165600	Nitrobenzene-d5	96.6	%Rec	
	367124	Phenol, 2-fluoro-	96.1	%Rec	
	4165622	Phenol-d5	92 4	%Rec	
	1718510	Terphenyl-d14	113	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method:

Analytes :	502692	2-Pentadecanone, 6,10,14-tr	5220	ug/kg	NJ
	17312628	Decane, 5-propyl-	5100	ug/kg	NJ
	74645980	Dodecane, 2,7,10-trimethyl-	7210	ug/kg	NJ
	54833486	Heptadecane, 2,6,10,15-tetrame thyl-	3470	ug/kg	NJ
	2051301	Octane, 2,6-dimethyl-	1740	ug/kg	NJ
	1921706	Pentadecane, 2,6,10,14-tetrame thyl-	9480	ug/kg	NJ
	17453940	Undecane, 5-ethyl-	6630	ug/kg	NJ
	*3008001	Unknown 01	1560	ug/kg	NJ
	*3008002	Unknown 02	2620	ug/kg	NJ
	*3008003	Unknown 03	1850	ug/kg	NJ
	*3008004	Unknown 04	1930	ug/kg	NJ
	*3008005	Unknown 05	1920	ug/kg	NJ
	*3008006	Unknown 06	2200	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: *3008007	Unknown 07	9110	ug/kg	NJ
	*3008008	Unknown 08	2150	ug/kg	NJ
	*3008009	Unknown 09	5900	ug/kg	NJ
	*3008010	Unknown 10	2880	ug/kg	NJ
	*3008011	Unknown 11	16100	ug/kg	NJ
	*3008012	Unknown 12	2310	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method.					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	5.2	ug/kg	U
	71556	1,1,1-Trichloroethane	5.2	ug/kg	U
	79005	1,1,2-Trichloroethane	5 2	ug/kg	U
	75343	1,1-Dichloroethane	5.2	ug/kg	U
	75354	1,1-Dichloroethene	5.2	ug/kg	U
	563586	1,1-Dichloropropene	5.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	10.5	ug/kg	U
	96184	1,2,3-Trichloropropane	5.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	10 5	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	10.5	ug/kg	U
	107062	1,2-Dichloroethane	5.2	ug/kg	U
	78875	1,2-Dichloropropane	5.2	ug/kg	U
	142289	1,3-Dichloropropane	5.2	ug/kg	U
	594207	2,2-Dichloropropane	5.2	ug/kg	U
	78933	2-Butanone	52 4	ug/kg	UJK
	95498	2-Chlorotoluene	5.2	ug/kg	U
	591786	2-Hexanone	21 0	ug/kg	U
	108101	2-Pentanone, 4-methyl-	5.2	ug/kg	U
	67641	2-Propanone	105	ug/kg	U
	106434	4-Chlorotoluene	5.2	ug/kg	U
	71432	Benzene	5.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	5.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	5 2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	5 2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	5 2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	5.2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	5.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	5 2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	5 2	ug/kg	U
	108907	Benzene, chloro-	5 2	ug/kg	U
	100425	Benzene, ethenyl-	5 2	ug/kg	U
	103651	Benzene, propyl-	5 2	ug/kg	U
	98066	Benzene, tert-butyl-	5 2	ug/kg	U
	108861	Bromobenzene	5 2	ug/kg	U
	74975	Bromochloromethane	10 5	ug/kg	U
	75274	Bromodichloromethane	5 2	ug/kg	U
	75252	Bromoform	10 5	ug/kg	U
	74839	Bromomethane	5 2	ug/kg	U

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			Result	Units	Qlfr
Analytes :	75150	Carbon disulfide	5.2	ug/kg	U
	56235	Carbon Tetrachloride	5.2	ug/kg	U
	156592	cis-1,2-Dichloroethene	5.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	5.6	ug/kg	U
	124481	Dibromochloromethane	5.2	ug/kg	U
	74953	Dibromomethane	5.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	5.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	5.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	5.2	ug/kg	U
	79016	Ethene, trichloro-	10.5	ug/kg	U
	75003	Ethyl Chloride	5.2	ug/kg	U
	100414	Ethylbenzene	5.2	ug/kg	U
	75694	Freon 11	10.5	ug/kg	U
	75718	Freon 12	5.2	ug/kg	U
	87683	Hexachlorobutadiene	5.2	ug/kg	U
	74873	Methane, chloro-	5.2	ug/kg	U
	67663	Methane, trichloro-	5.2	ug/kg	U
	75092	Methylene Chloride	52.4	ug/kg	UJK
	*1330207	MP-Xylene	10.5	ug/kg	U
	104518	n-Butylbenzene	5.2	ug/kg	U
	91203	Naphthalene	10 5	ug/kg	U
	135988	sec-Butylbenzene	5.2	ug/kg	U
	127184	Tetrachloroethene	5.2	ug/kg	U
	108883	Toluene	99.5	ug/kg	
	10061026	Trans-1,3-Dichloropropene	9 8	ug/kg	U
	75014	Vinyl Chloride	5.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	91.3	%Rec	
	17060070	1,2-Dichloroethane-d4	108	%Rec	
	540363	Benzene, 1,4-difluoro-	99.4	%Rec	
	460004	p-Bromofluorobenzene	88.0	%Rec	
	2037265	Toluene-d8	103	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method.

Analytes :	56324711	1H-Indene, 1-ethyloctahydro-7a -methyl-,	257	ug/kg	NJ
	74663711	Cyclohexane, 1,1'-(1,2-dimethy l-1,2-etha	29.6	ug/kg	NJ
	1124250	Cyclohexane, 1-methyl-4-(1-met hylethenyl	252	ug/kg	NJ
	61142709	Cyclohexane, 2,4-diethyl-1-met hyl-	365	ug/kg	NJ
	4259001	Cyclopentane, 1,1,2-trimethyl-	94.9	ug/kg	NJ
	1618220	Naphthalene, decahydro-2,6-dim ethyl-	57.8	ug/kg	NJ
	74792873	Phosphonous dichloride, [methy l(1-methyl	25.7	ug/kg	NJ
	*3008001	Unknown 01	43.1	ug/kg	NJ
	*3008002	Unknown 02	20.1	ug/kg	NJ

			Result	Units	Qlfr
Analytes	: *3008003	Unknown 03	37.7	ug/kg	NJ
	*3008004	Unknown 04	206	ug/kg	NJ
	*3008005	Unknown 05	127	ug/kg	NJ
	*3008006	Unknown 06	155	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314007
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes : 309002	Aldrin	2.4	ug/kg	U
319846	Alpha-BHC	2.4	ug/kg	U
319857	Beta-BHC	2.4	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	2.4	ug/kg	U
319868	Delta-BHC	2.4	ug/kg	U
60571	Dieldrin	23.8	ug/kg	U
959988	Endosulfan I	11.9	ug/kg	U
33213659	Endosulfan II	23.8	ug/kg	U
1031078	Endosulfan Sulfate	23.8	ug/kg	U
72208	Endrin	23.8	ug/kg	U
7421934	Endrin Aldehyde	23.8	ug/kg	U
53494705	Endrin Ketone	23.8	ug/kg	U
5103742	Gamma-Chlordane	2.4	ug/kg	U
76448	Heptachlor	2.4	ug/kg	U
1024573	Heptachlor Epoxide	2.4	ug/kg	U
58899	Lindane	2.4	ug/kg	U
72435	Methoxychlor	119	ug/kg	U
72548	P,P'-DDD	4.8	ug/kg	U
72559	P,P'-DDE	4.8	ug/kg	U
50293	P,P'-DDT	4.8	ug/kg	U
12674112	PCB-1016	48	ug/kg	U
11104282	PCB-1221	95	ug/kg	U
11141165	PCB-1232	48	ug/kg	U
53469219	PCB-1242	48	ug/kg	U
12672296	PCB-1248	48	ug/kg	U
11097691	PCB-1254	48	ug/kg	U
11096825	PCB-1260	48	ug/kg	U
8001352	Toxaphene	238	ug/kg	U
*2051243	Decachlorobiphenyl	60	%Rec	
*300105	Tetrachlorometaxylene	62	%Rec	

GCMS

Parameter Semi-volatiles
Method 8270-M
Prep Method

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		Result	Units	Qlfr
Analytes : 120821	1,2,4-Trichlorobenzene	2380	ug/kg	U

Manchester Environmental Laboratory

Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	2380	ug/kg	U
	95954	2,4,5-Trichlorophenol	2380	ug/kg	U
	88062	2,4,6-Trichlorophenol	2380	ug/kg	U
	120832	2,4-Dichlorophenol	4760	ug/kg	U
	105679	2,4-Dimethylphenol	2380	ug/kg	U
	51285	2,4-Dinitrophenol	23800	ug/kg	U
	121142	2,4-Dinitrotoluene	4760	ug/kg	U
	606202	2,6-Dinitrotoluene	4760	ug/kg	U
	91587	2-Chloronaphthalene	2380	ug/kg	U
	95578	2-Chlorophenol	2380	ug/kg	U
	88744	2-Nitroaniline	11900	ug/kg	U
	88755	2-Nitrophenol	11900	ug/kg	U
	91941	3,3'-Dichlorobenzidine	9520	ug/kg	UJK
	99092	3-Nitroaniline	4760	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	23800	ug/kg	U
	101553	4-Bromophenyl-Phenylether	2380	ug/kg	U
	59507	4-Chloro-3-methylphenol	11900	ug/kg	U
	106478	4-Chloroaniline	2380	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	2380	ug/kg	U
	106445	4-Methylphenol	2380	ug/kg	U
	100016	4-Nitroaniline	11900	ug/kg	U
	100027	4-Nitrophenol	11900	ug/kg	U
	86748	9H-Carbazole	2380	ug/kg	U
	86737	9H-Fluorene	9020	ug/kg	
	83329	Acenaphthene	5300	ug/kg	
	208968	Acenaphthylene	2380	ug/kg	U
	62533	Aniline	2380	ug/kg	U
	120127	Anthracene	2380	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2380	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2380	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2380	ug/kg	U
	100516	Benzenemethanol	11900	ug/kg	U
	92875	Benzidine	9520	ug/kg	UJK
	56553	Benzo(a)anthracene	2380	ug/kg	U
	50328	Benzo(a)pyrene	2380	ug/kg	U
	191242	Benzo(g,h,i)perylene	4760	ug/kg	U
	205992	Benzo[b]Fluoranthene	2380	ug/kg	U
	207089	Benzo[k]fluoranthene	2380	ug/kg	U
	65850	Benzoic acid	23800	ug/kg	U
	111444	bis(2-Chloroethyl)ether	2380	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	2380	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	11900	ug/kg	U
	85687	Butylbenzylphthalate	2380	ug/kg	U
	218019	Chrysene	2380	ug/kg	U
	84742	Di-n-Butylphthalate	2380	ug/kg	U
	117840	Di-n-octylphthalate	4760	ug/kg	U
	53703	Dibenz[a,h]anthracene	2380	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	2380	ug/kg	U
	84662	Diethyl phthalate	2380	ug/kg	U
	131113	Dimethylphthalate	2380	ug/kg	U
	206440	Fluoranthene	2380	ug/kg	U
	118741	Hexachlorobenzene	2380	ug/kg	U
	87683	Hexachlorobutadiene	11900	ug/kg	U
	77474	Hexachlorocyclopentadiene	11900	ug/kg	U
	67721	Hexachloroethane	2380	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	2380	ug/kg	U
	78591	Isophorone	2380	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	2380	ug/kg	U
	621647	N-Nitrosodinpropylamine	2380	ug/kg	U
	86306	n-Nitrosodiphenylamine	2380	ug/kg	U
	91203	Naphthalene	2380	ug/kg	U
	90120	Naphthalene, 1-methyl-	33200	ug/kg	
	91576	Naphthalene, 2-methyl-	2380	ug/kg	U
	98953	Nitrobenzene	2380	ug/kg	U
	87865	Pentachlorophenol	4760	ug/kg	U
	85018	Phenanthrene	2380	ug/kg	U
	108952	Phenol	2380	ug/kg	U
	95487	Phenol, 2-methyl-	2380	ug/kg	U
	129000	Pyrene	915	ug/kg	JQ
	483658	Retene	3120	ug/kg	
	321608	1,1'-Biphenyl, 2-fluoro-	114	%Rec	
	2199691	1,2-Dichlorobenzene-d4	89.0	%Rec	
	93951736	2-chlorophenol-d4	95.4	%Rec	
	1718521	D10-Pyrene	97.0	%Rec	
	4165600	Nitrobenzene-d5	75.6	%Rec	
	367124	Phenol, 2-fluoro-	78.2	%Rec	
	4165622	Phenol-d5	89.7	%Rec	
	1718510	Terphenyl-d14	96 0	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method.

Analytes :	24949426	6-Tridecene, 7-methyl	105000	ug/kg	NJ
	25155151	Benzene, methyl(1-methylethyl) -	59500	ug/kg	NJ
	54676390	Cyclohexane, 2-butyl-1,1,3-tri methyl-	90800	ug/kg	NJ
	17312628	Decane, 5-propyl-	274000	ug/kg	NJ
	74645980	Dodecane, 2,7,10-trimethyl-	321000	ug/kg	NJ
	6044719	Dodecane, 6-methyl-	66200	ug/kg	NJ
	54833486	Heptadecane, 2,6,10,15-tetrame thyl-	194000	ug/kg	NJ
	54105678	Heptadecane, 2,6-dimethyl-	411000	ug/kg	NJ
	2131422	Naphthalene, 1,4,6-trimethyl-	290000	ug/kg	NJ
	62016346	Octane, 2,3,7-trimethyl-	119000	ug/kg	NJ
	629503	Tridecane	72800	ug/kg	NJ
	*3008001	Unknown 01	94000	ug/kg	NJ
	*3008002	Unknown 02	62100	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: *3008003	Unknown 03	92600	ug/kg	NJ
	*3008004	Unknown 04	111000	ug/kg	NJ
	*3008005	Unknown 05	307000	ug/kg	NJ
	*3008006	Unknown 06	284000	ug/kg	NJ
	*3008007	Unknown 07	392000	ug/kg	NJ
	*3008008	Unknown 08	442000	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	92.2	ug/kg	U
	71556	1,1,1-Trichloroethane	92.2	ug/kg	U
	79005	1,1,2-Trichloroethane	92.2	ug/kg	U
	75343	1,1-Dichloroethane	92.2	ug/kg	U
	75354	1,1-Dichloroethene	92.2	ug/kg	U
	563586	1,1-Dichloropropene	92.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	184	ug/kg	U
	96184	1,2,3-Trichloropropane	92.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	184	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	184	ug/kg	U
	107062	1,2-Dichloroethane	92.2	ug/kg	U
	78875	1,2-Dichloropropane	92.2	ug/kg	U
	142289	1,3-Dichloropropane	92.2	ug/kg	U
	594207	2,2-Dichloropropane	92.2	ug/kg	U
	78933	2-Butanone	922	ug/kg	UJK
	95498	2-Chlorotoluene	92.2	ug/kg	U
	591786	2-Hexanone	1840	ug/kg	U
	108101	2-Pentanone, 4-methyl-	92.2	ug/kg	U
	67641	2-Propanone	1840	ug/kg	U
	106434	4-Chlorotoluene	92.2	ug/kg	U
	71432	Benzene	92.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	92.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	92.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	92.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	664	ug/kg	
	108678	Benzene, 1,3,5-trimethyl-	9350	ug/kg	
	541731	Benzene, 1,3-dichloro-	92 2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	92 2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	221	ug/kg	
	108907	Benzene, chloro-	92 2	ug/kg	U
	100425	Benzene, ethenyl-	92.2	ug/kg	U
	103651	Benzene, propyl-	92 2	ug/kg	U
	98066	Benzene, tert-butyl-	534	ug/kg	
	108861	Bromobenzene	92.2	ug/kg	U
	74975	Bromochloromethane	184	ug/kg	U
	75274	Bromodichloromethane	92.2	ug/kg	U
	75252	Bromoform	184	ug/kg	U
	74839	Bromomethane	92 2	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 75150	Carbon disulfide	111	ug/kg	
	56235	Carbon Tetrachloride	92.2	ug/kg	U
	156592	cis-1,2-Dichloroethene	92.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	97.8	ug/kg	U
	124481	Dibromochloromethane	92.2	ug/kg	U
	74953	Dibromomethane	92.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	92.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	92.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	92.2	ug/kg	U
	79016	Ethene, trichloro-	184	ug/kg	U
	75003	Ethyl Chloride	92.2	ug/kg	U
	100414	Ethylbenzene	92.2	ug/kg	U
	75694	Freon 11	184	ug/kg	U
	75718	Freon 12	92.2	ug/kg	U
	87683	Hexachlorobutadiene	92.2	ug/kg	U
	74873	Methane, chloro-	92.2	ug/kg	U
	67663	Methane, trichloro-	92.2	ug/kg	U
	75092	Methylene Chloride	2190	ug/kg	UJK
	*1330207	MP-Xylene	184	ug/kg	U
	104518	n-Butylbenzene	92.2	ug/kg	U
	91203	Naphthalene	184	ug/kg	U
	135988	sec-Butylbenzene	92.2	ug/kg	U
	127184	Tetrachloroethene	92.2	ug/kg	U
	108883	Toluene	130	ug/kg	
	10061026	Trans-1,3-Dichloropropene	173	ug/kg	U
	75014	Vinyl Chloride	92.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	116	%Rec	
	17060070	1,2-Dichloroethane-d4	93.1	%Rec	
	540363	Benzene, 1,4-difluoro-	97.1	%Rec	
	460004	p-Bromofluorobenzene	91.0	%Rec	
	2037265	Toluene-d8	103	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method.

Analytes	4912929	1H-Indene, 2,3-dihydro-1,1-dim ethyl-	78600	ug/kg	NJ
	4057425	2-Octene, 2,6-dimethyl-	65900	ug/kg	NJ
	527537	Benzene, 1,2,3,5-tetramethyl-	87600	ug/kg	NJ
	95932	Benzene, 1,2,4,5-tetramethyl-	67200	ug/kg	NJ
	620144	Benzene, 1-ethyl-3-methyl-	109000	ug/kg	NJ
	4218488	Benzene, 1-ethyl-4-(1-methylet hyl)-	144000	ug/kg	NJ
	25155151	Benzene, methyl(1-methylethyl) -	110000	ug/kg	NJ
	54166482	Cyclohexanone, 2-(2-butynyl)-	138000	ug/kg	NJ
	15932806	Cyclohexanone, 5-methyl-2-(1-m ethylethyl	146000	ug/kg	NJ
	2281989	Cyclohexene, 1-butyl-	65300	ug/kg	NJ
	21564910	Naphthalene, 1,2,3,4-tetrahydr o-1,5-dime	148000	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: 1559815	Naphthalene, 1,2,3,4-tetrahydr o-1-methyl	116000	ug/kg	NJ
	493027	Naphthalene, decahydro-, trans -	148000	ug/kg	NJ
	*3008001	Unknown 01	193000	ug/kg	NJ
	*3008002	Unknown 02	115000	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314008
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method. 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes : 309002	Aldrin	1.6	ug/kg	U
319846	Alpha-BHC	1.6	ug/kg	U
319857	Beta-BHC	1.6	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
319868	Delta-BHC	1.6	ug/kg	U
60571	Dieldrin	3.2	ug/kg	U
959988	Endosulfan I	1.6	ug/kg	U
33213659	Endosulfan II	3.2	ug/kg	U
1031078	Endosulfan Sulfate	3.2	ug/kg	U
72208	Endrin	3.2	ug/kg	U
7421934	Endrin Aldehyde	3.2	ug/kg	U
53494705	Endrin Ketone	3.2	ug/kg	U
5103742	Gamma-Chlordane	1 6	ug/kg	U
76448	Heptachlor	1.6	ug/kg	U
1024573	Heptachlor Epoxide	1.6	ug/kg	U
58899	Lindane	1.6	ug/kg	U
72435	Methoxychlor	16	ug/kg	U
72548	P,P'-DDD	3.2	ug/kg	U
72559	P,P'-DDE	3.2	ug/kg	U
50293	P,P'-DDT	3.2	ug/kg	U
12674112	PCB-1016	32	ug/kg	U
11104282	PCB-1221	64	ug/kg	U
11141165	PCB-1232	32	ug/kg	U
53469219	PCB-1242	32	ug/kg	U
12672296	PCB-1248	32	ug/kg	U
11097691	PCB-1254	32	ug/kg	U
11096825	PCB-1260	32	ug/kg	U
8001352	Toxaphene	159	ug/kg	U
*2051243	Decachlorobiphenyl	96	%Rec	
*300105	Tetrachlorometaxylene	80	%Rec	

GCMS

Parameter Semi-volatiles
Method : 8270-M
Prep Method

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Analytes : 120821	1,2,4-Trichlorobenzene	159	ug/kg	U

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	159	ug/kg	U
	95954	2,4,5-Trichlorophenol	159	ug/kg	U
	88062	2,4,6-Trichlorophenol	159	ug/kg	U
	120832	2,4-Dichlorophenol	319	ug/kg	U
	105679	2,4-Dimethylphenol	159	ug/kg	U
	51285	2,4-Dinitrophenol	1590	ug/kg	U
	121142	2,4-Dinitrotoluene	319	ug/kg	U
	606202	2,6-Dinitrotoluene	319	ug/kg	U
	91587	2-Chloronaphthalene	159	ug/kg	U
	95578	2-Chlorophenol	159	ug/kg	U
	88744	2-Nitroaniline	796	ug/kg	U
	88755	2-Nitrophenol	796	ug/kg	U
	91941	3,3'-Dichlorobenzidine	637	ug/kg	UJK
	99092	3-Nitroaniline	319	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1590	ug/kg	U
	101553	4-Bromophenyl-Phenylether	159	ug/kg	U
	59507	4-Chloro-3-methylphenol	796	ug/kg	U
	106478	4-Chloroaniline	159	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	159	ug/kg	U
	106445	4-Methylphenol	159	ug/kg	U
	100016	4-Nitroaniline	796	ug/kg	U
	100027	4-Nitrophenol	796	ug/kg	U
	86748	9H-Carbazole	159	ug/kg	U
	86737	9H-Fluorene	159	ug/kg	U
	83329	Acenaphthene	159	ug/kg	U
	208968	Acenaphthylene	159	ug/kg	U
	62533	Aniline	159	ug/kg	U
	120127	Anthracene	159	ug/kg	U
	95501	Benzene, 1,2-dichloro-	159	ug/kg	U
	541731	Benzene, 1,3-dichloro-	159	ug/kg	U
	106467	Benzene, 1,4-dichloro-	159	ug/kg	U
	100516	Benzenemethanol	796	ug/kg	U
	92875	Benzidine	637	ug/kg	UJK
	56553	Benzo(a)anthracene	159	ug/kg	U
	50328	Benzo(a)pyrene	159	ug/kg	U
	191242	Benzo(g,h,i)perylene	319	ug/kg	U
	205992	Benzo[b]Fluoranthene	159	ug/kg	U
	207089	Benzo[k]fluoranthene	159	ug/kg	U
	65850	Benzoic acid	1590	ug/kg	U
	111444	bis(2-Chloroethyl)ether	159	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	159	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	796	ug/kg	U
	85687	Butylbenzylphthalate	159	ug/kg	U
	218019	Chrysene	159	ug/kg	U
	84742	Di-n-Butylphthalate	159	ug/kg	U
recycl	117840	Di-n-octylphthalate	319	ug/kg	U
recycled	53703	Dibenz[a,h]anthracene	159	ug/kg	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	159	ug/kg	U
	84662	Diethyl phthalate	159	ug/kg	U
	131113	Dimethylphthalate	159	ug/kg	U
	206440	Fluoranthene	159	ug/kg	U
	118741	Hexachlorobenzene	159	ug/kg	U
	87683	Hexachlorobutadiene	796	ug/kg	U
	77474	Hexachlorocyclopentadiene	796	ug/kg	U
	67721	Hexachloroethane	159	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	159	ug/kg	U
	78591	Isophorone	159	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	159	ug/kg	U
	621647	N-Nitrosodinpropylamine	159	ug/kg	U
	86306	n-Nitrosodiphenylamine	159	ug/kg	U
	91203	Naphthalene	159	ug/kg	U
	90120	Naphthalene, 1-methyl-	159	ug/kg	U
	91576	Naphthalene, 2-methyl-	159	ug/kg	U
	98953	Nitrobenzene	159	ug/kg	U
	87865	Pentachlorophenol	319	ug/kg	U
	85018	Phenanthrene	159	ug/kg	U
	108952	Phenol	159	ug/kg	U
	95487	Phenol, 2-methyl-	159	ug/kg	U
	129000	Pyrene	159	ug/kg	U
	483658	Retene	159	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	102	%Rec	
	2199691	1,2-Dichlorobenzene-d4	88.7	%Rec	
	93951736	2-chlorophenol-d4	107	%Rec	
	1718521	D10-Pyrene	94 9	%Rec	
	4165600	Nitrobenzene-d5	100	%Rec	
	367124	Phenol, 2-fluoro-	98.2	%Rec	
	4165622	Phenol-d5	93 4	%Rec	
	1718510	Terphenyl-d14	97.5	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method :

Analytes :	54833237	Eicosane, 10-methyl-	1200	ug/kg	NJ
	54105678	Heptadecane, 2,6-dimethyl-	2480	ug/kg	NJ
	2216333	Octane, 3-methyl-	1800	ug/kg	NJ
	629629	Pentadecane	931	ug/kg	NJ
	17453940	Undecane, 5-ethyl-	1100	ug/kg	NJ
	*3008001	Unknown 01	848	ug/kg	NJ
	*3008002	Unknown 02	977	ug/kg	NJ
	*3008003	Unknown 03	833	ug/kg	NJ
	*3008004	Unknown 04	1880	ug/kg	NJ

			Result	Units	Qlfr
Parameter	Volatiles				
Method :	8260-M				
Prep Method:					
Analytes :	630206	1,1,1,2-Tetrachloroethane	2.0	ug/kg	U
	71556	1,1,1-Trichloroethane	2 0	ug/kg	U
	79005	1,1,2-Trichloroethane	2.0	ug/kg	U
	75343	1,1-Dichloroethane	2.0	ug/kg	U
	75354	1,1-Dichloroethene	2.0	ug/kg	U
	563586	1,1-Dichloropropene	2 0	ug/kg	U
	87616	1,2,3-Trichlorobenzene	9 8	ug/kg	U
	96184	1,2,3-Trichloropropane	2 0	ug/kg	U
	120821	1,2,4-Trichlorobenzene	3.9	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	3.9	ug/kg	-U
	107062	1,2-Dichloroethane	2 0	ug/kg	U
	78875	1,2-Dichloropropane	2.0	ug/kg	U
	142289	1,3-Dichloropropane	2 0	ug/kg	U
	594207	2,2-Dichloropropane	2.0	ug/kg	U
	78933	2-Butanone	7 8	ug/kg	UJK
	95498	2-Chlorotoluene	2 0	ug/kg	U
	591786	2-Hexanone	7.8	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/kg	U
	67641	2-Propanone	40	ug/kg	U
	106434	4-Chlorotoluene	2.0	ug/kg	U
	71432	Benzene	2.0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.0	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2 0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2 0	ug/kg	U
	108678	**Benzene, 1,3,5-trimethyl-**	**38.2**	**ug/kg**	
	541731	Benzene, 1,3-dichloro-	2.0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2 0	ug/kg	U
	108907	Benzene, chloro-	2.0	ug/kg	U
	100425	Benzene, ethenyl-	2 0	ug/kg	U
	103651	Benzene, propyl-	2 0	ug/kg	U
	98066	Benzene, tert-butyl-	2.0	ug/kg	U
	108861	Bromobenzene	2 0	ug/kg	U
	74975	Bromochloromethane	2 0	ug/kg	U
	75274	Bromodichloromethane	2 0	ug/kg	U
	75252	Bromoform	2 0	ug/kg	U
	74839	Bromomethane	2 0	ug/kg	U
	75150	Carbon disulfide	3 9	ug/kg	U
	56235	Carbon Tetrachloride	2 0	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 1	ug/kg	U
	124481	Dibromochloromethane	2 0	ug/kg	U
	74953	Dibromomethane	2 0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 0	ug/kg	U

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			Result	Units	Qlfr
Analytes :	106934	Ethane, 1,2-dibromo-	2.0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.0	ug/kg	U
	79016	Ethene, trichloro-	2.0	ug/kg	U
	75003	Ethyl Chloride	2.0	ug/kg	U
	100414	Ethylbenzene	2.0	ug/kg	U
	75694	Freon 11	3.9	ug/kg	U
	75718	Freon 12	2.0	ug/kg	U
	87683	Hexachlorobutadiene	2.0	ug/kg	U
	74873	Methane, chloro-	2.0	ug/kg	U
	67663	Methane, trichloro-	3.9	ug/kg	U
	75092	Methylene Chloride	20	ug/kg	UJK
	*1330207	MP-Xylene	3.9	ug/kg	U
	104518	n-Butylbenzene	2.0	ug/kg	U
	91203	Naphthalene	3 9	ug/kg	U
	135988	sec-Butylbenzene	2 0	ug/kg	U
	127184	Tetrachloroethene	2.0	ug/kg	U
	108883	Toluene	2.3	ug/kg	
	10061026	Trans-1,3-Dichloropropene	3.7	ug/kg	U
	75014	Vinyl Chloride	3.9	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	121	%Rec	
	17060070	1,2-Dichloroethane-d4	110	%Rec	
	540363	Benzene, 1,4-difluoro-	101	%Rec	
	460004	p-Bromofluorobenzene	82.1	%Rec	
	2037265	Toluene-d8	97.9	%Rec	
Parameter :	Volatiles - Tentatives				
Method :	8260-M				
Prep Method:					
Analytes :	74630301	2-DECENE, 4-METHYL-, (Z)-	72.0	ug/kg	NJ
	4057425	2-Octene, 2,6-dimethyl-	318	ug/kg	NJ
	464482	Bicyclo[2.2.1]heptan-2-one, 1, 7,7-trimet	9540	ug/kg	NJ
	3073663	Cyclohexane, 1,1,3-trimethyl-	76.8	ug/kg	NJ
	81983713	Cyclohexane, 1,1-dimethyl-2-pr opyl-	865	ug/kg	NJ
	2207036	Cyclohexane, 1,3-dimethyl-, tr ans-	191	ug/kg	NJ
	695125	Cyclohexane, ethenyl-	155	ug/kg	NJ
	591491	Cyclohexene, 1-methyl	212	ug/kg	NJ
	14676290	Heptane, 3-ethyl-2-methyl-	142	ug/kg	NJ
	17302282	Nonane, 2,6-dimethyl-	196	ug/kg	NJ
	*3008001	Unknown 01	1320	ug/kg	NJ
	*3005001	Unknown Hydrocarbon 01	76.6	ug/kg	NJ
	*3005002	Unknown Hydrocarbon 02	777	ug/kg	NJ
	*3005003	Unknown Hydrocarbon 03	163	ug/kg	NJ
	*3005004	Unknown Hydrocarbon 04	3910	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314009
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter :	Pesticides - PCB's				
Method :	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method :	3540/608	Soxhlet extraction			
Analytes :	309002	Aldrin	2.0	ug/kg	U
	319846	Alpha-BHC	2 0	ug/kg	U
	319857	Beta-BHC	2.0	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	2.0	ug/kg	U
	319868	Delta-BHC	2.0	ug/kg	U
	60571	Dieldrin	4.0	ug/kg	U
	959988	Endosulfan I	2 0	ug/kg	U
	33213659	Endosulfan II	4.0	ug/kg	U
	1031078	Endosulfan Sulfate	4.0	ug/kg	U
	72208	Endrin	4 0	ug/kg	U
	7421934	Endrin Aldehyde	4 0	ug/kg	U
	53494705	Endrin Ketone	4.0	ug/kg	U
	5103742	Gamma-Chlordane	2.0	ug/kg	U
	76448	Heptachlor	2 0	ug/kg	U
	1024573	Heptachlor Epoxide	2.0	ug/kg	U
	58899	Lindane	2 0	ug/kg	U
	72435	Methoxychlor	20	ug/kg	U
	72548	P,P'-DDD	4 0	ug/kg	U
	72559	P,P'-DDE	4 0	ug/kg	U
	50293	P,P'-DDT	4 0	ug/kg	U
	12674112	PCB-1016	40	ug/kg	U
	11104282	PCB-1221	80	ug/kg	U
	11141165	PCB-1232	40	ug/kg	U
	53469219	PCB-1242	40	ug/kg	U
	12672296	PCB-1248	40	ug/kg	U
	11097691	PCB-1254	40	ug/kg	U
	11096825	PCB-1260	40	ug/kg	U
	8001352	Toxaphene	201	ug/kg	U
	*2051243	Decachlorobiphenyl	100	%Rec	
	*300105	Tetrachlorometaxylene	71	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	201	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	201	ug/kg	U
	95954	2,4,5-Trichlorophenol	201	ug/kg	U
	88062	2,4,6-Trichlorophenol	201	ug/kg	U
	120832	2,4-Dichlorophenol	402	ug/kg	U
	105679	2,4-Dimethylphenol	201	ug/kg	U
	51285	2,4-Dinitrophenol	2010	ug/kg	U
	121142	2,4-Dinitrotoluene	402	ug/kg	U
	606202	2,6-Dinitrotoluene	402	ug/kg	U
	91587	2-Chloronaphthalene	201	ug/kg	U
	95578	2-Chlorophenol	201	ug/kg	U
	88744	2-Nitroaniline	1000	ug/kg	U
	88755	2-Nitrophenol	1000	ug/kg	U
	91941	3,3'-Dichlorobenzidine	804	ug/kg	UJK
	99092	3-Nitroaniline	402	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2010	ug/kg	U
	101553	4-Bromophenyl-Phenylether	201	ug/kg	U
	59507	4-Chloro-3-methylphenol	1000	ug/kg	U
	106478	4-Chloroaniline	201	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	201	ug/kg	U
	106445	4-Methylphenol	201	ug/kg	U
	100016	4-Nitroaniline	1000	ug/kg	U
	100027	4-Nitrophenol	1000	ug/kg	U
	86748	9H-Carbazole	201	ug/kg	U
	86737	9H-Fluorene	201	ug/kg	U
	83329	Acenaphthene	201	ug/kg	U
	208968	Acenaphthylene	201	ug/kg	U
	62533	Aniline	201	ug/kg	U
	120127	Anthracene	201	ug/kg	U
	95501	Benzene, 1,2-dichloro-	201	ug/kg	U
	541731	Benzene, 1,3-dichloro-	201	ug/kg	U
	106467	Benzene, 1,4-dichloro-	201	ug/kg	U
	100516	Benzenemethanol	1000	ug/kg	U
	92875	Benzidine	804	ug/kg	UJK
	56553	Benzo(a)anthracene	201	ug/kg	U
	50328	Benzo(a)pyrene	201	ug/kg	U
	191242	Benzo(g,h,i)perylene	402	ug/kg	U
	205992	Benzo[b]Fluoranthene	201	ug/kg	U
	207089	Benzo[k]fluoranthene	201	ug/kg	U
	65850	Benzoic acid	2010	ug/kg	U
	111444	bis(2-Chloroethyl)ether	201	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	201	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1000	ug/kg	U
	85687	Butylbenzylphthalate	201	ug/kg	U
	218019	Chrysene	201	ug/kg	U
	84742	Di-n-Butylphthalate	201	ug/kg	U
	117840	Di-n-octylphthalate	402	ug/kg	U
	53703	Dibenz[a,h]anthracene	201	ug/kg	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	201	ug/kg	U
	84662	Diethyl phthalate	201	ug/kg	U
	131113	Dimethylphthalate	201	ug/kg	U
	206440	Fluoranthene	201	ug/kg	U
	118741	Hexachlorobenzene	201	ug/kg	U
	87683	Hexachlorobutadiene	1000	ug/kg	U
	77474	Hexachlorocyclopentadiene	1000	ug/kg	U
	67721	Hexachloroethane	201	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	201	ug/kg	U
	78591	Isophorone	201	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	201	ug/kg	U
	621647	N-Nitrosodinpropylamine	201	ug/kg	U
	86306	n-Nitrosodiphenylamine	201	ug/kg	U
	91203	Naphthalene	201	ug/kg	U
	90120	Naphthalene, 1-methyl-	201	ug/kg	U
	91576	Naphthalene, 2-methyl-	201	ug/kg	U
	98953	Nitrobenzene	201	ug/kg	U
	87865	Pentachlorophenol	402	ug/kg	U
	85018	Phenanthrene	201	ug/kg	U
	108952	Phenol	201	ug/kg	U
	95487	Phenol, 2-methyl-	201	ug/kg	U
	129000	Pyrene	201	ug/kg	U
	483658	Retene	201	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	104	%Rec	
	2199691	1,2-Dichlorobenzene-d4	85 8	%Rec	
	93951736	2-chlorophenol-d4	105	%Rec	
	1718521	D10-Pyrene	95.0	%Rec	
	4165600	Nitrobenzene-d5	98 5	%Rec	
	367124	Phenol, 2-fluoro-	99 4	%Rec	
	4165622	Phenol-d5	93 5	%Rec	
	1718510	Terphenyl-d14	98 6	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method					
Analytes	2738183	3-Heptene, 2,6-dimethyl-	4700	ug/kg	NJ
	34303816	3-Hexadecene, (Z)-	7000	ug/kg	NJ
	54676390	Cyclohexane, 2-butyl-1,1,3-tri methyl-	2570	ug/kg	NJ
	2040951	Cyclopentane, butyl-	4120	ug/kg	NJ
	112403	Dodecane	9740	ug/kg	NJ
	74645980	Dodecane, 2,7,10-trimethyl-	6600	ug/kg	NJ
	55045084	Dodecane, 2-methyl-6-propyl-	5580	ug/kg	NJ
	13475780	Heptane, 5-ethyl-2-methyl-	3760	ug/kg	NJ
	629629	Pentadecane	5630	ug/kg	NJ
	1921706	Pentadecane, 2,6,10,14-tetrame thyl-	13700	ug/kg	NJ
	629594	Tetradecane	6320	ug/kg	NJ
	55045108	Tridecane, 6-propyl-	6320	ug/kg	NJ
	7098217	Tritetracontane	2770	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: 17301234	Undecane, 2,6-dimethyl-	1530	ug/kg	NJ
	*3008001	Unknown 01	2740	ug/kg	NJ
	*3008002	Unknown 02	4680	ug/kg	NJ
	74793365	Zinc, bis[2-(1,1-dimethylethyl)-3,3-dime	1880	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	2.9	ug/kg	U
	71556	1,1,1-Trichloroethane	2.9	ug/kg	U
	79005	1,1,2-Trichloroethane	2.9	ug/kg	U
	75343	1,1-Dichloroethane	2.9	ug/kg	U
	75354	1,1-Dichloroethene	2.9	ug/kg	U
	563586	1,1-Dichloropropene	2.9	ug/kg	U
	87616	1,2,3-Trichlorobenzene	14.6	ug/kg	U
	96184	1,2,3-Trichloropropane	2.9	ug/kg	U
	120821	1,2,4-Trichlorobenzene	5.8	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	5.8	ug/kg	U
	107062	1,2-Dichloroethane	2.9	ug/kg	U
	78875	1,2-Dichloropropane	2.9	ug/kg	U
	142289	1,3-Dichloropropane	2.9	ug/kg	U
	594207	2,2-Dichloropropane	2.9	ug/kg	U
	78933	2-Butanone	11.6	ug/kg	UJK
	95498	2-Chlorotoluene	2.9	ug/kg	U
	591786	2-Hexanone	11.6	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.9	ug/kg	U
	67641	2-Propanone	100	ug/kg	
	106434	4-Chlorotoluene	2.9	ug/kg	U
	71432	Benzene	2.9	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.9	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.9	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.9	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.9	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.9	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.9	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.9	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.9	ug/kg	U
	108907	Benzene, chloro-	2.9	ug/kg	U
	100425	Benzene, ethenyl-	2.9	ug/kg	U
	103651	Benzene, propyl-	2.9	ug/kg	U
	98066	Benzene, tert-butyl-	2.9	ug/kg	U
	108861	Bromobenzene	2.9	ug/kg	U
	74975	Bromochloromethane	2.9	ug/kg	U
	75274	Bromodichloromethane	2.9	ug/kg	U
	75252	Bromoform	2.9	ug/kg	U
	74839	Bromomethane	2.9	ug/kg	U
	75150	Carbon disulfide	5.8	ug/kg	U

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			Result	Units	Qlfr
Analytes	56235	Carbon Tetrachloride	2 9	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 9	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3 1	ug/kg	U
	124481	Dibromochloromethane	2 9	ug/kg	U
	74953	Dibromomethane	2 9	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2.9	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2 9	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2 9	ug/kg	U
	79016	Ethene, trichloro-	2 9	ug/kg	U
	75003	Ethyl Chloride	2 9	ug/kg	U
	100414	Ethylbenzene	2 9	ug/kg	U
	75694	Freon 11	5 8	ug/kg	U
	75718	Freon 12	2.9	ug/kg	U
	87683	Hexachlorobutadiene	2 9	ug/kg	U
	74873	Methane, chloro-	2 9	ug/kg	U
	67663	Methane, trichloro-	5 8	ug/kg	U
	75092	Methylene Chloride	29 0	ug/kg	UJK
	*1330207	MP-Xylene	5 8	ug/kg	U
	104518	n-Butylbenzene	2 9	ug/kg	U
	91203	Naphthalene	5.8	ug/kg	U
	135988	sec-Butylbenzene	2.9	ug/kg	U
	127184	Tetrachloroethene	2.9	ug/kg	U
	108883	Toluene	2 9	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5 5	ug/kg	U
	75014	Vinyl Chloride	5 8	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	114	%Rec	
	17060070	1,2-Dichloroethane-d4	107	%Rec	
	540363	Benzene, 1,4-difluoro-	105	%Rec	
	460004	p-Bromofluorobenzene	94 5	%Rec	
	2037265	Toluene-d8	102	%Rec	
Parameter	Volatiles - Tentatives				
Method	8260-M				
Prep Method					
Analytes	21662168	2,4-Dodecadienal, (E,E)-	9.2	ug/kg	NJ
	74645866	2-Decene, 5-methyl-, (Z)-	31.3	ug/kg	NJ
	4057425	2-Octene, 2,6-dimethyl-	19.3	ug/kg	NJ
	2738183	3-Heptene, 2,6-dimethyl-	521	ug/kg	NJ
	554596	BICYCLO[4.1 0]HEPTANE, 3,7,7-TRIMETHYL-	913	ug/kg	NJ
	6783922	Cyclohexane, 1,1,2,3-tetrameth yl-	28.7	ug/kg	NJ
	81983713	Cyclohexane, 1,1-dimethyl-2-pr opyl-	69.1	ug/kg	NJ
	61141808	Cyclohexane, 1,2-diethyl-3-met hyl-	318	ug/kg	NJ
	61142709	Cyclohexane, 2,4-diethyl-1-met hyl-	30.4	ug/kg	NJ
	54676390	Cyclohexane, 2-butyl-1,1,3-tri methyl-	2610	ug/kg	NJ
	26510929	Cyclohexanol, 5-methyl-2-(1-methylethyl)	129	ug/kg	NJ
	110543	Hexane	32 0	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: *3008001	Unknown 01	15.8	ug/kg	NJ
	*3008002	Unknown 02	176	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314010
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method 3510 Separatory funnel liq-liq extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	2 3	ug/kg	U
319846	Alpha-BHC	2.3	ug/kg	U
319857	Beta-BHC	2.3	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	2.3	ug/kg	U
319868	Delta-BHC	2.3	ug/kg	U
60571	Dieldrin	23.2	ug/kg	U
959988	Endosulfan I	11 6	ug/kg	U
33213659	Endosulfan II	23.2	ug/kg	U
1031078	Endosulfan Sulfate	23.2	ug/kg	U
72208	Endrin	23.2	ug/kg	U
7421934	Endrin Aldehyde	23.2	ug/kg	U
53494705	Endrin Ketone	23 2	ug/kg	U
5103742	Gamma-Chlordane	2 3	ug/kg	U
76448	Heptachlor	2.3	ug/kg	U
1024573	Heptachlor Epoxide	2 3	ug/kg	U
58899	Lindane	2.3	ug/kg	U
72435	Methoxychlor	116	ug/kg	U
72548	P,P'-DDD	4 6	ug/kg	U
72559	P,P'-DDE	4 6	ug/kg	U
50293	P,P'-DDT	4 6	ug/kg	U
12674112	PCB-1016	93	ug/kg	U
11104282	PCB-1221	68	ug/kg	U
11141165	PCB-1232	46	ug/kg	U
53469219	PCB-1242	46	ug/kg	U
12672296	PCB-1248	46	ug/kg	U
11097691	PCB-1254	46	ug/kg	U
11096825	PCB-1260	46	ug/kg	U
8001352	Toxaphene	232	ug/kg	U
*2051243	Decachlorobiphenyl	84	%Rec	
*300105	Tetrachlorometaxylene	83	%Rec	

GCMS

Parameter Semi-volatiles
Method 8270-M
Prep Method

Analytes		Result	Units	Qlfr
120821	1,2 4-Trichlorobenzene	232	ug/kg	U

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			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	232	ug/kg	U
	95954	2,4,5-Trichlorophenol	232	ug/kg	U
	88062	2,4,6-Trichlorophenol	232	ug/kg	U
	120832	2,4-Dichlorophenol	464	ug/kg	U
	105679	2,4-Dimethylphenol	9270	ug/kg	
	51285	2,4-Dinitrophenol	2320	ug/kg	U
	121142	2,4-Dinitrotoluene	464	ug/kg	U
	606202	2,6-Dinitrotoluene	464	ug/kg	U
	91587	2-Chloronaphthalene	232	ug/kg	U
	95578	2-Chlorophenol	232	ug/kg	U
	88744	2-Nitroaniline	1160	ug/kg	U
	88755	2-Nitrophenol	1160	ug/kg	U
	91941	3,3'-Dichlorobenzidine	928	ug/kg	UJK
	99092	3-Nitroaniline	464	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2320	ug/kg	U
	101553	4-Bromophenyl-Phenylether	232	ug/kg	U
	59507	4-Chloro-3-methylphenol	1160	ug/kg	U
	106478	4-Chloroaniline	232	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	232	ug/kg	U
	106445	4-Methylphenol	3870	ug/kg	
	100016	4-Nitroaniline	1160	ug/kg	U
	100027	4-Nitrophenol	1160	ug/kg	U
	86748	9H-Carbazole	232	ug/kg	U
	86737	9H-Fluorene	232	ug/kg	U
	83329	Acenaphthene	232	ug/kg	U
	208968	Acenaphthylene	232	ug/kg	U
	62533	Aniline	232	ug/kg	U
	120127	Anthracene	232	ug/kg	U
	95501	Benzene, 1,2-dichloro-	232	ug/kg	U
	541731	Benzene, 1,3-dichloro-	232	ug/kg	U
	106467	Benzene, 1,4-dichloro-	232	ug/kg	U
	100516	Benzenemethanol	1160	ug/kg	U
	92875	Benzidine	928	ug/kg	UJK
	56553	Benzo(a)anthracene	232	ug/kg	U
	50328	Benzo(a)pyrene	232	ug/kg	U
	191242	Benzo(g,h,i)perylene	464	ug/kg	U
	205992	Benzo[b]Fluoranthene	232	ug/kg	U
	207089	Benzo[k]fluoranthene	232	ug/kg	U
	65850	Benzoic acid	2320	ug/kg	U
	111444	bis(2-Chloroethyl)ether	232	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	232	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1160	ug/kg	U
	85687	Butylbenzylphthalate	232	ug/kg	U
	218019	Chrysene	232	ug/kg	U
	84742	Di-n-Butylphthalate	232	ug/kg	U
	117840	Di-n-octylphthalate	464	ug/kg	U
	53703	Dibenz[a,h]anthracene	232	ug/kg	U

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			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	232	ug/kg	U
	84662	Diethyl phthalate	232	ug/kg	U
	131113	Dimethylphthalate	232	ug/kg	U
	206440	Fluoranthene	232	ug/kg	U
	118741	Hexachlorobenzene	232	ug/kg	U
	87683	Hexachlorobutadiene	1160	ug/kg	U
	77474	Hexachlorocyclopentadiene	1160	ug/kg	U
	67721	Hexachloroethane	232	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	232	ug/kg	U
	78591	Isophorone	232	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	232	ug/kg	U
	621647	N-Nitrosodinpropylamine	232	ug/kg	U
	86306	n-Nitrosodiphenylamine	232	ug/kg	U
	91203	Naphthalene	232	ug/kg	U
	90120	Naphthalene, 1-methyl-	232	ug/kg	U
	91576	Naphthalene, 2-methyl-	232	ug/kg	U
	98953	Nitrobenzene	232	ug/kg	U
	87865	Pentachlorophenol	464	ug/kg	U
	85018	Phenanthrene	232	ug/kg	U
	108952	Phenol	597	ug/kg	
	95487	Phenol, 2-methyl-	988	ug/kg	
	129000	Pyrene	232	ug/kg	U
	483658	Retene	275	ug/kg	
	321608	1,1'-Biphenyl, 2-fluoro-	100	%Rec	
	2199691	1,2-Dichlorobenzene-d4	82.1	%Rec	
	93951736	2-chlorophenol-d4	100	%Rec	
	1718521	D10-Pyrene	106	%Rec	
	4165600	Nitrobenzene-d5	105	%Rec	
	367124	Phenol, 2-fluoro-	94 9	%Rec	
	4165622	Phenol-d5	90.0	%Rec	
	1718510	Terphenyl-d14	101	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method

Analytes	629970	Docosane	4960	ug/kg	NJ
	13475779	Eicosane, 9-octyl-	3680	ug/kg	NJ
	51317089	Eudesmol	9520	ug/kg	NJ
	629787	Heptadecane	8190	ug/kg	NJ
	54833486	Heptadecane, 2,6,10,15-tetrame thyl-	16100	ug/kg	NJ
	7225641	Heptadecane, 9-octyl-	7620	ug/kg	NJ
	57103	Hexadecanoic acid	34900	ug/kg	NJ
	630035	Nonacosane	2320	ug/kg	NJ
	55282138	Octadecane, 5,14-dibutyl-	6330	ug/kg	NJ
	57114	Octadecanoic acid	3360	ug/kg	NJ
	13475757	Pentadecane, 8-hexyl-	5480	ug/kg	NJ
	526750	Phenol, 2,3-dimethyl-	6600	ug/kg	NJ
	55045108	Tridecane, 6-propyl-	7520	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: 7225663	Tridecane, 7-hexyl-	7180	ug/kg	NJ
	*3008001	Unknown 01	20400	ug/kg	NJ
	*3008002	Unknown 02	7530	ug/kg	NJ
	*3008003	Unknown 03	3260	ug/kg	NJ
	*3008004	Unknown 04	3150	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	2.7	ug/kg	U
	71556	1,1,1-Trichloroethane	2.7	ug/kg	U
	79005	1,1,2-Trichloroethane	2.7	ug/kg	U
	75343	1,1-Dichloroethane	2.7	ug/kg	U
	75354	1,1-Dichloroethene	2.7	ug/kg	U
	563586	1,1-Dichloropropene	2.7	ug/kg	U
	87616	1,2,3-Trichlorobenzene	13.6	ug/kg	U
	96184	1,2,3-Trichloropropane	2.7	ug/kg	U
	120821	1,2,4-Trichlorobenzene	5.4	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	5.4	ug/kg	U
	107062	1,2-Dichloroethane	2.7	ug/kg	U
	78875	1,2-Dichloropropane	2.7	ug/kg	U
	142289	1,3-Dichloropropane	2.7	ug/kg	U
	594207	2,2-Dichloropropane	2.7	ug/kg	U
	78933	2-Butanone	10.9	ug/kg	UJK
	95498	2-Chlorotoluene	2.7	ug/kg	U
	591786	2-Hexanone	10.9	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.7	ug/kg	U
	67641	2-Propanone	54.6	ug/kg	U
	106434	4-Chlorotoluene	2.7	ug/kg	U
	71432	Benzene	2.7	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.7	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.7	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.7	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.7	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.7	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.7	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.7	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.7	ug/kg	U
	108907	Benzene, chloro-	2.7	ug/kg	U
	100425	Benzene, ethenyl-	2.7	ug/kg	U
	103651	Benzene, propyl-	2.7	ug/kg	U
	98066	Benzene, tert-butyl-	2.7	ug/kg	U
	108861	Bromobenzene	2.7	ug/kg	U
	74975	Bromochloromethane	2.7	ug/kg	U
	75274	Bromodichloromethane	2.7	ug/kg	U
	75252	Bromoform	2.7	ug/kg	U
	74839	Bromomethane	2.7	ug/kg	U
	75150	Carbon disulfide	5.4	ug/kg	U

			Result	Units	Qlfr
Analytes :	56235	Carbon Tetrachloride	2.7	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.7	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 9	ug/kg	U
	124481	Dibromochloromethane	2.7	ug/kg	U
	74953	Dibromomethane	2.7	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2.7	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2.7	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.7	ug/kg	U
	79016	Ethene, trichloro-	2.7	ug/kg	U
	75003	Ethyl Chloride	2.7	ug/kg	U
	100414	Ethylbenzene	2.7	ug/kg	U
	75694	Freon 11	5 4	ug/kg	U
	75718	Freon 12	2 7	ug/kg	U
	87683	Hexachlorobutadiene	2.7	ug/kg	U
	74873	Methane, chloro-	2.7	ug/kg	U
	67663	Methane, trichloro-	5.4	ug/kg	U
	75092	Methylene Chloride	67.6	ug/kg	UJK
	*1330207	MP-Xylene	5 4	ug/kg	U
	104518	n-Butylbenzene	2.7	ug/kg	U
	91203	Naphthalene	5.4	ug/kg	U
	135988	sec-Butylbenzene	2.7	ug/kg	U
	127184	Tetrachloroethene	2.7	ug/kg	U
	108883	Toluene	2.7	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5.1	ug/kg	U
	75014	Vinyl Chloride	5 4	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	97.8	%Rec	
	17060070	1,2-Dichloroethane-d4	105	%Rec	
	540363	Benzene, 1,4-difluoro-	104	%Rec	
	460004	p-Bromofluorobenzene	90.4	%Rec	
	2037265	Toluene-d8	101	%Rec	
Parameter	Volatiles - Tentatives				
Method :	8260-M				
Prep Method.					
Analytes .	55499020	3-Decene, 2,2-dimethyl-, (E)-	32.5	ug/kg	NJ
	2738183	3-Heptene, 2,6-dimethyl-	2500	ug/kg	NJ
	4806615	Cyclobutane, ethyl-	6.1	ug/kg	NJ
	61142221	Cyclohexane, (3,3-dimethylpent yl)-	61.9	ug/kg	NJ
	1678973	Cyclohexane, 1,2,3-trimethyl-	15.3	ug/kg	NJ
	61141808	Cyclohexane, 1,2-diethyl-3-met hyl-	107	ug/kg	NJ
	54676390	Cyclohexane, 2-butyl-1,1,3-tri methyl-	1480	ug/kg	NJ
	110543	Hexane	39.2	ug/kg	NJ
	74421208	Hexane, 1-(hexyloxy)-4-methyl-	13.0	ug/kg	NJ
	4110445	Octane, 3,3-dimethyl-	9.0	ug/kg	NJ
	89827	Pulegone	112	ug/kg	NJ
	*3008001	Unknown 01	6.7	ug/kg	NJ
	*3005001	Unknown Hydrocarbon 01	60.9	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: *3005002	Unknown Hydrocarbon 02	290	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14011
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	1.7	ug/kg	U
	319846	Alpha-BHC	1.7	ug/kg	U
	319857	Beta-BHC	1.7	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
	319868	Delta-BHC	1.7	ug/kg	U
	60571	Dieldrin	3.4	ug/kg	U
	959988	Endosulfan I	1.7	ug/kg	U
	33213659	Endosulfan II	3.4	ug/kg	U
	1031078	Endosulfan Sulfate	3.4	ug/kg	U
	72208	Endrin	3.4	ug/kg	U
	7421934	Endrin Aldehyde	3.4	ug/kg	U
	53494705	Endrin Ketone	3.4	ug/kg	U
	5103742	Gamma-Chlordane	1.7	ug/kg	U
	76448	Heptachlor	1.7	ug/kg	U
	1024573	Heptachlor Epoxide	1.7	ug/kg	U
	58899	Lindane	1.7	ug/kg	U
	72435	Methoxychlor	17	ug/kg	U
	72548	P,P'-DDD	3.4	ug/kg	U
	72559	P,P'-DDE	3.4	ug/kg	U
	50293	P,P'-DDT	3.4	ug/kg	U
	12674112	PCB-1016	34	ug/kg	U
	11104282	PCB-1221	68	ug/kg	U
	11141165	PCB-1232	34	ug/kg	U
	53469219	PCB-1242	34	ug/kg	U
	12672296	PCB-1248	34	ug/kg	U
	11097691	PCB-1254	34	ug/kg	U
	11096825	PCB-1260	34	ug/kg	U
	8001352	Toxaphene	170	ug/kg	U
	*2051243	Decachlorobiphenyl	102	%Rec	
	*300105	Tetrachlorometaxylene	108	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	170	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	170	ug/kg	U
	95954	2,4,5-Trichlorophenol	170	ug/kg	U
	88062	2,4,6-Trichlorophenol	170	ug/kg	U
	120832	2,4-Dichlorophenol	340	ug/kg	U
	105679	2,4-Dimethylphenol	170	ug/kg	U
	51285	2,4-Dinitrophenol	1700	ug/kg	U
	121142	2,4-Dinitrotoluene	340	ug/kg	U
	606202	2,6-Dinitrotoluene	340	ug/kg	U
	91587	2-Chloronaphthalene	170	ug/kg	U
	95578	2-Chlorophenol	170	ug/kg	U
	88744	2-Nitroaniline	851	ug/kg	U
	88755	2-Nitrophenol	851	ug/kg	U
	91941	3,3'-Dichlorobenzidine	681	ug/kg	UJK
	99092	3-Nitroaniline	340	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1700	ug/kg	U
	101553	4-Bromophenyl-Phenylether	170	ug/kg	U
	59507	4-Chloro-3-methylphenol	851	ug/kg	U
	106478	4-Chloroaniline	170	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	170	ug/kg	U
	106445	4-Methylphenol	170	ug/kg	U
	100016	4-Nitroaniline	851	ug/kg	U
	100027	4-Nitrophenol	851	ug/kg	U
	86748	9H-Carbazole	170	ug/kg	U
	86737	9H-Fluorene	170	ug/kg	U
	83329	Acenaphthene	170	ug/kg	U
	208968	Acenaphthylene	170	ug/kg	U
	62533	Aniline	170	ug/kg	U
	120127	Anthracene	170	ug/kg	U
	95501	Benzene, 1,2-dichloro-	170	ug/kg	U
	541731	Benzene, 1,3-dichloro-	170	ug/kg	U
	106467	Benzene, 1,4-dichloro-	170	ug/kg	U
	100516	Benzenemethanol	851	ug/kg	U
	92875	Benzidine	681	ug/kg	UJK
	56553	Benzo(a)anthracene	170	ug/kg	U
	50328	Benzo(a)pyrene	170	ug/kg	U
	191242	Benzo(g,h,i)perylene	340	ug/kg	U
	205992	Benzo[b]Fluoranthene	170	ug/kg	U
	207089	Benzo[k]fluoranthene	170	ug/kg	U
	65850	Benzoic acid	1700	ug/kg	U
	111444	bis(2-Chloroethyl)ether	170	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	170	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	851	ug/kg	U
	85687	Butylbenzylphthalate	170	ug/kg	U
	218019	Chrysene	170	ug/kg	U
	84742	Di-n-Butylphthalate	170	ug/kg	U
	117840	Di-n-octylphthalate	340	ug/kg	U
	53703	Dibenz[a,h]anthracene	170	ug/kg	U

			Result	Units	Qlfr
Analytes	: 132649	Dibenzofuran	170	ug/kg	U
	84662	Diethyl phthalate	170	ug/kg	U
	131113	Dimethylphthalate	170	ug/kg	U
	206440	Fluoranthene	170	ug/kg	U
	118741	Hexachlorobenzene	170	ug/kg	U
	87683	Hexachlorobutadiene	851	ug/kg	U
	77474	Hexachlorocyclopentadiene	851	ug/kg	U
	67721	Hexachloroethane	170	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	170	ug/kg	U
	78591	Isophorone	170	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	170	ug/kg	U
	621647	N-Nitrosodinpropylamine	170	ug/kg	U
	86306	n-Nitrosodiphenylamine	170	ug/kg	U
	91203	Naphthalene	170	ug/kg	U
	90120	Naphthalene, 1-methyl-	170	ug/kg	U
	91576	Naphthalene, 2-methyl-	170	ug/kg	U
	98953	Nitrobenzene	170	ug/kg	U
	87865	Pentachlorophenol	340	ug/kg	U
	85018	Phenanthrene	170	ug/kg	U
	108952	Phenol	170	ug/kg	U
	95487	Phenol, 2-methyl-	170	ug/kg	U
	129000	Pyrene	170	ug/kg	U
	483658	Retene	170	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	101	%Rec	
	2199691	1,2-Dichlorobenzene-d4	89.2	%Rec	
	93951736	2-chlorophenol-d4	104	%Rec	
	1718521	D10-Pyrene	101	%Rec	
	4165600	Nitrobenzene-d5	103	%Rec	
	367124	Phenol, 2-fluoro-	100	%Rec	
	4165622	Phenol-d5	88 9	%Rec	
	1718510	Terphenyl-d14	102	%Rec	
Parameter	: Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method.					
Analytes	: 56554871	16-Octadecenal	1590	ug/kg	NJ
	604397	Androst-4-en-3-one, 17-hydroxy -, (10.alp	1320	ug/kg	NJ
	629970	Docosane	2170	ug/kg	NJ
	111900	Ethanol, 2-(2-ethoxyethoxy)-	1400	ug/kg	NJ
	3074713	Heptane, 2,3-dimethyl-	1200	ug/kg	NJ
	2216333	Octane, 3-methyl-	1630	ug/kg	NJ
	*3008001	Unknown 01	925	ug/kg	NJ
	*3008002	Unknown 02	1450	ug/kg	NJ
	*3008003	Unknown 03	963	ug/kg	NJ

			Result	Units	Qlfr
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	2.1	ug/kg	U
	71556	1,1,1-Trichloroethane	2.1	ug/kg	U
	79005	1,1,2-Trichloroethane	2.1	ug/kg	U
	75343	1,1-Dichloroethane	2.1	ug/kg	U
	75354	1,1-Dichloroethene	2.1	ug/kg	U
	563586	1,1-Dichloropropene	2.1	ug/kg	U
	87616	1,2,3-Trichlorobenzene	10.3	ug/kg	U
	96184	1,2,3-Trichloropropane	2.1	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4.1	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4.1	ug/kg	U
	107062	1,2-Dichloroethane	2.1	ug/kg	U
	78875	1,2-Dichloropropane	2.1	ug/kg	U
	142289	1,3-Dichloropropane	2.1	ug/kg	U
	594207	2,2-Dichloropropane	2.1	ug/kg	U
	78933	2-Butanone	8.2	ug/kg	UJK
	95498	2-Chlorotoluene	2.1	ug/kg	U
	591786	2-Hexanone	8.2	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.1	ug/kg	U
	67641	2-Propanone	46.2	ug/kg	
	106434	4-Chlorotoluene	2.1	ug/kg	U
	71432	Benzene	2.1	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.1	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.1	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.1	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.1	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.1	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.1	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.1	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.1	ug/kg	U
	108907	Benzene, chloro-	2.1	ug/kg	U
	100425	Benzene, ethenyl-	2.1	ug/kg	U
	103651	Benzene, propyl-	2 1	ug/kg	U
	98066	Benzene, tert-butyl-	2.1	ug/kg	U
	108861	Bromobenzene	2.1	ug/kg	U
	74975	Bromochloromethane	2.1	ug/kg	U
	75274	Bromodichloromethane	2.1	ug/kg	U
	75252	Bromoform	2.1	ug/kg	U
	74839	Bromomethane	2.1	ug/kg	U
	75150	Carbon disulfide	4 1	ug/kg	U
	56235	Carbon Tetrachloride	2.1	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.1	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2.2	ug/kg	U
	124481	Dibromochloromethane	2.1	ug/kg	U
	74953	Dibromomethane	2 1	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 1	ug/kg	U

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			Result	Units	Qlfr
Analytes :	106934	Ethane, 1,2-dibromo-	2.1	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.1	ug/kg	U
	79016	Ethene, trichloro-	2.1	ug/kg	U
	75003	Ethyl Chloride	2.1	ug/kg	U
	100414	Ethylbenzene	2 1	ug/kg	U
	75694	Freon 11	4.1	ug/kg	U
	75718	Freon 12	2.1	ug/kg	U
	87683	Hexachlorobutadiene	2.1	ug/kg	U
	74873	Methane, chloro-	2.1	ug/kg	U
	67663	Methane, trichloro-	4.1	ug/kg	U
	75092	Methylene Chloride	20.6	ug/kg	UJK
	*1330207	MP-Xylene	4.1	ug/kg	U
	104518	n-Butylbenzene	2.1	ug/kg	U
	91203	Naphthalene	4.1	ug/kg	U
	135988	sec-Butylbenzene	2.1	ug/kg	U
	127184	Tetrachloroethene	2.1	ug/kg	U
	108883	Toluene	2.1	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	3.9	ug/kg	U
	75014	Vinyl Chloride	4.1	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	102	%Rec	
	17060070	1,2-Dichloroethane-d4	107	%Rec	
	540363	Benzene, 1,4-difluoro-	103	%Rec	
	460004	p-Bromofluorobenzene	101	%Rec	
	2037265	Toluene-d8	101	%Rec	

Parameter : Volatiles - Tentatives
Method . 8260-M
Prep Method - -

Analytes :	4806615	Cyclobutane, ethyl-	4.5	ug/kg	NJ
	110543	Hexane	31.2	ug/kg	NJ
	2958761	Naphthalene, decahydro-2-methy l-	7.7	ug/kg	NJ
	62016346	Octane, 2,3,7-trimethyl-	236	ug/kg	NJ
	629992	Pentacosane	11.4	ug/kg	NJ
	17301267	Undecane, 2,9-dimethyl-	8.6	ug/kg	NJ
	*3008001	Unknown 01	13.8	ug/kg	NJ
	*3008002	Unknown 02	26.0	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14012
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	1.7	ug/kg	U
319846	Alpha-BHC	1.7	ug/kg	U
319857	Beta-BHC	1.7	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
319868	Delta-BHC	1.7	ug/kg	U
60571	Dieldrin	3.3	ug/kg	U
959988	Endosulfan I	1.7	ug/kg	U
33213659	Endosulfan II	3.3	ug/kg	U
1031078	Endosulfan Sulfate	3.3	ug/kg	U
72208	Endrin	3.3	ug/kg	U
7421934	Endrin Aldehyde	3.3	ug/kg	U
53494705	Endrin Ketone	3.3	ug/kg	U
5103742	Gamma-Chlordane	1.7	ug/kg	U
76448	Heptachlor	1.7	ug/kg	U
1024573	Heptachlor Epoxide	1.7	ug/kg	U
58899	Lindane	1.7	ug/kg	U
72435	Methoxychlor	17	ug/kg	U
72548	P,P'-DDD	3.3	ug/kg	U
72559	P,P'-DDE	3.3	ug/kg	U
50293	P,P'-DDT	3.3	ug/kg	U
12674112	PCB-1016	33	ug/kg	U
11104282	PCB-1221	67	ug/kg	U
11141165	PCB-1232	33	ug/kg	U
53469219	PCB-1242	33	ug/kg	U
12672296	PCB-1248	33	ug/kg	U
11097691	PCB-1254	33	ug/kg	U
11096825	PCB-1260	33	ug/kg	U
8001352	Toxaphene	166	ug/kg	U
*2051243	Decachlorobiphenyl	104	%Rec	
*300105	Tetrachlorometaxylene	99	%Rec	

GCMS

Parameter : Semi-volatiles
Method 8270-M
Prep Method

Analytes		Result	Units	Qlfr
120821	1,2,4-Trichlorobenzene	166	ug/kg	U

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			Result	Units	Qlfr
Analytes	122667	1,2-Diphenylhydrazine	166	ug/kg	U
	95954	2,4,5-Trichlorophenol	166	ug/kg	U
	88062	2,4,6-Trichlorophenol	166	ug/kg	U
	120832	2,4-Dichlorophenol	333	ug/kg	U
	105679	2,4-Dimethylphenol	166	ug/kg	U
	51285	2,4-Dinitrophenol	1660	ug/kg	U
	121142	2,4-Dinitrotoluene	333	ug/kg	U
	606202	2,6-Dinitrotoluene	333	ug/kg	U
	91587	2-Chloronaphthalene	166	ug/kg	U
	95578	2-Chlorophenol	166	ug/kg	U
	88744	2-Nitroaniline	832	ug/kg	U
	88755	2-Nitrophenol	832	ug/kg	U
	91941	3,3'-Dichlorobenzidine	666	ug/kg	UJK
	99092	3-Nitroaniline	333	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1660	ug/kg	U
	101553	4-Bromophenyl-Phenylether	166	ug/kg	U
	59507	4-Chloro-3-methylphenol	832	ug/kg	U
	106478	4-Chloroaniline	166	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	166	ug/kg	U
	106445	4-Methylphenol	166	ug/kg	U
	100016	4-Nitroaniline	832	ug/kg	U
	100027	4-Nitrophenol	832	ug/kg	U
	86748	9H-Carbazole	166	ug/kg	U
	86737	9H-Fluorene	166	ug/kg	U
	83329	Acenaphthene	166	ug/kg	U
	208968	Acenaphthylene	166	ug/kg	U
	62533	Aniline	166	ug/kg	U
	120127	Anthracene	166	ug/kg	U
	95501	Benzene, 1,2-dichloro-	166	ug/kg	U
	541731	Benzene, 1,3-dichloro-	166	ug/kg	U
	106467	Benzene, 1,4-dichloro-	166	ug/kg	U
	100516	Benzenemethanol	832	ug/kg	U
	92875	Benzidine	666	ug/kg	UJK
	56553	Benzo(a)anthracene	166	ug/kg	U
	50328	Benzo(a)pyrene	166	ug/kg	U
	191242	Benzo(g,h,i)perylene	333	ug/kg	U
	205992	Benzo[b]Fluoranthene	166	ug/kg	U
	207089	Benzo[k]fluoranthene	166	ug/kg	U
	65850	Benzoic acid	1660	ug/kg	U
	111444	bis(2-Chloroethyl)ether	166	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	166	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	832	ug/kg	U
	85687	Butylbenzylphthalate	166	ug/kg	U
	218019	Chrysene	166	ug/kg	U
	84742	Di-n-Butylphthalate	166	ug/kg	U
	117840	Di-n-octylphthalate	333	ug/kg	U
	53703	Dibenz[a,h]anthracene	166	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	166	ug/kg	U
	84662	Diethyl phthalate	166	ug/kg	U
	131113	Dimethylphthalate	166	ug/kg	U
	206440	Fluoranthene	166	ug/kg	U
	118741	Hexachlorobenzene	166	ug/kg	U
	87683	Hexachlorobutadiene	832	ug/kg	U
	77474	Hexachlorocyclopentadiene	832	ug/kg	U
	67721	Hexachloroethane	166	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	166	ug/kg	U
	78591	Isophorone	166	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	166	ug/kg	U
	621647	N-Nitrosodinpropylamine	166	ug/kg	U
	86306	n-Nitrosodiphenylamine	166	ug/kg	U
	91203	Naphthalene	166	ug/kg	U
	90120	Naphthalene, 1-methyl-	166	ug/kg	U
	91576	Naphthalene, 2-methyl-	166	ug/kg	U
	98953	Nitrobenzene	166	ug/kg	U
	87865	Pentachlorophenol	333	ug/kg	U
	85018	Phenanthrene	166	ug/kg	U
	108952	Phenol	166	ug/kg	U
	95487	Phenol, 2-methyl-	166	ug/kg	U
	129000	Pyrene	166	ug/kg	U
	483658	Retene	166	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	98.5	%Rec	
	2199691	1,2-Dichlorobenzene-d4	77.3	%Rec	
	93951736	2-chlorophenol-d4	102	%Rec	
	1718521	D10-Pyrene	102	%Rec	
	4165600	Nitrobenzene-d5	101	%Rec	
	367124	Phenol, 2-fluoro-	98.0	%Rec	
	4165622	Phenol-d5	91.4	%Rec	
	1718510	Terphenyl-d14	104	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method:

Analytes .	83476	.gamma.-Sitosterol	1630	ug/kg	NJ
	23293507	3-Hexyn-2-ol, 5-methyl-	1010	ug/kg	NJ
	629970	Docosane	2260	ug/kg	NJ
	630068	Hexatriacontane	1490	ug/kg	NJ
	14167590	Tetratriacontane	2080	ug/kg	NJ
	*3008001	Unknown 01	874	ug/kg	NJ
	*3008002	Unknown 02	1160	ug/kg	NJ
	*3008003	Unknown 03	2160	ug/kg	NJ
	*3008004	Unknown 04	3140	ug/kg	NJ

			Result	Units	Qlfr
Parameter	: Volatiles				
Method	. 8260-M				
Prep Method					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	2.0	ug/kg	U
	71556	1,1,1-Trichloroethane	2.0	ug/kg	U
	79005	1,1,2-Trichloroethane	2.0	ug/kg	U
	75343	1,1-Dichloroethane	2 0	ug/kg	U
	75354	1,1-Dichloroethene	2.0	ug/kg	U
	563586	1,1-Dichloropropene	2.0	ug/kg	U
	87616	1,2,3-Trichlorobenzene	10 1	ug/kg	U
	96184	1,2,3-Trichloropropane	2.0	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4 0	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4.0	ug/kg	U
	107062	1,2-Dichloroethane	2 0	ug/kg	U
	78875	1,2-Dichloropropane	2.0	ug/kg	U
	142289	1,3-Dichloropropane	2.0	ug/kg	U
	594207	2,2-Dichloropropane	2.0	ug/kg	U
	78933	2-Butanone	8.0	ug/kg	UJK
	95498	2-Chlorotoluene	2.0	ug/kg	U
	591786	2-Hexanone	8.0	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/kg	U
	67641	2-Propanone	40.3	ug/kg	U
	106434	4-Chlorotoluene	2.0	ug/kg	U
	71432	Benzene	2.0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	88.0	ug/kg	
	95636	Benzene, 1,2,4-trimethyl-	2.0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2 0	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.0	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2 0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	105	ug/kg	
	108907	Benzene, chloro-	2.0	ug/kg	U
	100425	Benzene, ethenyl-	2.0	ug/kg	U
	103651	Benzene, propyl-	2.0	ug/kg	U
	98066	Benzene, tert-butyl-	2.0	ug/kg	U
	108861	Bromobenzene	2.0	ug/kg	U
	74975	Bromochloromethane	2.0	ug/kg	U
	75274	Bromodichloromethane	2 0	ug/kg	U
	75252	Bromoform	2 0	ug/kg	U
	74839	Bromomethane	2.0	ug/kg	U
	75150	Carbon disulfide	4 0	ug/kg	U
	56235	Carbon Tetrachloride	2.0	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2.1	ug/kg	U
	124481	Dibromochloromethane	2 0	ug/kg	U
	74953	Dibromomethane	2 0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 0	ug/kg	U

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			Result	Units	Qlfr
Analytes :	106934	Ethane, 1,2-dibromo-	2.0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.0	ug/kg	U
	79016	Ethene, trichloro-	2.0	ug/kg	U
	75003	Ethyl Chloride	2.0	ug/kg	U
	100414	Ethylbenzene	2.0	ug/kg	U
	75694	Freon 11	4.0	ug/kg	U
	75718	Freon 12	2.0	ug/kg	U
	87683	Hexachlorobutadiene	2.0	ug/kg	U
	74873	Methane, chloro-	2.0	ug/kg	U
	67663	Methane, trichloro-	4 0	ug/kg	U
	75092	Methylene Chloride	20.1	ug/kg	UJK
	*1330207	MP-Xylene	4.0	ug/kg	U
	104518	n-Butylbenzene	2.0	ug/kg	U
	91203	Naphthalene	4.0	ug/kg	U
	135988	sec-Butylbenzene	2.0	ug/kg	U
	127184	Tetrachloroethene	2.0	ug/kg	U
	108883	Toluene	2.4	ug/kg	
	10061026	Trans-1,3-Dichloropropene	3.8	ug/kg	U
	75014	Vinyl Chloride	4.0	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	112	%Rec	
	17060070	1,2-Dichloroethane-d4	123	%Rec	
	540363	Benzene, 1,4-difluoro-	104	%Rec	
	460004	p-Bromofluorobenzene	101	%Rec	
	2037265	Toluene-d8	99.9	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method:

Analytes :	127913	.beta.-Pinene	221	ug/kg	NJ
	76109405	Bicyclo[2.2.1]heptan-2-ol, 1,3 ,3-trimeth	5.9	ug/kg	NJ
	2867052	Bicyclo[3.1.0]hex-2-ene, 2-met hyl-5-(1-m	5.5	ug/kg	NJ
	76493	Bornyl acetate	77.1	ug/kg	NJ
	79925	Camphene	394	ug/kg	NJ
	76222	Camphor	5.8	ug/kg	NJ
	586629	Cyclohexene, 1-methyl-4-(1-met hylethylid	8.5	ug/kg	NJ
	5989275	D-Limonene	352	ug/kg	NJ
	1767846	Ethanone, 1-(2-methyl-2-cyclop enten-1-yl	4.7	ug/kg	NJ
	488971	TRICYCLO[2.2.1.02,6]HEPTANE, 1 ,3,3-TRIME	162	ug/kg	NJ
	17301256	Undecane, 2,8-dimethyl-	8.6	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14013
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	1.7	ug/kg	-U
	319846	Alpha-BHC	1.7	ug/kg	U
	319857	Beta-BHC	1.7	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
	319868	Delta-BHC	1.7	ug/kg	U
	60571	Dieldrin	3.4	ug/kg	U
	959988	Endosulfan I	1.7	ug/kg	U
	33213659	Endosulfan II	3.4	ug/kg	U
	1031078	Endosulfan Sulfate	3.4	ug/kg	U
	72208	Endrin	3 4	ug/kg	U
	7421934	Endrin Aldehyde	3.4	ug/kg	U
	53494705	Endrin Ketone	3.4	ug/kg	U
	5103742	Gamma-Chlordane	1.7	ug/kg	U
	76448	Heptachlor	1.7	ug/kg	U
	1024573	Heptachlor Epoxide	1.7	ug/kg	U
	58899	Lindane	1.7	ug/kg	U
	72435	Methoxychlor	17	ug/kg	U
	72548	P,P'-DDD	3.4	ug/kg	U
	72559	P,P'-DDE	3.4	ug/kg	U
	50293	P,P'-DDT	3 4	ug/kg	U
	12674112	PCB-1016	34	ug/kg	U
	11104282	PCB-1221	68	ug/kg	U
	11141165	PCB-1232	34	ug/kg	U
	53469219	PCB-1242	34	ug/kg	U
	12672296	PCB-1248	34	ug/kg	U
	11097691	PCB-1254	34	ug/kg	U
	11096825	PCB-1260	34	ug/kg	U
	8001352	Toxaphene	169	ug/kg	U
	*2051243	Decachlorobiphenyl	106	%Rec	
	*300105	Tetrachlorometaxylene	100	%Rec	

GCMS

Parameter	: Semi-volatiles				
Method	: 8270-M				
Prep Method	:				
Analytes	: 120821	1,2,4-Trichlorobenzene	169	ug/kg	U

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Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	169	ug/kg	U
	95954	2,4,5-Trichlorophenol	169	ug/kg	U
	88062	2,4,6-Trichlorophenol	169	ug/kg	U
	120832	2,4-Dichlorophenol	338	ug/kg	U
	105679	2,4-Dimethylphenol	169	ug/kg	U
	51285	2,4-Dinitrophenol	1690	ug/kg	U
	121142	2,4-Dinitrotoluene	338	ug/kg	U
	606202	2,6-Dinitrotoluene	338	ug/kg	U
	91587	2-Chloronaphthalene	169	ug/kg	U
	95578	2-Chlorophenol	169	ug/kg	U
	88744	2-Nitroaniline	844	ug/kg	U
	88755	2-Nitrophenol	844	ug/kg	U
	91941	3,3'-Dichlorobenzidine	676	ug/kg	UJK
	99092	3-Nitroaniline	338	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1690	ug/kg	U
	101553	4-Bromophenyl-Phenylether	169	ug/kg	U
	59507	4-Chloro-3-methylphenol	844	ug/kg	U
	106478	4-Chloroaniline	169	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	169	ug/kg	U
	106445	4-Methylphenol	169	ug/kg	U
	100016	4-Nitroaniline	844	ug/kg	U
	100027	4-Nitrophenol	844	ug/kg	U
	86748	9H-Carbazole	169	ug/kg	U
	86737	9H-Fluorene	169	ug/kg	U
	83329	Acenaphthene	169	ug/kg	U
	208968	Acenaphthylene	169	ug/kg	U
	62533	Aniline	169	ug/kg	U
	120127	Anthracene	169	ug/kg	U
	95501	Benzene, 1,2-dichloro-	169	ug/kg	U
	541731	Benzene, 1,3-dichloro-	169	ug/kg	U
	106467	Benzene, 1,4-dichloro-	169	ug/kg	U
	100516	Benzenemethanol	844	ug/kg	U
	92875	Benzidine	676	ug/kg	UJK
	56553	Benzo(a)anthracene	169	ug/kg	U
	50328	Benzo(a)pyrene	169	ug/kg	U
	191242	Benzo(g,h,i)perylene	338	ug/kg	U
	205992	Benzo[b]Fluoranthene	169	ug/kg	U
	207089	Benzo[k]fluoranthene	169	ug/kg	U
	65850	Benzoic acid	1690	ug/kg	U
	111444	bis(2-Chloroethyl)ether	169	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	169	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	844	ug/kg	U
	85687	Butylbenzylphthalate	169	ug/kg	U
	218019	Chrysene	169	ug/kg	U
	84742	Di-n-Butylphthalate	245	ug/kg	
	117840	Di-n-octylphthalate	338	ug/kg	U
	53703	Dibenz[a,h]anthracene	169	ug/kg	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	169	ug/kg	U
	84662	Diethyl phthalate	169	ug/kg	U
	131113	Dimethylphthalate	169	ug/kg	U
	206440	Fluoranthene	169	ug/kg	U
	118741	Hexachlorobenzene	169	ug/kg	U
	87683	Hexachlorobutadiene	844	ug/kg	U
	77474	Hexachlorocyclopentadiene	844	ug/kg	U
	67721	Hexachloroethane	169	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	169	ug/kg	U
	78591	Isophorone	169	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	169	ug/kg	U
	621647	N-Nitrosodinpropylamine	169	ug/kg	U
	86306	n-Nitrosodiphenylamine	169	ug/kg	U
	91203	Naphthalene	169	ug/kg	U
	90120	Naphthalene, 1-methyl-	169	ug/kg	U
	91576	Naphthalene, 2-methyl-	169	ug/kg	U
	98953	Nitrobenzene	169	ug/kg	U
	87865	Pentachlorophenol	338	ug/kg	U
	85018	Phenanthrene	169	ug/kg	U
	108952	Phenol	169	ug/kg	U
	95487	Phenol, 2-methyl-	169	ug/kg	U
	129000	Pyrene	169	ug/kg	U
	483658	Retene	169	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	106	%Rec	
	2199691	1,2-Dichlorobenzene-d4	94 4	%Rec	
	93951736	2-chlorophenol-d4	110	%Rec	
	1718521	D10-Pyrene	106	%Rec	
	4165600	Nitrobenzene-d5	104	%Rec	
	367124	Phenol, 2-fluoro-	107	%Rec	
	4165622	Phenol-d5	98.6	%Rec	
	1718510	Terphenyl-d14	112	%Rec	
Parameter :	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method					
Analytes :	111900	Ethanol, 2-(2-ethoxyethoxy)-	1530	ug/kg	NJ
	764998	Ethene, 1,1'-[oxybis(2,1-ethan ediyloxy)]	1020	ug/kg	NJ
	630068	Hexatriacontane	984	ug/kg	NJ
	630035	Nonacosane	1250	ug/kg	NJ
	2216333	Octane, 3-methyl-	1780	ug/kg	NJ
	*3008001	Unknown 01	855	ug/kg	NJ
	*3008002	Unknown 02	1200	ug/kg	NJ
	*3008003	Unknown 03	1820	ug/kg	NJ
	*3008004	Unknown 04	11300	ug/kg	NJ

			Result	Units	Qlfr
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	5.6	ug/kg	U
	71556	1,1,1-Trichloroethane	5.6	ug/kg	U
	79005	1,1,2-Trichloroethane	5.6	ug/kg	U
	75343	1,1-Dichloroethane	5.6	ug/kg	U
	75354	1,1-Dichloroethene	5.6	ug/kg	U
	563586	1,1-Dichloropropene	5.6	ug/kg	U
	87616	1,2,3-Trichlorobenzene	11.2	ug/kg	U
	96184	1,2,3-Trichloropropane	5.6	ug/kg	U
	120821	1,2,4-Trichlorobenzene	11.2	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	11.2	ug/kg	U
	107062	1,2-Dichloroethane	5.6	ug/kg	U
	78875	1,2-Dichloropropane	5.6	ug/kg	U
	142289	1,3-Dichloropropane	5.6	ug/kg	U
	594207	2,2-Dichloropropane	5.6	ug/kg	U
	78933	2-Butanone	56.0	ug/kg	UJK
	95498	2-Chlorotoluene	5.6	ug/kg	U
	591786	2-Hexanone	22.4	ug/kg	U
	108101	2-Pentanone, 4-methyl-	5.6	ug/kg	U
	67641	2-Propanone	112	ug/kg	U
	106434	4-Chlorotoluene	5.6	ug/kg	U
	71432	Benzene	5 6	ug/kg	U
	98828	Benzene, (1-methylethyl)-	5.6	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	5 6	ug/kg	U
	95501	Benzene, 1,2-dichloro-	5.6	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	5.6	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	5.6	ug/kg	U
	541731	Benzene, 1,3-dichloro-	5.6	ug/kg	U
	106467	Benzene, 1,4-dichloro-	5.6	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	5.6	ug/kg	U
	108907	Benzene, chloro-	5 6	ug/kg	U
	100425	Benzene, ethenyl-	5.6	ug/kg	U
	103651	Benzene, propyl-	5.6	ug/kg	U
	98066	Benzene, tert-butyl-	5.6	ug/kg	U
	108861	Bromobenzene	5.6	ug/kg	U
	74975	Bromochloromethane	11.2	ug/kg	UJK
	75274	Bromodichloromethane	5 6	ug/kg	U
	75252	Bromoform	11.2	ug/kg	U
	74839	Bromomethane	5 6	ug/kg	U
	75150	Carbon disulfide	5 6	ug/kg	U
	56235	Carbon Tetrachloride	5.6	ug/kg	U
	156592	cis-1,2-Dichloroethene	5 6	ug/kg	U
	10061015	cis-1,3-Dichloropropene	5 9	ug/kg	U
	124481	Dibromochloromethane	5 6	ug/kg	U
	74953	Dibromomethane	5 6	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	5 6	ug/kg	U

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			Result	Units	Qlfr
Analytes :	106934	Ethane, 1,2-dibromo-	5.6	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	5 6	ug/kg	U
	79016	Ethene, trichloro-	11.2	ug/kg	U
	75003	Ethyl Chloride	5 6	ug/kg	U
	100414	Ethylbenzene	5.6	ug/kg	U
	75694	Freon 11	11.2	ug/kg	U
	75718	Freon 12	5 6	ug/kg	U
	87683	Hexachlorobutadiene	5.6	ug/kg	U
	74873	Methane, chloro-	5 6	ug/kg	U
	67663	Methane, trichloro-	6.9	ug/kg	
	75092	Methylene Chloride	56 0	ug/kg	UJK
	*1330207	MP-Xylene	11.2	ug/kg	U
	104518	n-Butylbenzene	5.6	ug/kg	U
	91203	Naphthalene	11.2	ug/kg	U
	135988	sec-Butylbenzene	5.6	ug/kg	U
	127184	Tetrachloroethene	5 6	ug/kg	U
	108883	Toluene	5.6	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	10.5	ug/kg	U
	75014	Vinyl Chloride	5.6	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	100	%Rec	
	17060070	1,2-Dichloroethane-d4	110	%Rec	
	540363	Benzene, 1,4-difluoro-	100	%Rec	
	460004	p-Bromofluorobenzene	105	%Rec	
	2037265	Toluene-d8	101	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method: -

Analytes :	592767	1-Heptene	13.1	ug/kg	NJ
	54676390	Cyclohexane, 2-butyl-1,1,3-tri methyl-	36.6	ug/kg	NJ
	*3008001	Unknown 01	27.9	ug/kg	NJ
	*3008002	Unknown 02	39.4	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314014
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method : 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes 309002	Aldrin	3.0	ug/kg	U
319846	Alpha-BHC	3.0	ug/kg	U
319857	Beta-BHC	3.0	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	3.0	ug/kg	U
319868	Delta-BHC	3.0	ug/kg	U
60571	Dieldrin	6.0	ug/kg	U
959988	Endosulfan I	3.0	ug/kg	U
33213659	Endosulfan II	6.0	ug/kg	U
1031078	Endosulfan Sulfate	6.0	ug/kg	U
72208	Endrin	6.0	ug/kg	U
7421934	Endrin Aldehyde	6.0	ug/kg	U
53494705	Endrin Ketone	6.0	ug/kg	U
5103742	Gamma-Chlordane	3 0	ug/kg	U
76448	Heptachlor	3.0	ug/kg	U
1024573	Heptachlor Epoxide	3.0	ug/kg	U
58899	Lindane	3 0	ug/kg	U
72435	Methoxychlor	30	ug/kg	U
72548	P,P'-DDD	6.0	ug/kg	U
72559	P,P'-DDE	6.0	ug/kg	U
50293	P,P'-DDT	6 0	ug/kg	U
12674112	PCB-1016	60	ug/kg	U
11104282	PCB-1221	120	ug/kg	U
11141165	PCB-1232	60	ug/kg	U
53469219	PCB-1242	60	ug/kg	U
12672296	PCB-1248	60	ug/kg	U
11097691	PCB-1254	60	ug/kg	U
11096825	PCB-1260	60	ug/kg	U
8001352	Toxaphene	300	ug/kg	U
*2051243	Decachlorobiphenyl	94	%Rec	
*300105	Tetrachlorometaxylene	87	%Rec	

GCMS

Parameter *Semi-volatiles*
Method 8270-M
Prep Method

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		Result	Units	Qlfr
Analytes 120821	1,2,4-Trichlorobenzene	300	ug/kg	U

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	300	ug/kg	U
	95954	2,4,5-Trichlorophenol	300	ug/kg	U
	88062	2,4,6-Trichlorophenol	300	ug/kg	U
	120832	2,4-Dichlorophenol	600	ug/kg	U
	105679	2,4-Dimethylphenol	300	ug/kg	U
	51285	2,4-Dinitrophenol	3000	ug/kg	U
	121142	2,4-Dinitrotoluene	600	ug/kg	U
	606202	2,6-Dinitrotoluene	600	ug/kg	U
	91587	2-Chloronaphthalene	300	ug/kg	U
	95578	2-Chlorophenol	300	ug/kg	U
	88744	2-Nitroaniline	1500	ug/kg	U
	88755	2-Nitrophenol	1500	ug/kg	U
	91941	3,3'-Dichlorobenzidine	1200	ug/kg	U
	99092	3-Nitroaniline	600	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	3000	ug/kg	U
	101553	4-Bromophenyl-Phenylether	300	ug/kg	U
	59507	4-Chloro-3-methylphenol	1500	ug/kg	U
	106478	4-Chloroaniline	300	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	300	ug/kg	U
	106445	4-Methylphenol	300	ug/kg	U
	100016	4-Nitroaniline	1500	ug/kg	U
	100027	4-Nitrophenol	1500	ug/kg	U
	86748	9H-Carbazole	300	ug/kg	U
	86737	9H-Fluorene	300	ug/kg	U
	83329	Acenaphthene	300	ug/kg	U
	208968	Acenaphthylene	300	ug/kg	U
	62533	Aniline	300	ug/kg	U
	120127	Anthracene	300	ug/kg	U
	95501	Benzene, 1,2-dichloro-	300	ug/kg	U
	541731	Benzene, 1,3-dichloro-	300	ug/kg	U
	106467	Benzene, 1,4-dichloro-	300	ug/kg	U
	100516	Benzenemethanol	1500	ug/kg	U
	92875	Benzidine	1200	ug/kg	U
	56553	Benzo(a)anthracene	300	ug/kg	U
	50328	Benzo(a)pyrene	300	ug/kg	U
	191242	Benzo(g,h,i)perylene	600	ug/kg	U
	205992	Benzo[b]Fluoranthene	300	ug/kg	U
	207089	Benzo[k]fluoranthene	300	ug/kg	U
	65850	Benzoic acid	3000	ug/kg	U
	111444	bis(2-Chloroethyl)ether	300	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	300	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1500	ug/kg	U
	85687	Butylbenzylphthalate	300	ug/kg	U
	218019	Chrysene	300	ug/kg	U
	84742	Di-n-Butylphthalate	300	ug/kg	U
	117840	Di-n-octylphthalate	600	ug/kg	U
	53703	Dibenz[a,h]anthracene	300	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	300	ug/kg	U
	84662	Diethyl phthalate	300	ug/kg	U
	131113	Dimethylphthalate	300	ug/kg	U
	206440	Fluoranthene	300	ug/kg	U
	118741	Hexachlorobenzene	300	ug/kg	U
	87683	Hexachlorobutadiene	1500	ug/kg	U
	77474	Hexachlorocyclopentadiene	1500	ug/kg	U
	67721	Hexachloroethane	300	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	300	ug/kg	U
	78591	Isophorone	300	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	300	ug/kg	U
	621647	N-Nitrosodinpropylamine	300	ug/kg	U
	86306	n-Nitrosodiphenylamine	300	ug/kg	U
	91203	Naphthalene	300	ug/kg	U
	90120	Naphthalene, 1-methyl-	300	ug/kg	U
	91576	Naphthalene, 2-methyl-	300	ug/kg	U
	98953	Nitrobenzene	300	ug/kg	U
	87865	Pentachlorophenol	600	ug/kg	U
	85018	Phenanthrene	300	ug/kg	U
	108952	Phenol	300	ug/kg	U
	95487	Phenol, 2-methyl-	300	ug/kg	U
	129000	Pyrene	300	ug/kg	U
	483658	Retene	300	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	88.4	%Rec	
	2199691	1,2-Dichlorobenzene-d4	72.2	%Rec	
	93951736	2-chlorophenol-d4	89.3	%Rec	
	1718521	D10-Pyrene	86.0	%Rec	
	4165600	Nitrobenzene-d5	86 3	%Rec	
	367124	Phenol, 2-fluoro-	85.7	%Rec	
	4165622	Phenol-d5	79.2	%Rec	
	1718510	Terphenyl-d14	86 0	%Rec	

Parameter . Semi-volatiles - Tentatives
Method : 8270-M
Prep Method.

Analytes :	83476	.gamma.-Sitosterol	9010	ug/kg	NJ
	1235741	1-Phenanthrenecarboxylic acid, 1,2,3,4,4	1970	ug/kg	NJ
	1058613	Stigmast-4-en-3-one	4500	ug/kg	NJ
	83008001	Unknown 01	8340	ug/kg	NJ
	3008002	Unknown 02	1620	ug/kg	NJ
	3008003	Unknown 03	3530	ug/kg	NJ
	*3008004	Unknown 04	23200	ug/kg	NJ

Parameter Volatiles
Method 8260-M
Prep Method

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Analytes	630206	1,1,1,2-Tetrachloroethane	4 6	ug/kg	U

			Result	Units	Qlfr
Analytes	: 71556	1,1,1-Trichloroethane	4.6	ug/kg	U
	79005	1,1,2-Trichloroethane	4 6	ug/kg	U
	75343	1,1-Dichloroethane	4 6	ug/kg	U
	75354	1,1-Dichloroethene	4 6	ug/kg	U
	563586	1,1-Dichloropropene	4 6	ug/kg	U
	87616	1,2,3-Trichlorobenzene	9.2	ug/kg	U
	96184	1,2,3-Trichloropropane	4 6	ug/kg	U
	120821	1,2,4-Trichlorobenzene	9.2	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	9 2	ug/kg	U
	107062	1,2-Dichloroethane	4 6	ug/kg	U
	78875	1,2-Dichloropropane	4.6	ug/kg	U
	142289	1,3-Dichloropropane	4.6	ug/kg	U
	594207	2,2-Dichloropropane	4 6	ug/kg	U
	78933	2-Butanone	46.2	ug/kg	UJK
	95498	2-Chlorotoluene	4.6	ug/kg	U
	591786	2-Hexanone	18.5	ug/kg	U
	108101	2-Pentanone, 4-methyl-	4.6	ug/kg	U
	67641	2-Propanone	92.4	ug/kg	U
	106434	4-Chlorotoluene	4.6	ug/kg	U
	71432	Benzene	4.6	ug/kg	U
	98828	**Benzene, (1-methylethyl)-**	**53.5**	**ug/kg**	
	95636	Benzene, 1,2,4-trimethyl-	4.6	ug/kg	U
	95501	Benzene, 1,2-dichloro-	4 6	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	4.6	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	4 6	ug/kg	U
	541731	Benzene, 1,3-dichloro-	4 6	ug/kg	U
	106467	Benzene, 1,4-dichloro-	4 6	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	4 6	ug/kg	U
	108907	Benzene, chloro-	4 6	ug/kg	U
	100425	Benzene, ethenyl-	4.6	ug/kg	U
	103651	Benzene, propyl-	4 6	ug/kg	U
	98066	Benzene, tert-butyl-	4 6	ug/kg	U
	108861	Bromobenzene	4 6	ug/kg	U
	74975	Bromochloromethane	9.2	ug/kg	U
	75274	Bromodichloromethane	4 6	ug/kg	U
	75252	Bromoform	9 2	ug/kg	U
	74839	Bromomethane	4 6	ug/kg	U
	75150	Carbon disulfide	4 6	ug/kg	U
	56235	Carbon Tetrachloride	4 6	ug/kg	U
	156592	cis-1,2-Dichloroethene	4 6	ug/kg	U
	10061015	cis-1,3-Dichloropropene	4 9	ug/kg	U
	124481	Dibromochloromethane	4 6	ug/kg	U
	74953	Dibromomethane	4.6	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	4 6	ug/kg	U
	106934	Ethane, 1,2-dibromo-	4 6	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	4 6	ug/kg	U
	79016	Ethene, trichloro-	9 2	ug/kg	U

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			Result	Units	Qlfr
Analytes :	75003	Ethyl Chloride	4 6	ug/kg	U
	100414	Ethylbenzene	4.6	ug/kg	U
	75694	Freon 11	9.2	ug/kg	U
	75718	Freon 12	4.6	ug/kg	U
	87683	Hexachlorobutadiene	4.6	ug/kg	U
	74873	Methane, chloro-	4 6	ug/kg	U
	67663	Methane, trichloro-	7.9	ug/kg	
	75092	Methylene Chloride	50.4	ug/kg	UJK
	*1330207	MP-Xylene	9.2	ug/kg	U
	104518	n-Butylbenzene	4.6	ug/kg	U
	91203	Naphthalene	9.2	ug/kg	U
	135988	sec-Butylbenzene	4.6	ug/kg	U
	127184	Tetrachloroethene	4 6	ug/kg	U
	108883	Toluene	88.8	ug/kg	
	10061026	Trans-1,3-Dichloropropene	8.7	ug/kg	U
	75014	Vinyl Chloride	4.6	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	90.9	%Rec	
	17060070	1,2-Dichloroethane-d4	103	%Rec	
	540363	Benzene, 1,4-difluoro-	100	%Rec	
	460004	p-Bromofluorobenzene	88 8	%Rec	
	2037265	Toluene-d8	106	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method:

Analytes :	555102	.beta.-Phellandrene	12.1	ug/kg	NJ
	13877913	1,3,6-Octatriene, 3,7-dimethyl -	33.1	ug/kg	NJ
	529168	Bicyclo[2.2.1]hept-2-ene, 2,3- dimethyl-	56.1	ug/kg	NJ
	554610	Bicyclo[4.1.0]hept-2-ene, 3,7, 7-trimethy	11.5	ug/kg	NJ
	79925	Camphene	38.3	ug/kg	NJ
	499036	Cyclohexene, 1-methyl-3-(1-met hylethenyl	11.0	ug/kg	NJ
	7705148	Cyclohexene, 1-methyl-4-(1-met hylethenyl	35.7	ug/kg	NJ
	*3008001	Unknown 01	17.6	ug/kg	NJ
	*3008002	Unknown 02	64.6	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/27/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314015
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	1.7	ug/kg	-U
319846	Alpha-BHC	1.7	ug/kg	U
319857	Beta-BHC	1 7	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
319868	Delta-BHC	1 7	ug/kg	U
60571	Dieldrin	3 4	ug/kg	U
959988	Endosulfan I	1.7	ug/kg	U
33213659	Endosulfan II	3.4	ug/kg	U
1031078	Endosulfan Sulfate	3.4	ug/kg	U
72208	Endrin	3 4	ug/kg	U
7421934	Endrin Aldehyde	3.4	ug/kg	U
53494705	Endrin Ketone	3 4	ug/kg	U
5103742	Gamma-Chlordane	1 7	ug/kg	U
76448	Heptachlor	1 7	ug/kg	U
1024573	Heptachlor Epoxide	1.7	ug/kg	U
58899	Lindane	1.7	ug/kg	U
72435	Methoxychlor	17	ug/kg	U
72548	P,P'-DDD	3 4	ug/kg	U
72559	P,P'-DDE	3 4	ug/kg	U
50293	P,P'-DDT	3 4	ug/kg	U
12674112	PCB-1016	34	ug/kg	U
11104282	PCB-1221	68	ug/kg	U
11141165	PCB-1232	34	ug/kg	U
53469219	PCB-1242	34	ug/kg	U
12672296	PCB-1248	34	ug/kg	U
11097691	PCB-1254	34	ug/kg	U
11096825	PCB-1260	34	ug/kg	U
8001352	Toxaphene	169	ug/kg	U
*2051243	Decachlorobiphenyl	105	%Rec	
*300105	Tetrachlorometaxylene	96	%Rec	

GCMS

Parameter Semi-volatiles
Method 8270-M
Prep Method:

Analytes		Result	Units	Qlfr
120821	1,2,4-Trichlorobenzene	169	ug/kg	U

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			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	169	ug/kg	U
	95954	2,4,5-Trichlorophenol	169	ug/kg	U
	88062	2,4,6-Trichlorophenol	169	ug/kg	U
	120832	2,4-Dichlorophenol	338	ug/kg	U
	105679	2,4-Dimethylphenol	169	ug/kg	U
	51285	2,4-Dinitrophenol	1690	ug/kg	U
	121142	2,4-Dinitrotoluene	338	ug/kg	U
	606202	2,6-Dinitrotoluene	338	ug/kg	U
	91587	2-Chloronaphthalene	169	ug/kg	U
	95578	2-Chlorophenol	169	ug/kg	U
	88744	2-Nitroaniline	844	ug/kg	U
	88755	2-Nitrophenol	844	ug/kg	U
	91941	3,3'-Dichlorobenzidine	675	ug/kg	UJK
	99092	3-Nitroaniline	338	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1690	ug/kg	U
	101553	4-Bromophenyl-Phenylether	169	ug/kg	U
	59507	4-Chloro-3-methylphenol	844	ug/kg	U
	106478	4-Chloroaniline	169	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	169	ug/kg	U
	106445	4-Methylphenol	169	ug/kg	U
	100016	4-Nitroaniline	844	ug/kg	U
	100027	4-Nitrophenol	844	ug/kg	U
	86748	9H-Carbazole	169	ug/kg	U
	86737	9H-Fluorene	169	ug/kg	U
	83329	Acenaphthene	169	ug/kg	U
	208968	Acenaphthylene	169	ug/kg	U
	62533	Aniline	169	ug/kg	U
	120127	Anthracene	169	ug/kg	U
	95501	Benzene, 1,2-dichloro-	169	ug/kg	U
	541731	Benzene, 1,3-dichloro-	169	ug/kg	U
	106467	Benzene, 1,4-dichloro-	169	ug/kg	U
	100516	Benzenemethanol	844	ug/kg	U
	92875	Benzidine	675	ug/kg	UJK
	56553	Benzo(a)anthracene	169	ug/kg	U
	50328	Benzo(a)pyrene	169	ug/kg	U
	191242	Benzo(g,h,i)perylene	338	ug/kg	U
	205992	Benzo[b]Fluoranthene	169	ug/kg	U
	207089	Benzo[k]fluoranthene	169	ug/kg	U
	65850	Benzoic acid	1690	ug/kg	U
	111444	bis(2-Chloroethyl)ether	169	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	169	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	844	ug/kg	U
	85687	Butylbenzylphthalate	169	ug/kg	U
	218019	Chrysene	169	ug/kg	U
	84742	Di-n-Butylphthalate	169	ug/kg	U
	117840	Di-n-octylphthalate	338	ug/kg	U
	53703	Dibenz[a,h]anthracene	169	ug/kg	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	169	ug/kg	U
	84662	Diethyl phthalate	169	ug/kg	U
	131113	Dimethylphthalate	169	ug/kg	U
	206440	Fluoranthene	169	ug/kg	U
	118741	Hexachlorobenzene	169	ug/kg	U
	87683	Hexachlorobutadiene	844	ug/kg	U
	77474	Hexachlorocyclopentadiene	844	ug/kg	U
	67721	Hexachloroethane	169	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	169	ug/kg	U
	78591	Isophorone	169	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	169	ug/kg	U
	621647	N-Nitrosodinpropylamine	169	ug/kg	U
	86306	n-Nitrosodiphenylamine	169	ug/kg	U
	91203	Naphthalene	169	ug/kg	U
	90120	Naphthalene, 1-methyl-	169	ug/kg	U
	91576	Naphthalene, 2-methyl-	169	ug/kg	U
	98953	Nitrobenzene	169	ug/kg	U
	87865	Pentachlorophenol	338	ug/kg	U
	85018	Phenanthrene	169	ug/kg	U
	108952	Phenol	169	ug/kg	U
	95487	Phenol, 2-methyl-	169	ug/kg	U
	129000	Pyrene	169	ug/kg	U
	483658	Retene	169	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	91.4	%Rec	
	2199691	1,2-Dichlorobenzene-d4	79.4	%Rec	
	93951736	2-chlorophenol-d4	94.3	%Rec	
	1718521	D10-Pyrene	91.4	%Rec	
	4165600	Nitrobenzene-d5	87.8	%Rec	
	367124	Phenol, 2-fluoro-	91.4	%Rec	
	4165622	Phenol-d5	83.5	%Rec	
	1718510	Terphenyl-d14	91 0	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes :	4914925	2-Pentene, 3,4-dimethyl-, (E)-	881	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method.					
Analytes :	630206	1,1,1,2-Tetrachloroethane	3 0	ug/kg	U
	71556	1,1,1-Trichloroethane	3 0	ug/kg	U
	79005	1,1,2-Trichloroethane	3 0	ug/kg	U
	75343	1,1-Dichloroethane	3 0	ug/kg	U
	75354	1,1-Dichloroethene	3.0	ug/kg	U
	563586	1,1-Dichloropropene	3 0	ug/kg	U
	876116	1,2,3-Trichlorobenzene	5.9	ug/kg	U
	96184	1,2,3-Trichloropropane	3 0	ug/kg	U

			Result	Units	Qlfr
Analytes	: 120821	1,2,4-Trichlorobenzene	5.9	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	5.9	ug/kg	U
	107062	1,2-Dichloroethane	3.0	ug/kg	U
	78875	1,2-Dichloropropane	3.0	ug/kg	U
	142289	1,3-Dichloropropane	3.0	ug/kg	U
	594207	2,2-Dichloropropane	3.0	ug/kg	U
	78933	2-Butanone	29.7	ug/kg	UJK
	95498	2-Chlorotoluene	3.0	ug/kg	U
	591786	2-Hexanone	11.9	ug/kg	U
	108101	2-Pentanone, 4-methyl-	3.0	ug/kg	U
	67641	2-Propanone	59.4	ug/kg	U
	106434	4-Chlorotoluene	3.0	ug/kg	U
	71432	Benzene	3.0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	3 0	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	3.0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	3.0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	3.0	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	3.0	ug/kg	U
	541731	Benzene, 1,3-dichloro-	3.0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	3.0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3 0	ug/kg	U
	108907	Benzene, chloro-	3.0	ug/kg	U
	100425	Benzene, ethenyl-	3.0	ug/kg	U
	103651	Benzene, propyl-	3.0	ug/kg	U
	98066	Benzene, tert-butyl-	3.0	ug/kg	U
	108861	Bromobenzene	3.0	ug/kg	U
	74975	Bromochloromethane	5 9	ug/kg	U
	75274	Bromodichloromethane	3.0	ug/kg	U
	75252	Bromoform	5.9	ug/kg	U
	74839	Bromomethane	3.0	ug/kg	U
	75150	Carbon disulfide	3.0	ug/kg	U
	56235	Carbon Tetrachloride	3.0	ug/kg	U
	156592	cis-1,2-Dichloroethene	3 0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3.1	ug/kg	U
	124481	Dibromochloromethane	3.0	ug/kg	U
	74953	Dibromomethane	3.0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3.0	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3 0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3 0	ug/kg	U
	79016	Ethene, trichloro-	5.9	ug/kg	U
	75003	Ethyl Chloride	3 0	ug/kg	U
	100414	Ethylbenzene	3 0	ug/kg	U
	75694	Freon 11	5.9	ug/kg	U
	75718	Freon 12	3 0	ug/kg	U
	87683	Hexachlorobutadiene	3 0	ug/kg	U
	74873	Methane, chloro-	3 0	ug/kg	U
	67663	Methane, trichloro-	3.6	ug/kg	

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			Result	Units	Qlfr
Analytes :	75092	Methylene Chloride	58 6	ug/kg	UJK
	*1330207	MP-Xylene	5 9	ug/kg	U
	104518	n-Butylbenzene	3.0	ug/kg	U
	91203	Naphthalene	5.9	ug/kg	U
	135988	sec-Butylbenzene	3.0	ug/kg	U
	127184	Tetrachloroethene	3 0	ug/kg	U
	108883	Toluene	3.0	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5.6	ug/kg	U
	75014	Vinyl Chloride	3.0	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	107	%Rec	
	17060070	1,2-Dichloroethane-d4	113	%Rec	
	540363	Benzene, 1,4-difluoro-	98.4	%Rec	
	460004	p-Bromofluorobenzene	102	%Rec	
	2037265	Toluene-d8	99 8	%Rec	
Parameter :	Volatiles - Tentatives				
Method :	8260-M				
Prep Method:					
Analytes :	127913	.beta.-Pinene	13.4	ug/kg	NJ
	4889832	BICYCLO[3.1.1]HEPT-2-ENE, 3,6, 6-TRIMETHY	13.2	ug/kg	NJ
	*3008001	Unknown 01	18.4	ug/kg	NJ
	*3008002	Unknown 02	28.9	ug/kg	NJ
	*3008003	Unknown 03	16.4	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314021
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:	MS/MSD		

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes : 309002	Aldrin	3.4	ug/kg	U
319846	Alpha-BHC	3.4	ug/kg	U
319857	Beta-BHC	3.4	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	3.4	ug/kg	U
319868	Delta-BHC	3 4	ug/kg	U
60571	Dieldrin	6.8	ug/kg	U
959988	Endosulfan I	3 4	ug/kg	U
33213659	Endosulfan II	6.8	ug/kg	U
1031078	Endosulfan Sulfate	6.8	ug/kg	U
72208	Endrin	6 8	ug/kg	U
7421934	Endrin Aldehyde	6.8	ug/kg	U
53494705	Endrin Ketone	6.8	ug/kg	U
5103742	Gamma-Chlordane	3.4	ug/kg	U
76448	Heptachlor	3.4	ug/kg	U
1024573	Heptachlor Epoxide	3 4	ug/kg	U
58899	Lindane	3.4	ug/kg	U
72435	Methoxychlor	34	ug/kg	U
72548	P,P'-DDD	6.8	ug/kg	U
72559	P,P'-DDE	6.8	ug/kg	U
50293	P,P'-DDT	6.8	ug/kg	U
12674112	PCB-1016	68	ug/kg	U
11104282	PCB-1221	136	ug/kg	U
11141165	PCB-1232	68	ug/kg	U
53469219	PCB-1242	68	ug/kg	U
12672296	PCB-1248	68	ug/kg	U
11097691	PCB-1254	68	ug/kg	U
11096825	PCB-1260	68	ug/kg	U
8001352	Toxaphene	341	ug/kg	U
*2051243	Decachlorobiphenyl	89	%Rec	
*300105	Tetrachlorometaxylene	61	%Rec	

GCMS

Parameter . Semi-volatiles
Method : 8270-M
Prep Method

Analytes	51285	2,4-Dinitrophenol	R

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			Result	Units	Qlfr
Analytes	534521	4,6-Dinitro-2-methylphenol			R
	59507	4-Chloro-3-methylphenol			R
	100027	4-Nitrophenol			R
	87683	Hexachlorobutadiene			R
	77474	Hexachlorocyclopentadiene			R
	120821	1,2,4-Trichlorobenzene	341	ug/kg	U
	122667	1,2-Diphenylhydrazine	341	ug/kg	U
	95954	2,4,5-Trichlorophenol	341	ug/kg	U
	88062	2,4,6-Trichlorophenol	341	ug/kg	U
	120832	2,4-Dichlorophenol	682	ug/kg	U
	105679	2,4-Dimethylphenol	341	ug/kg	U
	121142	2,4-Dinitrotoluene	682	ug/kg	U
	606202	2,6-Dinitrotoluene	682	ug/kg	U
	91587	2-Chloronaphthalene	341	ug/kg	U
	95578	2-Chlorophenol	341	ug/kg	U
	88744	2-Nitroaniline	1700	ug/kg	U
	88755	2-Nitrophenol	1700	ug/kg	U
	91941	3,3'-Dichlorobenzidine	1360	ug/kg	UJK
	99092	3-Nitroaniline	682	ug/kg	U
	101553	4-Bromophenyl-Phenylether	341	ug/kg	U
	106478	4-Chloroaniline	341	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	341	ug/kg	U
	106445	4-Methylphenol	341	ug/kg	U
	100016	4-Nitroaniline	1700	ug/kg	U
	86748	9H-Carbazole	341	ug/kg	U
	86737	9H-Fluorene	341	ug/kg	U
	83329	Acenaphthene	341	ug/kg	U
	208968	Acenaphthylene	341	ug/kg	U
	62533	Aniline	341	ug/kg	U
	120127	Anthracene	341	ug/kg	U
	95501	Benzene, 1,2-dichloro-	341	ug/kg	U
	541731	Benzene, 1,3-dichloro-	341	ug/kg	U
	106467	Benzene, 1,4-dichloro-	341	ug/kg	U
	100516	Benzenemethanol	1700	ug/kg	U
	92875	Benzidine	1360	ug/kg	UJK
	56553	Benzo(a)anthracene	341	ug/kg	U
	50328	Benzo(a)pyrene	341	ug/kg	U
	191242	Benzo(g,h,i)perylene	682	ug/kg	U
	205992	Benzo[b]Fluoranthene	341	ug/kg	U
	207089	Benzo[k]fluoranthene	341	ug/kg	U
	65850	Benzoic acid	3410	ug/kg	U
	111444	bis(2-Chloroethyl)ether	341	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	341	ug/kg	U
	117817	**Bis(2-ethylhexyl) phthalate**	**984000**	**ug/kg**	
	85687	Butylbenzylphthalate	341	ug/kg	U
	218019	Chrysene	341	ug/kg	U
	84742	Di-n-Butylphthalate	341	ug/kg	U

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			Result	Units	Qlfr
Analytes :	117840	Di-n-octylphthalate	682	ug/kg	U
	53703	Dibenz[a,h]anthracene	341	ug/kg	U
	132649	Dibenzofuran	4650	ug/kg	
	84662	Diethyl phthalate	341	ug/kg	U
	131113	Dimethylphthalate	341	ug/kg	U
	206440	Fluoranthene	341	ug/kg	U
	118741	Hexachlorobenzene	341	ug/kg	U
	67721	Hexachloroethane	341	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	341	ug/kg	U
	78591	Isophorone	341	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	341	ug/kg	U
	621647	N-Nitrosodinpropylamine	341	ug/kg	U
	86306	n-Nitrosodiphenylamine	341	ug/kg	U
	91203	Naphthalene	8680	ug/kg	
	90120	Naphthalene, 1-methyl-	75100	ug/kg	
	91576	Naphthalene, 2-methyl-	44600	ug/kg	
	98953	Nitrobenzene	341	ug/kg	U
	87865	Pentachlorophenol	682	ug/kg	U
	85018	Phenanthrene	4900	ug/kg	
	108952	Phenol	341	ug/kg	U
	95487	Phenol, 2-methyl-	341	ug/kg	U
	129000	Pyrene	341	ug/kg	U
	483658	Retene	599	ug/kg	
	321608	1,1'-Biphenyl, 2-fluoro-	81.9	%Rec	
	2199691	1,2-Dichlorobenzene-d4	89.3	%Rec	
	93951736	2-chlorophenol-d4	90.5	%Rec	
	1718521	D10-Pyrene	86 8	%Rec	
	4165600	Nitrobenzene-d5	111	%Rec	
	367124	Phenol, 2-fluoro-	85.6	%Rec	
	4165622	Phenol-d5	80.0	%Rec	
	1718510	Terphenyl-d14	87.4	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method

Analytes :	527537	Benzene, 1,2,3,5-tetramethyl-	22400	ug/kg	NJ
	54105667	CYCLOHEXANE, UNDECYL-	5210	ug/kg	NJ
	124185	Decane	133000	ug/kg	NJ
	2847725	Decane, 4-methyl-	168000	ug/kg	NJ
	629970	Docosane	9980	ug/kg	NJ
	112403	Dodecane	12800	ug/kg	NJ
	74645980	Dodecane, 2,7,10-trimethyl-	11700	ug/kg	NJ
	6044719	Dodecane, 6-methyl-	14500	ug/kg	NJ
	629787	Heptadecane	27800	ug/kg	NJ
	544763	Hexadecane	23300	ug/kg	NJ
	629629	Pentadecane	21800	ug/kg	NJ
	629594	Tetradecane	21800	ug/kg	NJ
	629505	Tridecane	31300	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	: 55045119	Tridecane, 5-propyl-	17400	ug/kg	NJ
	1120214	Undecane	37200	ug/kg	NJ
	*3008001	Unknown 01	188000	ug/kg	NJ
	*3008002	Unknown 02	17700	ug/kg	NJ
	83008003	Unknown 03	7620	ug/kg	NJ
	*3008004	Unknown 04	13500	ug/kg	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	210	ug/kg	UJK
	71556	1,1,1-Trichloroethane	210	ug/kg	UJK
	79005	1,1,2-Trichloroethane	210	ug/kg	UJK
	75343	1,1-Dichloroethane	210	ug/kg	UJK
	75354	1,1-Dichloroethene	210	ug/kg	UJK
	563586	1,1-Dichloropropene	210	ug/kg	UJK
	87616	1,2,3-Trichlorobenzene	419	ug/kg	UJK
	96184	1,2,3-Trichloropropane	210	ug/kg	UJK
	120821	1,2,4-Trichlorobenzene	419	ug/kg	UJK
	96128	1,2-Dibromo-3-chloropropane	419	ug/kg	UJK
	107062	1,2-Dichloroethane	210	ug/kg	UJK
	78875	1,2-Dichloropropane	210	ug/kg	UJK
	142289	1,3-Dichloropropane	210	ug/kg	UJK
	594207	2,2-Dichloropropane	210	ug/kg	UJK
	78933	2-Butanone	2100	ug/kg	UJK
	95498	2-Chlorotoluene	210	ug/kg	UJK
	591786	2-Hexanone	4190	ug/kg	UJK
	108101	2-Pentanone, 4-methyl-	210	ug/kg	UJK
	67641	2-Propanone	4360	ug/kg	UJK
	106434	4-Chlorotoluene	210	ug/kg	UJK
	71432	Benzene	210	ug/kg	UJK
	98828	Benzene, (1-methylethyl)-	210	ug/kg	UJK
	95636	Benzene, 1,2,4-trimethyl-	210	ug/kg	UJK
	95501	Benzene, 1,2-dichloro-	210	ug/kg	UJK
	95476	Benzene, 1,2-dimethyl-	210	ug/kg	UJK
	108678	Benzene, 1,3,5-trimethyl-	7860	ug/kg	JL
	541731	Benzene, 1,3-dichloro-	210	ug/kg	UJK
	106467	Benzene, 1,4-dichloro-	210	ug/kg	UJK
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	210	ug/kg	UJK
	108907	Benzene, chloro-	210	ug/kg	UJK
	100425	Benzene, ethenyl-	210	ug/kg	UJK
	103651	Benzene, propyl-	210	ug/kg	UJK
	98066	Benzene, tert-butyl-	210	ug/kg	UJK
	108861	Bromobenzene	210	ug/kg	UJK
	74975	Bromochloromethane	419	ug/kg	UJK
	75274	Bromodichloromethane	210	ug/kg	UJK
	75252	Bromoform	419	ug/kg	UJK
	74839	Bromomethane	210	ug/kg	UJK

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			Result	Units	Qlfr
Analytes :	75150	Carbon disulfide	210	ug/kg	UJK
	56235	Carbon Tetrachloride	210	ug/kg	UJK
	156592	cis-1,2-Dichloroethene	210	ug/kg	UJK
	10061015	cis-1,3-Dichloropropene	222	ug/kg	UJK
	124481	Dibromochloromethane	210	ug/kg	UJK
	74953	Dibromomethane	210	ug/kg	UJK
	79345	Ethane, 1,1,2,2-tetrachloro-	210	ug/kg	UJK
	106934	Ethane, 1,2-dibromo-	210	ug/kg	UJK
	156605	Ethene, 1,2-dichloro-, (E)-	210	ug/kg	UJK
	79016	Ethene, trichloro-	419	ug/kg	UJK
	75003	Ethyl Chloride	210	ug/kg	UJK
	100414	Ethylbenzene	210	ug/kg	UJK
	75694	Freon 11	419	ug/kg	UJK
	75718	Freon 12	210	ug/kg	UJK
	87683	Hexachlorobutadiene	210	ug/kg	UJK
	74873	Methane, chloro-	210	ug/kg	UJK
	67663	Methane, trichloro-	210	ug/kg	UJK
	75092	Methylene Chloride	2070	ug/kg	UJK
	*1330207	MP-Xylene	419	ug/kg	UJK
	104518	n-Butylbenzene	4300	ug/kg	JL
	91203	Naphthalene	419	ug/kg	UJK
	135988	sec-Butylbenzene	210	ug/kg	UJK
	127184	Tetrachloroethene	210	ug/kg	UJK
	108883	Toluene	210	ug/kg	UJK
	10061026	Trans-1,3-Dichloropropene	394	ug/kg	UJK
	75014	Vinyl Chloride	210	ug/kg	UJK
	2199691	1,2-Dichlorobenzene-d4	112	%Rec	
	17060070	1,2-Dichloroethane-d4	108	%Rec	
	540363	Benzene, 1,4-difluoro-	99.4	%Rec	
	460004	p-Bromofluorobenzene	92.2	%Rec	
	2037265	Toluene-d8	101	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method:

Analytes	2490484	1-Hexadecanol, 2-methyl-	40100	ug/kg	NJ
	17057828	1H-Indene, 2,3-dihydro-1,2-dim ethyl-	87600	ug/kg	NJ
	4057425	2-Octene, 2,6-dimethyl-	32500	ug/kg	NJ
	488233	Benzene, 1,2,3,4-tetramethyl-	81500	ug/kg	NJ
	527537	Benzene, 1,2,3,5-tetramethyl-	54800	ug/kg	NJ
	17851273	Benzene, 1-ethyl-2,4,5-trimeth yl-	51400	ug/kg	NJ
	874419	Benzene, 1-ethyl-2,4-dimethyl-	87200	ug/kg	NJ
	1074551	Benzene, 1-methyl-4-propyl-	74900	ug/kg	NJ
	25550134	BENZENE, DIETHYLMETHYL-	72400	ug/kg	NJ
	25155151	Benzene, methyl(1-methylethyl) -	122000	ug/kg	NJ
	15932806	Cyclohexanone, 5-methyl-2-(1-m ethylethyl	98900	ug/kg	NJ
	1559815	Naphthalene, 1,2,3,4-tetrahydr	39800	ug/kg	NJ

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			Result	Units	Qlfr
		o-1-methyl			
Analytes	: 629505	Tridecane	43900	ug/kg	NJ
	*3008001	Unknown 01	76000	ug/kg	NJ
	*3008002	Unknown 02	30500	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314021
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

Analytes		Result	Units	Qlfr
117817	Bis(2-ethylhexyl) phthalate			NAR
132649	Dibenzofuran			NAR
91203	Naphthalene			NAR
91576	Naphthalene, 2-methyl-			NAR
321608	1,1'-Biphenyl, 2-fluoro-	90 43	%Rec	
120821	1,2,4-Trichlorobenzene	103.1	%Rec	
2199691	1,2-Dichlorobenzene-d4	99.33	%Rec	
122667	1,2-Diphenylhydrazine	110.0	%Rec	
95954	2,4,5-Trichlorophenol	96.3	%Rec	
88062	2,4,6-Trichlorophenol	142.8	%Rec	
120832	2,4-Dichlorophenol	0.0	%Rec	
105679	2,4-Dimethylphenol	87.3	%Rec	
51285	2,4-Dinitrophenol	0 0	%Rec	
121142	2,4-Dinitrotoluene	0.0	%Rec	
606202	2,6-Dinitrotoluene	0.0	%Rec	
91587	2-Chloronaphthalene	102.3	%Rec	
95578	2-Chlorophenol	90.8	%Rec	
93951736	2-chlorophenol-d4	91.82	%Rec	
88755	2-Nitrophenol	49 4	%Rec	
534521	4,6-Dinitro-2-methylphenol	0.0	%Rec	
101553	4-Bromophenyl-Phenylether	94 4	%Rec	
59507	4-Chloro-3-methylphenol	0.0	%Rec	
7005723	4-Chlorophenyl-Phenylether	121.3	%Rec	
106445	4-Methylphenol	107.6	%Rec	
100027	4-Nitrophenol	0.0	%Rec	
86737	9H-Fluorene	307 9	%Rec	
83329	Acenaphthene	243.2	%Rec	
208968	Acenaphthylene	173 8	%Rec	
120127	Anthracene	84.8	%Rec	
95501	Benzene, 1,2-dichloro-	75 5	%Rec	
541731	Benzene, 1,3-dichloro-	77.7	%Rec	
106467	Benzene, 1,4-dichloro-	77.7	%Rec	
100516	Benzenemethanol	86.7	%Rec	
56553	Benzo(a)anthracene	93.9	%Rec	
50328	Benzo(a)pyrene	106 4	%Rec	
191242	Benzo(g,h,i)perylene	94.0	%Rec	

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			Result	Units	Qlfr
Analytes :	205992	Benzo[b]Fluoranthene	115 5	%Rec	
	207089	Benzo[k]fluoranthene	86 9	%Rec	
	111444	bis(2-Chloroethyl)ether	82.2	%Rec	
	85687	Butylbenzylphthalate	137 7	%Rec	
	218019	Chrysene	85 0	%Rec	
	1718521	D10-Pyrene	81.90	%Rec	
	84742	Di-n-Butylphthalate	84.3	%Rec	
	117840	Di-n-octylphthalate	184 1	%Rec	
	53703	Dibenz[a,h]anthracene	158.3	%Rec	
	84662	Diethyl phthalate	98 2	%Rec	
	131113	Dimethylphthalate	107.5	%Rec	
	206440	Fluoranthene	82.3	%Rec	
	118741	Hexachlorobenzene	86.0	%Rec	
	87683	Hexachlorobutadiene	0.0	%Rec	
	77474	Hexachlorocyclopentadiene	0 0	%Rec	
	67721	Hexachloroethane	194.9	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	161.9	%Rec	
	78591	Isophorone	308.1	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	108 0	%Rec	
	621647	N-Nitrosodinpropylamine	0.0	%Rec	
	86306	n-Nitrosodiphenylamine	266.1	%Rec	
	98953	Nitrobenzene	135.2	%Rec	
	4165600	Nitrobenzene-d5	113.24	%Rec	
	87865	Pentachlorophenol	171.8	%Rec	
	85018	Phenanthrene	57.5	%Rec	
	108952	Phenol	92 4	%Rec	
	367124	Phenol, 2-fluoro-	83.73	%Rec	
	95487	Phenol, 2-methyl-	100.5	%Rec	
	4165622	Phenol-d5	80 22	%Rec	
	129000	Pyrene	85 1	%Rec	
	1718510	Terphenyl-d14	82 29	%Rec	
Parameter :	Volatiles				
Method :	8260-M				
Prep Method					
Analytes .	67641	2-Propanone			NAR
	108678	Benzene, 1,3,5-trimethyl-			NAR
	75092	Methylene Chloride			NAR
	104518	n-Butylbenzene			NAR
	630206	1,1,1,2-Tetrachloroethane	136 8	%Rec	
	71556	1,1,1-Trichloroethane	171.9	%Rec	
	79005	1,1,2-Trichloroethane	107 6	%Rec	
	75343	1,1-Dichloroethane	144 7	%Rec	
	75354	1,1-Dichloroethene	166 8	%Rec	
	563586	1,1-Dichloropropene	176 9	%Rec	
	87616	1,2,3-Trichlorobenzene	79.2	%Rec	
	96184	1,2,3-Trichloropropane	128 8	%Rec	
	120821	1,2,4-Trichlorobenzene	109 6	%Rec	

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			Result	Units	Qlfr
Analytes	: 96128	1,2-Dibromo-3-chloropropane	60.4	%Rec	
	2199691	1,2-Dichlorobenzene-d4	106.97	%Rec	
	107062	1,2-Dichloroethane	101 4	%Rec	
	17060070	1,2-Dichloroethane-d4	69 32	%Rec	
	78875	1,2-Dichloropropane	145.0	%Rec	
	142289	1,3-Dichloropropane	108 4	%Rec	
	594207	2,2-Dichloropropane	156.9	%Rec	
	78933	2-Butanone	90.4	%Rec	
	95498	2-Chlorotoluene	174.6	%Rec	
	591786	2-Hexanone	105.3	%Rec	
	108101	2-Pentanone, 4-methyl-	117.6	%Rec	
	106434	4-Chlorotoluene	169.2	%Rec	
	71432	Benzene	163.5	%Rec	
	98828	Benzene, (1-methylethyl)-	183.8	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	167 0	%Rec	
	95501	Benzene, 1,2-dichloro-	124.8	%Rec	
	95476	Benzene, 1,2-dimethyl-	154.3	%Rec	
	541731	Benzene, 1,3-dichloro-	147.1	%Rec	
	106467	Benzene, 1,4-dichloro-	142.3	%Rec	
	540363	Benzene, 1,4-difluoro-	96.23	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	183.3	%Rec	
	108907	Benzene, chloro-	152.6	%Rec	
	100425	Benzene, ethenyl-	145.5	%Rec	
	103651	Benzene, propyl-	180.4	%Rec	
	98066	Benzene, tert-butyl-	179.3	%Rec	
	108861	Bromobenzene	141.5	%Rec	
	74975	Bromochloromethane	105 7	%Rec	
	75274	Bromodichloromethane	135 6	%Rec	
	75252	Bromoform	126.2	%Rec	
	74839	Bromomethane	160 5	%Rec	
	75150	Carbon disulfide	267.4	%Rec	
	56235	Carbon Tetrachloride	169 8	%Rec	
	156592	cis-1,2-Dichloroethene	139.1	%Rec	
	10061015	cis-1,3-Dichloropropene	140.2	%Rec	
	124481	Dibromochloromethane	116.4	%Rec	
	74953	Dibromomethane	111.7	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	474 7	%Rec	
	106934	Ethane, 1,2-dibromo-	101.0	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	164 1	%Rec	
	79016	Ethene, trichloro-	165.2	%Rec	
	75003	Ethyl Chloride	168.6	%Rec	
	100414	Ethylbenzene	171.3	%Rec	
	75694	Freon 11	218 7	%Rec	
	75718	Freon 12	127 4	%Rec	
	87683	Hexachlorobutadiene	151 7	%Rec	
	74873	Methane, chloro-	159.7	%Rec	
	67663	Methane, trichloro-	135 2	%Rec	

			Result	Units	Qlfr
Analytes	: *1330207	MP-Xylene	165.0	%Rec	
	91203	Naphthalene	117.7	%Rec	
	460004	p-Bromofluorobenzene	91.43	%Rec	
	135988	sec-Butylbenzene	176 6	%Rec	
	127184	Tetrachloroethene	162.1	%Rec	
	108883	Toluene	168 4	%Rec	
	2037265	Toluene-d8	116 09	%Rec	
	10061026	Trans-1,3-Dichloropropene	111.2	%Rec	
	75014	Vinyl Chloride	195.8	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14021
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

Analytes		Result	Units	Qlfr
117817	Bis(2-ethylhexyl) phthalate			NAR
132649	Dibenzofuran			NAR
91203	Naphthalene			NAR
91576	Naphthalene, 2-methyl-			NAR
321608	1,1'-Biphenyl, 2-fluoro-	97.25	%Rec	
120821	1,2,4-Trichlorobenzene	107.8	%Rec	
2199691	1,2-Dichlorobenzene-d4	101.26	%Rec	
122667	1,2-Diphenylhydrazine	116.8	%Rec	
95954	2,4,5-Trichlorophenol	54.2	%Rec	
88062	2,4,6-Trichlorophenol	147 4	%Rec	
120832	2,4-Dichlorophenol	156.4	%Rec	
105679	2,4-Dimethylphenol	82.7	%Rec	
51285	2,4-Dinitrophenol	0 0	%Rec	
121142	2,4-Dinitrotoluene	237.2	%Rec	
606202	2,6-Dinitrotoluene	171.2	%Rec	
91587	2-Chloronaphthalene	104.7	%Rec	
95578	2-Chlorophenol	95.1	%Rec	
93951736	2-chlorophenol-d4	94 20	%Rec	
88755	2-Nitrophenol	60.6	%Rec	
534521	4,6-Dinitro-2-methylphenol	0.0	%Rec	
101553	4-Bromophenyl-Phenylether	94 7	%Rec	
59507	4-Chloro-3-methylphenol	0.0	%Rec	
7005723	4-Chlorophenyl-Phenylether	114.3	%Rec	
106445	4-Methylphenol	106 3	%Rec	
100027	4-Nitrophenol	0.0	%Rec	
86737	9H-Fluorene	304 6	%Rec	
83329	Acenaphthene	229.2	%Rec	
208968	Acenaphthylene	148 5	%Rec	
120127	Anthracene	95 4	%Rec	
95501	Benzene, 1,2-dichloro-	93.6	%Rec	
541731	Benzene, 1,3-dichloro-	82 5	%Rec	
106467	Benzene, 1,4-dichloro-	81 9	%Rec	
100516	Benzenemethanol	89 9	%Rec	
56553	Benzo(a)anthracene	102.4	%Rec	
50328	Benzo(a)pyrene	92.5	%Rec	
191242	Benzo(g,h,i)perylene	87 5	%Rec	

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			Result	Units	Qlfr
Analytes :	205992	Benzo[b]Fluoranthene	100.7	%Rec	
	207089	Benzo[k]fluoranthene	87.8	%Rec	
	111444	bis(2-Chloroethyl)ether	89.2	%Rec	
	85687	Butylbenzylphthalate	160 2	%Rec	
	218019	Chrysene	89 5	%Rec	
	1718521	D10-Pyrene	91.95	%Rec	
	84742	Di-n-Butylphthalate	87.4	%Rec	
	117840	Di-n-octylphthalate	184.6	%Rec	
	53703	Dibenz[a,h]anthracene	151.5	%Rec	
	84662	Diethyl phthalate	96.8	%Rec	
	131113	Dimethylphthalate	118 6	%Rec	
	206440	Fluoranthene	82 8	%Rec	
	118741	Hexachlorobenzene	79 5	%Rec	
	87683	Hexachlorobutadiene	24 7	%Rec	
	77474	Hexachlorocyclopentadiene	0.0	%Rec	
	67721	Hexachloroethane	221.6	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	155.1	%Rec	
	78591	Isophorone	230 4	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	109.1	%Rec	
	621647	N-Nitrosodinpropylamine	290.6	%Rec	
	86306	n-Nitrosodiphenylamine	295.8	%Rec	
	98953	Nitrobenzene	175.4	%Rec	
	4165600	Nitrobenzene-d5	109.56	%Rec	
	87865	Pentachlorophenol	171.6	%Rec	
	85018	Phenanthrene	58.9	%Rec	
	108952	Phenol	96.1	%Rec	
	367124	Phenol, 2-fluoro-	87.42	%Rec	
	95487	Phenol, 2-methyl-	99.2	%Rec	
	4165622	Phenol-d5	82.67	%Rec	
	129000	Pyrene	91.8	%Rec	
	1718510	Terphenyl-d14	93.82	%Rec	
Parameter .	Volatiles				
Method .	8260-M				
Prep Method.					
Analytes .	67641	2-Propanone			NAR
	108678	Benzene, 1,3,5-trimethyl-			NAR
	75092	Methylene Chloride			NAR
	104518	n-Butylbenzene			NAR
	630206	1,1,1,2-Tetrachloroethane	98 3	%Rec	
	71556	1,1,1-Trichloroethane	114 5	%Rec	
	79005	1,1,2-Trichloroethane	80 0	%Rec	
	75343	1,1-Dichloroethane	96 7	%Rec	
	75354	1,1-Dichloroethene	96 4	%Rec	
	563586	1,1-Dichloropropene	112 0	%Rec	
	87616	1,2,3-Trichlorobenzene	72 1	%Rec	
	96184	1,2,3-Trichloropropane	70 8	%Rec	
	120821	1,2,4-Trichlorobenzene	85 4	%Rec	

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			Result	Units	Qlfr
Analytes	: 96128	1,2-Dibromo-3-chloropropane	57.4	%Rec	
	2199691	1,2-Dichlorobenzene-d4	96.68	%Rec	
	107062	1,2-Dichloroethane	73.7	%Rec	
	17060070	1,2-Dichloroethane-d4	76.48	%Rec	
	78875	1,2-Dichloropropane	99.1	%Rec	
	142289	1,3-Dichloropropane	77.4	%Rec	
	594207	2,2-Dichloropropane	104.6	%Rec	
	78933	2-Butanone	59.8	%Rec	
	95498	2-Chlorotoluene	114 8	%Rec	
	591786	2-Hexanone	105 8	%Rec	
	108101	2-Pentanone, 4-methyl-	84.1	%Rec	
	106434	4-Chlorotoluene	103.7	%Rec	
	71432	Benzene	105.1	%Rec	
	98828	Benzene, (1-methylethyl)-	113.1	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	111.6	%Rec	
	95501	Benzene, 1,2-dichloro-	87 0	%Rec	
	95476	Benzene, 1,2-dimethyl-	103 5	%Rec	
	541731	Benzene, 1,3-dichloro-	94.2	%Rec	
	106467	Benzene, 1,4-dichloro-	95.8	%Rec	
	540363	Benzene, 1,4-difluoro-	97.84	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	118.8	%Rec	
	108907	Benzene, chloro-	103.2	%Rec	
	100425	Benzene, ethenyl-	99 8	%Rec	
	103651	Benzene, propyl-	110 4	%Rec	
	98066	Benzene, tert-butyl-	118.8	%Rec	
	108861	Bromobenzene	87 0	%Rec	
	74975	Bromochloromethane	75 5	%Rec	
	75274	Bromodichloromethane	99 8	%Rec	
	75252	Bromoform	84 7	%Rec	
	74839	Bromomethane	76 0	%Rec	
	75150	Carbon disulfide	96.2	%Rec	
	56235	Carbon Tetrachloride	111 1	%Rec	
	156592	cis-1,2-Dichloroethene	91.1	%Rec	
	10061015	cis-1,3-Dichloropropene	92 8	%Rec	
	124481	Dibromochloromethane	87.8	%Rec	
	74953	Dibromomethane	78 1	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	574 3	%Rec	
	106934	Ethane, 1,2-dibromo-	69.8	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	97 7	%Rec	
	79016	Ethene, trichloro-	106 7	%Rec	
	75003	Ethyl Chloride	87.7	%Rec	
	100414	Ethylbenzene	115 9	%Rec	
	75694	Freon 11	113 1	%Rec	
	75718	Freon 12	56 2	%Rec	
	87683	Hexachlorobutadiene	113 7	%Rec	
	74873	Methane, chloro-	68 8	%Rec	
	67663	Methane, trichloro-	95 9	%Rec	

			Result	Units	Qlfr
Analytes	: *1330207	MP-Xylene	110.5	%Rec	
	91203	Naphthalene	119.3	%Rec	
	460004	p-Bromofluorobenzene	96.03	%Rec	
	135988	sec-Butylbenzene	119.1	%Rec	
	127184	Tetrachloroethene	107.5	%Rec	
	108883	Toluene	110 7	%Rec	
	2037265	Toluene-d8	109.67	%Rec	
	10061026	Trans-1,3-Dichloropropene	72.5	%Rec	
	75014	Vinyl Chloride	83.3	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314021W
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	64	%Rec	
	*2051243	Decachlorobiphenyl	99	%Rec	
	60571	Dieldrin	84	%Rec	
	72208	Endrin	101	%Rec	
	76448	Heptachlor	70	%Rec	
	58899	Lindane	82	%Rec	
	50293	P,P'-DDT	81	%Rec	
	*300105	Tetrachlorometaxylene	75	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314021X
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method:	3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	69	%Rec	
	*2051243	Decachlorobiphenyl	85	%Rec	
	60571	Dieldrin	83	%Rec	
	72208	Endrin	99	%Rec	
	76448	Heptachlor	68	%Rec	
	58899	Lindane	81	%Rec	
	50293	P,P'-DDT	68	%Rec	
	*300105	Tetrachlorometaxylene	76	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314022
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:	MS/MSD		

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method. 3510M liq-liq extraction via stir-bar

Analytes		Result	Units	Qlfr
309002	Aldrin	0 014	ug/L	U
319846	Alpha-BHC	0 014	ug/L	U
319857	Beta-BHC	0.014	ug/L	U
5103719	cis-Chlordane (alpha-Chlordane)	0.014	ug/L	U
319868	Delta-BHC	0.014	ug/L	U
60571	Dieldrin	0.029	ug/L	U
959988	Endosulfan I	0.014	ug/L	U
33213659	Endosulfan II	0.029	ug/L	U
1031078	Endosulfan Sulfate	0.029	ug/L	U
72208	Endrin	0.029	ug/L	U
7421934	Endrin Aldehyde	0 029	ug/L	U
53494705	Endrin Ketone	0.029	ug/L	U
5103742	Gamma-Chlordane	0.014	ug/L	U
76448	Heptachlor	0.014	ug/L	U
1024573	Heptachlor Epoxide	0.014	ug/L	U
58899	Lindane	0.014	ug/L	U
72435	Methoxychlor	0.14	ug/L	U
72548	P,P'-DDD	0.029	ug/L	U
72559	P,P'-DDE	0.029	ug/L	U
50293	P,P'-DDT	0.029	ug/L	U
12674112	PCB-1016	0.29	ug/L	U
11104282	PCB-1221	0.57	ug/L	U
11141165	PCB-1232	0.29	ug/L	U
53469219	PCB-1242	0.29	ug/L	U
12672296	PCB-1248	0.29	ug/L	U
11097691	PCB-1254	0.29	ug/L	U
11096825	PCB-1260	0.29	ug/L	U
8001352	Toxaphene	1 4	ug/L	U
*2051243	Decachlorobiphenyl	74	%Rec	
*300105	Tetrachlorometaxylene	34	%Rec	

GCMS

Parameter . Semi-volatiles
Method · 8270-M
Prep Method

Analytes				
120821	1,2,4-Trichlorobenzene	0 25	ug/L	U

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98314022Reg sample

			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	0.25	ug/L	U
	95954	2,4,5-Trichlorophenol	0.25	ug/L	U
	88062	2,4,6-Trichlorophenol	0.25	ug/L	U
	120832	2,4-Dichlorophenol	0.51	ug/L	U
	105679	2,4-Dimethylphenol	0.25	ug/L	U
	51285	2,4-Dinitrophenol	2.5	ug/L	U
	121142	2,4-Dinitrotoluene	0.51	ug/L	U
	606202	2,6-Dinitrotoluene	0 51	ug/L	U
	91587	2-Chloronaphthalene	0.25	ug/L	U
	95578	2-Chlorophenol	0.25	ug/L	U
	88744	2-Nitroaniline	1.3	ug/L	U
	88755	2-Nitrophenol	1.3	ug/L	U
	91941	3,3'-Dichlorobenzidine	1.0	ug/L	U
	99092	3-Nitroaniline	0.51	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2.5	ug/L	U
	101553	4-Bromophenyl-Phenylether	0.25	ug/L	U
	59507	4-Chloro-3-methylphenol	1.3	ug/L	U
	106478	4-Chloroaniline	0.25	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.25	ug/L	U
	106445	4-Methylphenol	0.25	ug/L	U
	100016	4-Nitroaniline	1.3	ug/L	U
	100027	4-Nitrophenol	1.3	ug/L	U
	86748	9H-Carbazole	0.25	ug/L	U
	86737	9H-Fluorene	0.25	ug/L	U
	83329	Acenaphthene	0.25	ug/L	U
	208968	Acenaphthylene	0.25	ug/L	U
	62533	Aniline	0 25	ug/L	U
	120127	Anthracene	0.25	ug/L	U
	95501	Benzene, 1,2-dichloro-	0.25	ug/L	U
	541731	Benzene, 1,3-dichloro-	0.25	ug/L	U
	106467	Benzene, 1,4-dichloro-	0.25	ug/L	U
	100516	Benzenemethanol	1.3	ug/L	U
	92875	Benzidine	1.0	ug/L	U
	56553	Benzo(a)anthracene	0 25	ug/L	U
	50328	Benzo(a)pyrene	0.25	ug/L	U
	191242	Benzo(g,h,i)perylene	0.51	ug/L	U
	205992	Benzo[b]Fluoranthene	0 25	ug/L	U
	207089	Benzo[k]fluoranthene	0 25	ug/L	U
	65850	Benzoic acid	2 5	ug/L	U
	111444	bis(2-Chloroethyl)ether	0 25	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0 25	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1 4	ug/L	U
	85687	Butylbenzylphthalate	0 63	ug/L	
	218019	Chrysene	0.25	ug/L	U
	84742	Di-n-Butylphthalate	0 25	ug/L	U
	117840	Di-n-octylphthalate	0 51	ug/L	U
	53703	Dibenz[a,h]anthracene	0 25	ug/L	U

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			Result	Units	Qlfr
Analytes	: 132649	Dibenzofuran	0.25	ug/L	U
	84662	Diethyl phthalate	0.25	ug/L	U
	131113	Dimethylphthalate	0.25	ug/L	U
	206440	Fluoranthene	0.25	ug/L	U
	118741	Hexachlorobenzene	0.25	ug/L	U
	87683	Hexachlorobutadiene	1.3	ug/L	UJK
	77474	Hexachlorocyclopentadiene	1.3	ug/L	UJK
	67721	Hexachloroethane	0.25	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.25	ug/L	U
	78591	Isophorone	0.25	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.25	ug/L	U
	621647	N-Nitrosodinpropylamine	0.25	ug/L	U
	86306	n-Nitrosodiphenylamine	0.25	ug/L	U
	91203	Naphthalene	0.25	ug/L	U
	90120	Naphthalene, 1-methyl-	0.25	ug/L	U
	91576	Naphthalene, 2-methyl-	0.25	ug/L	U
	98953	Nitrobenzene	0.25	ug/L	U
	87865	Pentachlorophenol	0.51	ug/L	U
	85018	Phenanthrene	0.25	ug/L	U
	108952	Phenol	0.25	ug/L	U
	95487	Phenol, 2-methyl-	0.25	ug/L	U
	129000	Pyrene	0.25	ug/L	U
	483658	Retene	0.25	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	25.3	%Rec	
	2199691	1,2-Dichlorobenzene-d4	27.1	%Rec	
	93951736	2-chlorophenol-d4	77.3	%Rec	
	1718521	D10-Pyrene	82.8	%Rec	
	4165600	Nitrobenzene-d5	67 4	%Rec	
	367124	Phenol, 2-fluoro-	48.4	%Rec	
	4165622	Phenol-d5	31.2	%Rec	
	1718510	Terphenyl-d14	84 4	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method:

Analytes	: 42236704	1,13-Tridecanediol, diacetate	1.5	ug/L	NJ
	629765	1-Pentadecanol	1.4	ug/L	NJ
	7206191	3-Octadecene, (E)-	1.7	ug/L	NJ
	516916	Cholest-5-ene, 3-bromo-, (3.be ta)-	3.4	ug/L	NJ
	629970	Docosane	4.1	ug/L	NJ
	55333998	Eicosane, 7-hexyl-	2.9	ug/L	NJ
	7098228	Tetratetracontane	1.6	ug/L	NJ
	35599770	Tridecane, 1-iodo-	1.5	ug/L	NJ
	*3008001	Unknown 01	1.4	ug/L	NJ
	*3008002	Unknown 02	3.1	ug/L	NJ
	*3008003	Unknown 03	1.7	ug/L	NJ
	*3008004	Unknown 04	1.6	ug/L	NJ

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			Result	Units	Qlfr
Analytes	: *3008005	**Unknown 05**	**3.4**	**ug/L**	**NJ**
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
	71556	1,1,1-Trichloroethane	2.0	ug/L	U
	79005	1,1,2-Trichloroethane	1.0	ug/L	U
	75343	1,1-Dichloroethane	1.0	ug/L	U
	75354	1,1-Dichloroethene	1.0	ug/L	U
	513882	1,1-Dichloropropanone	2.0	ug/L	U
	563586	1,1-Dichloropropene	1.0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
	96184	1,2,3-Trichloropropane	1.0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1.0	ug/L	U
	107062	1,2-Dichloroethane	1.0	ug/L	U
	78875	1,2-Dichloropropane	1.0	ug/L	U
	142289	1,3-Dichloropropane	1.0	ug/L	U
	594207	2,2-Dichloropropane	1.0	ug/L	U
	78933	2-Butanone	2.0	ug/L	U
	95498	2-Chlorotoluene	1.0	ug/L	U
	591786	2-Hexanone	2.0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
	67641	2-Propanone	4 0	ug/L	U
	106434	4-Chlorotoluene	1.0	ug/L	U
	71432	Benzene	1.0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1.0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1.0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1 0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1.0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1.0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1 0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1.0	ug/L	U
	108907	Benzene, chloro-	1.0	ug/L	U
	100425	Benzene, ethenyl-	1 0	ug/L	U
	103651	Benzene, propyl-	1 0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1 0	ug/L	U
	74975	Bromochloromethane	1 0	ug/L	U
	75274	Bromodichloromethane	1 0	ug/L	U
	75252	Bromoform	1.0	ug/L	U
	74839	Bromomethane	1 0	ug/L	U
	75150	**Carbon disulfide**	**81.2**	**ug/L**	
	56235	Carbon Tetrachloride	1.0	ug/L	U
	156592	cis-1,2-Dichloroethene	1.0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1 1	ug/L	U

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			Result	Units	Qlfr
Analytes	124481	Dibromochloromethane	1.0	ug/L	U
	74953	Dibromomethane	1.0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1.0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1 0	ug/L	U
	79016	Ethene, trichloro-	1.0	ug/L	U
	75003	Ethyl Chloride	1.0	ug/L	U
	100414	Ethylbenzene	1.0	ug/L	U
	75694	Freon 11	1.0	ug/L	U
	75718	Freon 12	1 0	ug/L	U
	87683	Hexachlorobutadiene	1 0	ug/L	U
	74873	Methane, chloro-	1.0	ug/L	U
	67663	Methane, trichloro-	1.0	ug/L	U
	75092	Methylene Chloride	2.0	ug/L	U
	*1330207	MP-Xylene	2.0	ug/L	U
	104518	n-Butylbenzene	1.0	ug/L	U
	91203	Naphthalene	1.0	ug/L	U
	135988	sec-Butylbenzene	1.0	ug/L	U
	127184	Tetrachloroethene	1.0	ug/L	U
	108883	Toluene	1.0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L	U
	75014	Vinyl Chloride	1.0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	102	%Rec	
	17060070	1,2-Dichloroethane-d4	101	%Rec	
	540363	Benzene, 1,4-difluoro-	99 5	%Rec	
	460004	p-Bromofluorobenzene	101	%Rec	
	2037265	Toluene-d8	99 2	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314022
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

Analytes		Result	Units	Qlfr
321608	1,1'-Biphenyl, 2-fluoro-	30.19	%Rec	
120821	1,2,4-Trichlorobenzene	39.7	%Rec	
2199691	1,2-Dichlorobenzene-d4	23.02	%Rec	
122667	1,2-Diphenylhydrazine	66.4	%Rec	
95954	2,4,5-Trichlorophenol	76 4	%Rec	
88062	2,4,6-Trichlorophenol	69.4	%Rec	
120832	2,4-Dichlorophenol	63.0	%Rec	
105679	2,4-Dimethylphenol	61.0	%Rec	
51285	2,4-Dinitrophenol	72.5	%Rec	
121142	2,4-Dinitrotoluene	69 7	%Rec	
606202	2,6-Dinitrotoluene	68.2	%Rec	
91587	2-Chloronaphthalene	53.7	%Rec	
95578	2-Chlorophenol	61.2	%Rec	
93951736	2-chlorophenol-d4	60.79	%Rec	
88755	2-Nitrophenol	62.5	%Rec	
534521	4,6-Dinitro-2-methylphenol	61.8	%Rec	
101553	4-Bromophenyl-Phenylether	57.0	%Rec	
59507	4-Chloro-3-methylphenol	69 9	%Rec	
7005723	4-Chlorophenyl-Phenylether	65.3	%Rec	
106445	4-Methylphenol	58.2	%Rec	
100027	4-Nitrophenol	47 6	%Rec	
86737	9H-Fluorene	67 3	%Rec	
83329	Acenaphthene	58 1	%Rec	
208968	Acenaphthylene	65 4	%Rec	
120127	Anthracene	59.8	%Rec	
95501	Benzene, 1,2-dichloro-	41 9	%Rec	
541731	Benzene, 1,3-dichloro-	39 8	%Rec	
106467	Benzene, 1,4-dichloro-	39 1	%Rec	
100516	Benzenemethanol	49.7	%Rec	
56553	Benzo(a)anthracene	64.0	%Rec	
50328	Benzo(a)pyrene	71.0	%Rec	
191242	Benzo(g,h,i)perylene	70 7	%Rec	
205992	Benzo[b]Fluoranthene	66 9	%Rec	
207089	Benzo[k]fluoranthene	65 6	%Rec	
111444	bis(2-Chloroethyl)ether	56 0	%Rec	
117817	Bis(2-ethylhexyl) phthalate	47 7	%Rec	

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			Result	Units	Qlfr
Analytes :	85687	Butylbenzylphthalate	57.0	%Rec	
	218019	Chrysene	59.9	%Rec	
	1718521	D10-Pyrene	61.66	%Rec	
	84742	Di-n-Butylphthalate	64.3	%Rec	
	117840	Di-n-octylphthalate	57.4	%Rec	
	53703	Dibenz[a,h]anthracene	61 0	%Rec	
	132649	Dibenzofuran	66.2	%Rec	
	84662	Diethyl phthalate	73.1	%Rec	
	131113	Dimethylphthalate	74.3	%Rec	
	206440	Fluoranthene	60.0	%Rec	
	118741	Hexachlorobenzene	56.2	%Rec	
	87683	Hexachlorobutadiene	15.3	%Rec	
	77474	Hexachlorocyclopentadiene	34.0	%Rec	
	67721	Hexachloroethane	37.9	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	64.7	%Rec	
	78591	Isophorone	59.6	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	58.7	%Rec	
	621647	N-Nitrosodinpropylamine	66.3	%Rec	
	86306	n-Nitrosodiphenylamine	45.9	%Rec	
	91203	Naphthalene	46.1	%Rec	
	91576	Naphthalene, 2-methyl-	56.4	%Rec	
	98953	Nitrobenzene	59 4	%Rec	
	4165600	Nitrobenzene-d5	57 52	%Rec	
	87865	Pentachlorophenol	69 8	%Rec	
	85018	Phenanthrene	60.4	%Rec	
	108952	Phenol	36.1	%Rec	
	367124	Phenol, 2-fluoro-	43 08	%Rec	
	95487	Phenol, 2-methyl-	58.7	%Rec	
	4165622	Phenol-d5	31.07	%Rec	
	129000	Pyrene	61.2	%Rec	
	1718510	Terphenyl-d14	63.22	%Rec	
Parameter :	Volatiles				
Method :	8260-M				
Prep Method					
Analytes :	75150	Carbon disulfide			NAR
	630206	1,1,1,2-Tetrachloroethane	102.8	%Rec	
	71556	1,1,1-Trichloroethane	100 6	%Rec	
	79005	1,1,2-Trichloroethane	103.9	%Rec	
	75343	1,1-Dichloroethane	101 4	%Rec	
	75354	1,1-Dichloroethene	89 9	%Rec	
	513882	1,1-Dichloropropanone	90 5	%Rec	
	563586	1,1-Dichloropropene	100.1	%Rec	
	87616	1,2,3-Trichlorobenzene	97 3	%Rec	
	96184	1,2,3-Trichloropropane	97.4	%Rec	
	120821	1,2,4-Trichlorobenzene	93.1	%Rec	
	96128	1,2-Dibromo-3-chloropropane	105.5	%Rec	
	2199691	1,2-Dichlorobenzene-d4	101 13	%Rec	

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			Result	Units	Qlfr
Analytes :	107062	1,2-Dichloroethane	102.3	%Rec	
	17060070	1,2-Dichloroethane-d4	99.57	%Rec	
	78875	1,2-Dichloropropane	105.0	%Rec	
	142289	1,3-Dichloropropane	103.7	%Rec	
	594207	2,2-Dichloropropane	53.6	%Rec	
	78933	2-Butanone	103.4	%Rec	
	95498	2-Chlorotoluene	98.9	%Rec	
	591786	2-Hexanone	110.6	%Rec	
	108101	2-Pentanone, 4-methyl-	117.3	%Rec	
	67641	2-Propanone	118 3	%Rec	
	106434	4-Chlorotoluene	96.9	%Rec	
	71432	Benzene	98.8	%Rec	
	98828	Benzene, (1-methylethyl)-	99 7	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	97.4	%Rec	
	95501	Benzene, 1,2-dichloro-	97.1	%Rec	
	95476	Benzene, 1,2-dimethyl-	97.7	%Rec	
	108678	Benzene, 1,3,5-trimethyl-	95 4	%Rec	
	541731	Benzene, 1,3-dichloro-	96.8	%Rec	
	106467	Benzene, 1,4-dichloro-	97.3	%Rec	
	540363	Benzene, 1,4-difluoro-	99.85	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	94.3	%Rec	
	108907	Benzene, chloro-	99.5	%Rec	
	100425	Benzene, ethenyl-	98.9	%Rec	
	103651	Benzene, propyl-	96 0	%Rec	
	98066	Benzene, tert-butyl-	98.0	%Rec	
	108861	Bromobenzene	96.3	%Rec	
	74975	Bromochloromethane	101.0	%Rec	
	75274	Bromodichloromethane	102.8	%Rec	
	75252	Bromoform	100 8	%Rec	
	74839	Bromomethane	95.3	%Rec	
	56235	Carbon Tetrachloride	97.5	%Rec	
	156592	cis-1,2-Dichloroethene	98 9	%Rec	
	10061015	cis-1,3-Dichloropropene	96.2	%Rec	
	124481	Dibromochloromethane	102.2	%Rec	
	74953	Dibromomethane	105 7	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	106 4	%Rec	
	106934	Ethane, 1,2-dibromo-	103 0	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	86 6	%Rec	
	79016	Ethene, trichloro-	98 8	%Rec	
	75003	Ethyl Chloride	63 6	%Rec	
	100414	Ethylbenzene	100 5	%Rec	
	75694	Freon 11	76.9	%Rec	
	75718	Freon 12	84.3	%Rec	
	87683	Hexachlorobutadiene	81.6	%Rec	
	74873	Methane, chloro-	85 2	%Rec	
	67663	Methane, trichloro-	102 6	%Rec	
	75092	Methylene Chloride	91 2	%Rec	

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			Result	Units	Qlfr
Analytes	: *1330207	MP-Xylene	100 0	%Rec	
	104518	n-Butylbenzene	91.3	%Rec	
	91203	Naphthalene	104.1	%Rec	
	460004	p-Bromofluorobenzene	100.51	%Rec	
	135988	sec-Butylbenzene	91.8	%Rec	
	127184	Tetrachloroethene	84 9	%Rec	
	108883	Toluene	99.8	%Rec	
	2037265	Toluene-d8	102.58	%Rec	
	10061026	Trans-1,3-Dichloropropene	86.5	%Rec	
	75014	Vinyl Chloride	89.7	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	983,14022
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

		Result	Units	Qlfr
Analytes : 321608	1,1'-Biphenyl, 2-fluoro-	40.62	%Rec	
120821	1,2,4-Trichlorobenzene	54.0	%Rec	
2199691	1,2-Dichlorobenzene-d4	30.79	%Rec	
122667	1,2-Diphenylhydrazine	70.6	%Rec	
95954	2,4,5-Trichlorophenol	93.5	%Rec	
88062	2,4,6-Trichlorophenol	85.7	%Rec	
120832	2,4-Dichlorophenol	85.2	%Rec	
105679	2,4-Dimethylphenol	76.7	%Rec	
51285	2,4-Dinitrophenol	85.7	%Rec	
121142	2,4-Dinitrotoluene	79 9	%Rec	
606202	2,6-Dinitrotoluene	81.0	%Rec	
91587	2-Chloronaphthalene	69.8	%Rec	
95578	2-Chlorophenol	74.7	%Rec	
93951736	2-chlorophenol-d4	77.38	%Rec	
88755	2-Nitrophenol	84.3	%Rec	
534521	4,6-Dinitro-2-methylphenol	72 4	%Rec	
101553	4-Bromophenyl-Phenylether	71.1	%Rec	
59507	4-Chloro-3-methylphenol	87 0	%Rec	
7005723	4-Chlorophenyl-Phenylether	77.2	%Rec	
106445	4-Methylphenol	66.9	%Rec	
100027	4-Nitrophenol	77 4	%Rec	
86737	9H-Fluorene	79.9	%Rec	
83329	Acenaphthene	73.8	%Rec	
208968	Acenaphthylene	79 6	%Rec	
120127	Anthracene	71.5	%Rec	
95501	Benzene, 1,2-dichloro-	55 4	%Rec	
541731	Benzene, 1,3-dichloro-	51 4	%Rec	
106467	Benzene, 1,4-dichloro-	50 8	%Rec	
100516	Benzenemethanol	57 9	%Rec	
56553	Benzo(a)anthracene	76 1	%Rec	
50328	Benzo(a)pyrene	88 1	%Rec	
191242	Benzo(g,h,i)perylene	93.3	%Rec	
205992	Benzo[b]Fluoranthene	86.7	%Rec	
207089	Benzo[k]fluoranthene	83 2	%Rec	
111444	bis(2-Chloroethyl)ether	73 3	%Rec	
117817	Bis(2-ethylhexyl) phthalate	59 8	%Rec	

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			Result	Units	Qlfr
Analytes :	85687	Butylbenzylphthalate	70 3	%Rec	
	218019	Chrysene	75.1	%Rec	
	1718521	D10-Pyrene	78.77	%Rec	
	84742	Di-n-Butylphthalate	77.0	%Rec	
	117840	Di-n-octylphthalate	75 6	%Rec	
	53703	Dibenz[a,h]anthracene	80 1	%Rec	
	132649	Dibenzofuran	78 4	%Rec	
	84662	Diethyl phthalate	87.3	%Rec	
	131113	Dimethylphthalate	91.1	%Rec	
	206440	Fluoranthene	75.9	%Rec	
	118741	Hexachlorobenzene	68.6	%Rec	
	87683	Hexachlorobutadiene	45.2	%Rec	
	77474	Hexachlorocyclopentadiene	45.9	%Rec	
	67721	Hexachloroethane	50 4	%Rec	
	193395	Indeno(1,2,3-cd)pyrene	84.1	%Rec	
	78591	Isophorone	79.1	%Rec	
	111911	Methane, bis(2-chloroethoxy)-	75 4	%Rec	
	621647	N-Nitrosodipropylamine	88.7	%Rec	
	86306	n-Nitrosodiphenylamine	52.7	%Rec	
	91203	Naphthalene	64.1	%Rec	
	91576	Naphthalene, 2-methyl-	74.6	%Rec	
	98953	Nitrobenzene	80 5	%Rec	
	4165600	Nitrobenzene-d5	80 72	%Rec	
	87865	Pentachlorophenol	83 1	%Rec	
	85018	Phenanthrene	68 0	%Rec	
	108952	Phenol	40 0	%Rec	
	367124	Phenol, 2-fluoro-	51.70	%Rec	
	95487	Phenol, 2-methyl-	67.9	%Rec	
	4165622	Phenol-d5	35.89	%Rec	
	129000	Pyrene	76 4	%Rec	
	1718510	Terphenyl-d14	79.87	%Rec	
Parameter :	Volatiles				
Method :	8260-M				
Prep Method :					
Analytes :	75150	Carbon disulfide			NAR
	630206	1,1,1,2-Tetrachloroethane	100.1	%Rec	
	71556	1,1,1-Trichloroethane	101.4	%Rec	
	79005	1,1,2-Trichloroethane	100 5	%Rec	
	75343	1,1-Dichloroethane	101.5	%Rec	
	75354	1,1-Dichloroethene	92 7	%Rec	
	513882	1,1-Dichloropropanone	96 3	%Rec	
	563586	1,1-Dichloropropene	101.0	%Rec	
	87616	1,2,3-Trichlorobenzene	95 7	%Rec	
	96184	1,2,3-Trichloropropane	95 5	%Rec	
	120821	1,2,4-Trichlorobenzene	92 7	%Rec	
	96128	1,2-Dibromo-3-chloropropane	108 8	%Rec	
	2199691	1,2-Dichlorobenzene-d4	99 98	%Rec	

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			Result	Units	Qlfr
Analytes :	107062	1,2-Dichloroethane	101.9	%Rec	
	17060070	1,2-Dichloroethane-d4	98.08	%Rec	
	78875	1,2-Dichloropropane	100.8	%Rec	
	142289	1,3-Dichloropropane	101.2	%Rec	
	594207	2,2-Dichloropropane	55.3	%Rec	
	78933	2-Butanone	102.1	%Rec	
	95498	2-Chlorotoluene	96 2	%Rec	
	591786	2-Hexanone	110.9	%Rec	
	108101	2-Pentanone, 4-methyl-	111.6	%Rec	
	67641	2-Propanone	100 4	%Rec	
	106434	4-Chlorotoluene	95.9	%Rec	
	71432	Benzene	101.4	%Rec	
	98828	Benzene, (1-methylethyl)-	100 6	%Rec	
	95636	Benzene, 1,2,4-trimethyl-	94.8	%Rec	
	95501	Benzene, 1,2-dichloro-	98 9	%Rec	
	95476	Benzene, 1,2-dimethyl-	98.5	%Rec	
	108678	Benzene, 1,3,5-trimethyl-	95.9	%Rec	
	541731	Benzene, 1,3-dichloro-	95 4	%Rec	
	106467	Benzene, 1,4-dichloro-	98.2	%Rec	
	540363	Benzene, 1,4-difluoro-	98.22	%Rec	
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	95 6	%Rec	
	108907	Benzene, chloro-	101.1	%Rec	
	100425	Benzene, ethenyl-	96 7	%Rec	
	103651	Benzene, propyl-	97 2	%Rec	
	98066	Benzene, tert-butyl-	97 6	%Rec	
	108861	Bromobenzene	99.2	%Rec	
	74975	Bromochloromethane	96.9	%Rec	
	75274	Bromodichloromethane	103.3	%Rec	
	75252	Bromoform	101.3	%Rec	
	74839	Bromomethane	95 4	%Rec	
	56235	Carbon Tetrachloride	93.7	%Rec	
	156592	cis-1,2-Dichloroethene	99 6	%Rec	
	10061015	cis-1,3-Dichloropropene	96 9	%Rec	
	124481	Dibromochloromethane	101 7	%Rec	
	74953	Dibromomethane	101.2	%Rec	
	79345	Ethane, 1,1,2,2-tetrachloro-	106.2	%Rec	
	106934	Ethane, 1,2-dibromo-	102.8	%Rec	
	156605	Ethene, 1,2-dichloro-, (E)-	83 3	%Rec	
	79016	Ethene, trichloro-	101 3	%Rec	
	75003	Ethyl Chloride	64 7	%Rec	
	100414	Ethylbenzene	99 9	%Rec	
	75694	Freon 11	80 6	%Rec	
	75718	Freon 12	86 4	%Rec	
	87683	Hexachlorobutadiene	84 6	%Rec	
	74873	Methane, chloro-	84 6	%Rec	
	67663	Methane, trichloro-	104 5	%Rec	
	75092	Methylene Chloride	88 3	%Rec	

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			Result	Units	Qlfr
Analytes	*1330207	MP-Xylene	101.6	%Rec	
	104518	n-Butylbenzene	91.7	%Rec	
	91203	Naphthalene	100 9	%Rec	
	460004	p-Bromofluorobenzene	100.35	%Rec	
	135988	sec-Butylbenzene	96.7	%Rec	
	127184	Tetrachloroethene	83.2	%Rec	
	108883	Toluene	99.6	%Rec	
	2037265	Toluene-d8	100 17	%Rec	
	10061026	Trans-1,3-Dichloropropene	86.8	%Rec	
	75014	Vinyl Chloride	92.8	%Rec	

Report by Parameter for Project TEC-721A

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14022W
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	74	%Rec	
	*2051243	Decachlorobiphenyl	80	%Rec	
	60571	Dieldrin	92	%Rec	
	72208	Endrin	109	%Rec	
	76448	Heptachlor	85	%Rec	
	58899	Lindane	96	%Rec	
	50293	P,P'-DDT	79	%Rec	
	*300105	Tetrachlorometaxylene	51	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314022X
Account Code:	98T10PFAX10ZZLA00	**Type:**	Matrix Spike Dupl
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3540/608	Soxhlet extraction			
Analytes	: 309002	Aldrin	81	%Rec	
	*2051243	Decachlorobiphenyl	82	%Rec	
	60571	Dieldrin	95	%Rec	
	72208	Endrin	111	%Rec	
	76448	Heptachlor	89	%Rec	
	58899	Lindane	96	%Rec	
	50293	P,P'-DDT	83	%Rec	
	*300105	Tetrachlorometaxylene	53	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98J14023
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

			Result	Units	Qlfr
Analytes :	309002	Aldrin	1.7	ug/kg	U
	319846	Alpha-BHC	1.7	ug/kg	U
	319857	Beta-BHC	1.7	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
	319868	Delta-BHC	1.7	ug/kg	U
	60571	Dieldrin	3.3	ug/kg	U
	959988	Endosulfan I	1.7	ug/kg	U
	33213659	Endosulfan II	3.3	ug/kg	U
	1031078	Endosulfan Sulfate	3.3	ug/kg	U
	72208	Endrin	3.3	ug/kg	U
	7421934	Endrin Aldehyde	3.3	ug/kg	U
	53494705	Endrin Ketone	3.3	ug/kg	U
	5103742	Gamma-Chlordane	1.7	ug/kg	U
	76448	Heptachlor	1.7	ug/kg	U
	1024573	Heptachlor Epoxide	1.7	ug/kg	U
	58899	Lindane	1 7	ug/kg	U
	72435	Methoxychlor	17	ug/kg	U
	72548	P,P'-DDD	3 3	ug/kg	U
	72559	P,P'-DDE	3.3	ug/kg	U
	50293	P,P'-DDT	3.3	ug/kg	U
	12674112	PCB-1016	33	ug/kg	U
	11104282	PCB-1221	67	ug/kg	U
	11141165	PCB-1232	33	ug/kg	U
	53469219	PCB-1242	33	ug/kg	U
	12672296	PCB-1248	33	ug/kg	U
	11097691	PCB-1254	33	ug/kg	U
	11096825	PCB-1260	33	ug/kg	U
	8001352	Toxaphene	167	ug/kg	U
	*2051243	Decachlorobiphenyl	114	%Rec	
	*300105	Tetrachlorometaxylene	109	%Rec	

GCMS

Parameter . Semi-volatiles
Method 8270-Paper
Prep Method:

ecology and environment

Analytes .	120821	1,2,4-Trichlorobenzene	167	ug/kg	U

			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	167	ug/kg	U
	95954	2,4,5-Trichlorophenol	167	ug/kg	U
	88062	2,4,6-Trichlorophenol	167	ug/kg	U
	120832	2,4-Dichlorophenol	333	ug/kg	U
	105679	2,4-Dimethylphenol	167	ug/kg	U
	51285	2,4-Dinitrophenol	1670	ug/kg	U
	121142	2,4-Dinitrotoluene	333	ug/kg	U
	606202	2,6-Dinitrotoluene	333	ug/kg	U
	91587	2-Chloronaphthalene	167	ug/kg	U
	95578	2-Chlorophenol	167	ug/kg	U
	88744	2-Nitroaniline	833	ug/kg	U
	88755	2-Nitrophenol	833	ug/kg	U
	91941	3,3'-Dichlorobenzidine	667	ug/kg	UJK
	99092	3-Nitroaniline	333	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1670	ug/kg	U
	101553	4-Bromophenyl-Phenylether	167	ug/kg	U
	59507	4-Chloro-3-methylphenol	833	ug/kg	U
	106478	4-Chloroaniline	167	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	167	ug/kg	U
	106445	4-Methylphenol	167	ug/kg	U
	100016	4-Nitroaniline	833	ug/kg	U
	100027	4-Nitrophenol	833	ug/kg	U
	86748	9H-Carbazole	167	ug/kg	U
	86737	9H-Fluorene	167	ug/kg	U
	83329	Acenaphthene	167	ug/kg	U
	208968	Acenaphthylene	167	ug/kg	U
	62533	Aniline	167	ug/kg	U
	120127	Anthracene	167	ug/kg	U
	95501	Benzene, 1,2-dichloro-	167	ug/kg	U
	541731	Benzene, 1,3-dichloro-	167	ug/kg	U
	106467	Benzene, 1,4-dichloro-	167	ug/kg	U
	100516	Benzenemethanol	833	ug/kg	U
	92875	Benzidine	667	ug/kg	UJK
	56553	Benzo(a)anthracene	167	ug/kg	U
	50328	Benzo(a)pyrene	167	ug/kg	U
	191242	Benzo(g,h,i)perylene	333	ug/kg	U
	205992	Benzo[b]Fluoranthene	167	ug/kg	U
	207089	Benzo[k]fluoranthene	167	ug/kg	U
	65850	Benzoic acid	1670	ug/kg	U
	111444	bis(2-Chloroethyl)ether	167	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	167	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	833	ug/kg	U
	85687	Butylbenzylphthalate	167	ug/kg	U
	218019	Chrysene	167	ug/kg	U
	84742	Di-n-Butylphthalate	167	ug/kg	U
	117840	Di-n-octylphthalate	333	ug/kg	U
	53703	Dibenz[a,h]anthracene	167	ug/kg	U

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98314023 Reg sample

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	167	ug/kg	U
	84662	Diethyl phthalate	167	ug/kg	U
	131113	Dimethylphthalate	167	ug/kg	U
	206440	Fluoranthene	167	ug/kg	U
	118741	Hexachlorobenzene	167	ug/kg	U
	87683	Hexachlorobutadiene	833	ug/kg	U
	77474	Hexachlorocyclopentadiene	833	ug/kg	U
	67721	Hexachloroethane	167	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	167	ug/kg	U
	78591	Isophorone	167	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	167	ug/kg	U
	621647	N-Nitrosodinpropylamine	167	ug/kg	U
	86306	n-Nitrosodiphenylamine	167	ug/kg	U
	91203	Naphthalene	167	ug/kg	U
	90120	Naphthalene, 1-methyl-	167	ug/kg	U
	91576	Naphthalene, 2-methyl-	167	ug/kg	U
	98953	Nitrobenzene	167	ug/kg	U
	87865	Pentachlorophenol	333	ug/kg	U
	85018	Phenanthrene	167	ug/kg	U
	108952	Phenol	167	ug/kg	U
	95487	Phenol, 2-methyl-	167	ug/kg	U
	129000	Pyrene	167	ug/kg	U
	483658	Retene	376	ug/kg	
	321608	1,1'-Biphenyl, 2-fluoro-	105	%Rec	
	2199691	1,2-Dichlorobenzene-d4	89 6	%Rec	
	93951736	2-chlorophenol-d4	110	%Rec	
	1718521	D10-Pyrene	98.5	%Rec	
	4165600	Nitrobenzene-d5	91.6	%Rec	
	367124	Phenol, 2-fluoro-	104	%Rec	
	4165622	Phenol-d5	97.8	%Rec	
	1718510	Terphenyl-d14	100	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method:

Analytes :	630035	Nonacosane	1860	ug/kg	NJ
	630024	Octacosane	852	ug/kg	NJ
	630079	Pentatriacontane	2840	ug/kg	NJ
	124254	Tetradecanal	1500	ug/kg	NJ
	7098228	Tetratetracontane	1420	ug/kg	NJ
	*3008001	Unknown 01	1390	ug/kg	NJ
	*3008002	Unknown 02	4190	ug/kg	NJ
	3008003	Unknown 03	903	ug/kg	NJ
	*3008004	Unknown 04	940	ug/kg	NJ
	3008005	Unknown 05	6350	ug/kg	NJ
	*3008006	Unknown 06	1130	ug/kg	NJ
	*3008007	Unknown 07	1280	ug/kg	NJ
	*3008008	Unknown 08	2420	ug/kg	NJ

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			Result	Units	Qlfr
Analytes :	*3008009	Unknown 09	2030	ug/kg	NJ
	*3008010	Unknown 10	4480	ug/kg	NJ
	*3008011	Unknown 11	2560	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method.					
Analytes :	630206	1,1,1,2-Tetrachloroethane	2.2	ug/kg	U
	71556	1,1,1-Trichloroethane	2.2	ug/kg	U
	79005	1,1,2-Trichloroethane	2.2	ug/kg	U
	75343	1,1-Dichloroethane	2.2	ug/kg	U
	75354	1,1-Dichloroethene	2.2	ug/kg	U
	563586	1,1-Dichloropropene	2.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	4.3	ug/kg	U
	96184	1,2,3-Trichloropropane	2.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4.3	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4.3	ug/kg	U
	107062	1,2-Dichloroethane	2.2	ug/kg	U
	78875	1,2-Dichloropropane	2.2	ug/kg	U
	142289	1,3-Dichloropropane	2.2	ug/kg	U
	594207	2,2-Dichloropropane	2.2	ug/kg	U
	78933	2-Butanone	93.9	ug/kg	JL
	95498	2-Chlorotoluene	2.2	ug/kg	U
	591786	2-Hexanone	8.6	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.2	ug/kg	U
	67641	2-Propanone	254	ug/kg	
	106434	4-Chlorotoluene	2.2	ug/kg	U
	71432	Benzene	2.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2.2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.2	ug/kg	U
	108907	Benzene, chloro-	2.2	ug/kg	U
	100425	Benzene, ethenyl-	2.2	ug/kg	U
	103651	Benzene, propyl-	2.2	ug/kg	U
	98066	Benzene, tert-butyl-	2.2	ug/kg	U
	108861	Bromobenzene	2.2	ug/kg	U
	74975	Bromochloromethane	4.3	ug/kg	U
	75274	Bromodichloromethane	2.2	ug/kg	U
	75252	Bromoform	4.3	ug/kg	U
	74839	Bromomethane	2.2	ug/kg	U
	75150	Carbon disulfide	2.2	ug/kg	U
	56235	Carbon Tetrachloride	2.2	ug/kg	U
	156592	cis-1,2-Dichloroethene	2.2	ug/kg	U

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			Result	Units	Qlfr
Analytes :	10061015	cis-1,3-Dichloropropene	2.3	ug/kg	U
	124481	Dibromochloromethane	2.2	ug/kg	U
	74953	Dibromomethane	2.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2.2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2.2	ug/kg	U
	79016	Ethene, trichloro-	4.3	ug/kg	U
	75003	Ethyl Chloride	2.2	ug/kg	U
	100414	Ethylbenzene	2.2	ug/kg	U
	75694	Freon 11	4.3	ug/kg	U
	75718	Freon 12	2.2	ug/kg	U
	87683	Hexachlorobutadiene	2.2	ug/kg	U
	74873	Methane, chloro-	2.2	ug/kg	U
	67663	Methane, trichloro-	2.2	ug/kg	U
	75092	Methylene Chloride	66.6	ug/kg	UJK
	*1330207	MP-Xylene	4.3	ug/kg	U
	104518	n-Butylbenzene	2.2	ug/kg	U
	91203	Naphthalene	4.3	ug/kg	U
	135988	sec-Butylbenzene	2.2	ug/kg	U
	127184	Tetrachloroethene	2.2	ug/kg	U
	108883	Toluene	11.9	ug/kg	
	10061026	Trans-1,3-Dichloropropene	4 0	ug/kg	U
	75014	Vinyl Chloride	2.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	101	%Rec	
	17060070	1,2-Dichloroethane-d4	108	%Rec	
	540363	Benzene, 1,4-difluoro-	98.2	%Rec	
	460004	p-Bromofluorobenzene	93.7	%Rec	
	2037265	Toluene-d8	104	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method:

Analytes	*3008001	Unknown 01	4.3	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314024
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3510M	liq-liq extraction via stir-bar			
Analytes	309002	Aldrin	0.014	ug/L	U
	319846	Alpha-BHC	0 014	ug/L	U
	319857	Beta-BHC	0.014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0.014	ug/L	U
	319868	Delta-BHC	0.014	ug/L	U
	60571	Dieldrin	0.029	ug/L	U
	959988	Endosulfan I	0.014	ug/L	U
	33213659	Endosulfan II	0.029	ug/L	U
	1031078	Endosulfan Sulfate	0.029	ug/L	U
	72208	Endrin	0 029	ug/L	U
	7421934	Endrin Aldehyde	0.029	ug/L	U
	53494705	Endrin Ketone	0.029	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0.014	ug/L	U
	1024573	Heptachlor Epoxide	0.014	ug/L	U
	58899	Lindane	0.014	ug/L	U
	72435	Methoxychlor	0 14	ug/L	U
	72548	P,P'-DDD	0 029	ug/L	U
	72559	P,P'-DDE	0.029	ug/L	U
	50293	P,P'-DDT	0 029	ug/L	U
	12674112	PCB-1016	0.29	ug/L	U
	11104282	PCB-1221	0 57	ug/L	U
	11141165	PCB-1232	0.29	ug/L	U
	53469219	PCB-1242	0.29	ug/L	U
	12672296	PCB-1248	0 29	ug/L	U
	11097691	PCB-1254	0.29	ug/L	U
	11096825	PCB-1260	0 29	ug/L	U
	8001352	Toxaphene	1 4	ug/L	U
	*2051243	Decachlorobiphenyl	82	%Rec	
	*300105	Tetrachlorometaxylene	49	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method	cled paper				
Analytes	cle t p 120821	1,2,4-Trichlorobenzene	0 29	ug/L	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	0.29	ug/L	U
	95954	2,4,5-Trichlorophenol	0 29	ug/L	U
	88062	2,4,6-Trichlorophenol	0.29	ug/L	U
	120832	2,4-Dichlorophenol	0.58	ug/L	U
	105679	2,4-Dimethylphenol	0.29	ug/L	U
	51285	2,4-Dinitrophenol	2.9	ug/L	U
	121142	2,4-Dinitrotoluene	0.58	ug/L	U
	606202	2,6-Dinitrotoluene	0.58	ug/L	U
	91587	2-Chloronaphthalene	0.29	ug/L	U
	95578	2-Chlorophenol	0.29	ug/L	U
	88744	2-Nitroaniline	1.4	ug/L	U
	88755	2-Nitrophenol	1.4	ug/L	U
	91941	3,3'-Dichlorobenzidine	1.2	ug/L	U
	99092	3-Nitroaniline	0.58	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2.9	ug/L	U
	101553	4-Bromophenyl-Phenylether	0.29	ug/L	U
	59507	4-Chloro-3-methylphenol	1.4	ug/L	U
	106478	4-Chloroaniline	0.29	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.29	ug/L	U
	106445	4-Methylphenol	0.29	ug/L	U
	100016	4-Nitroaniline	1.4	ug/L	U
	100027	4-Nitrophenol	1 4	ug/L	U
	86748	9H-Carbazole	0.29	ug/L	U
	86737	9H-Fluorene	0.29	ug/L	U
	83329	Acenaphthene	0.29	ug/L	U
	208968	Acenaphthylene	0.29	ug/L	U
	62533	Aniline	0.29	ug/L	U
	120127	Anthracene	0.29	ug/L	U
	95501	Benzene, 1,2-dichloro-	0.29	ug/L	U
	541731	Benzene, 1,3-dichloro-	0 29	ug/L	U
	106467	Benzene, 1,4-dichloro-	0.29	ug/L	U
	100516	Benzenemethanol	1.4	ug/L	U
	92875	Benzidine	1.2	ug/L	U
	56553	Benzo(a)anthracene	0.29	ug/L	U
	50328	Benzo(a)pyrene	0.29	ug/L	U
	191242	Benzo(g,h,i)perylene	0 58	ug/L	U
	205992	Benzo[b]Fluoranthene	0 29	ug/L	U
	207089	Benzo[k]fluoranthene	0.29	ug/L	U
	65850	Benzoic acid	2 9	ug/L	U
	111444	bis(2-Chloroethyl)ether	0 29	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0 29	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1.4	ug/L	U
	85687	Butylbenzylphthalate	0.29	ug/L	U
	218019	Chrysene	0 29	ug/L	U
	84742	Di-n-Butylphthalate	0 29	ug/L	U
	117840	Di-n-octylphthalate	0.58	ug/L	U
	53703	Dibenz[a,h]anthracene	0 29	ug/L	U

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			Result	Units	Qlfr
Analytes	: 132649	Dibenzofuran	0.29	ug/L	U
	84662	Diethyl phthalate	0.29	ug/L	U
	131113	Dimethylphthalate	0.29	ug/L	U
	206440	Fluoranthene	0.29	ug/L	U
	118741	Hexachlorobenzene	0.29	ug/L	U
	87683	Hexachlorobutadiene	1 4	ug/L	U
	77474	Hexachlorocyclopentadiene	1.4	ug/L	U
	67721	Hexachloroethane	0.29	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.29	ug/L	U
	78591	Isophorone	0.29	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.29	ug/L	U
	621647	N-Nitrosodinpropylamine	0.29	ug/L	U
	86306	n-Nitrosodiphenylamine	0.29	ug/L	U
	91203	Naphthalene	0.29	ug/L	U
	90120	Naphthalene, 1-methyl-	0.29	ug/L	U
	91576	Naphthalene, 2-methyl-	0.29	ug/L	U
	98953	Nitrobenzene	0.29	ug/L	U
	87865	Pentachlorophenol	0.58	ug/L	U
	85018	Phenanthrene	0.29	ug/L	U
	108952	Phenol	0.29	ug/L	U
	95487	Phenol, 2-methyl-	0.29	ug/L	U
	129000	Pyrene	0.29	ug/L	U
	483658	Retene	0.29	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	33.5	%Rec	
	2199691	1,2-Dichlorobenzene-d4	33.7	%Rec	
	93951736	2-chlorophenol-d4	87.6	%Rec	
	1718521	D10-Pyrene	93.3	%Rec	
	4165600	Nitrobenzene-d5	83 8	%Rec	
	367124	Phenol, 2-fluoro-	63.2	%Rec	
	4165622	Phenol-d5	41.4	%Rec	
	1718510	Terphenyl-d14	95 0	%Rec	
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method:					
Analytes	: 630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
	71556	1,1,1-Trichloroethane	2.0	ug/L	U
	79005	1,1,2-Trichloroethane	1.0	ug/L	U
	75343	1,1-Dichloroethane	1 0	ug/L	U
	75354	1,1-Dichloroethene	1 0	ug/L	U
	513882	1,1-Dichloropropanone	2.0	ug/L	U
	563586	1,1-Dichloropropene	1.0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
	96184	1,2,3-Trichloropropane	1 0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1.0	ug/L	U
recycl	107062	1,2-Dichloroethane	1 0	ug/L	U
recycled p	78875	1,2-Dichloropropane	1 0	ug/L	U

			Result	Units	Qlfr
Analytes	: 142289	1,3-Dichloropropane	1.0	ug/L	U
	594207	2,2-Dichloropropane	1.0	ug/L	U
	78933	2-Butanone	2.0	ug/L	U
	95498	2-Chlorotoluene	1.0	ug/L	U
	591786	2-Hexanone	2.0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
	67641	2-Propanone	4.0	ug/L	U
	106434	4-Chlorotoluene	1.0	ug/L	U
	71432	Benzene	1.0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1.0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1.0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1.0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1.0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1.0	ug/L	U
	108907	Benzene, chloro-	1.0	ug/L	U
	100425	Benzene, ethenyl-	1.0	ug/L	U
	103651	Benzene, propyl-	1.0	ug/L	U
	98066	Benzene, tert-butyl-	1.0	ug/L	U
	108861	Bromobenzene	1.0	ug/L	U
	74975	Bromochloromethane	1.0	ug/L	U
	75274	Bromodichloromethane	1.0	ug/L	U
	75252	Bromoform	1.0	ug/L	U
	74839	Bromomethane	1.0	ug/L	U
	75150	Carbon disulfide	2.0	ug/L	U
	56235	Carbon Tetrachloride	1.0	ug/L	U
	156592	cis-1,2-Dichloroethene	1.0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1.1	ug/L	U
	124481	Dibromochloromethane	1.0	ug/L	U
	74953	Dibromomethane	1.0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1.0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L	U
	79016	Ethene, trichloro-	1.0	ug/L	U
	75003	Ethyl Chloride	1.0	ug/L	U
	100414	Ethylbenzene	1.0	ug/L	U
	75694	Freon 11	1.0	ug/L	U
	75718	Freon 12	1.0	ug/L	U
	87683	Hexachlorobutadiene	1.0	ug/L	U
	74873	Methane, chloro-	1.0	ug/L	U
	67663	Methane, trichloro-	1.0	ug/L	U
	75092	Methylene Chloride	2.0	ug/L	U
	*1330207	MP-Xylene	2.0	ug/L	U
	104518	n-Butylbenzene	1.0	ug/L	U
	91203	Naphthalene	1.0	ug/L	U

Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes	135988	sec-Butylbenzene	1 0	ug/L	U
	127184	Tetrachloroethene	1.0	ug/L	U
	108883	Toluene	1.0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L	U
	75014	Vinyl Chloride	1.0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	100	%Rec	
	17060070	1,2-Dichloroethane-d4	101	%Rec	
	540363	Benzene, 1,4-difluoro-	99.6	%Rec	
	460004	p-Bromofluorobenzene	99 9	%Rec	
	2037265	Toluene-d8	99 1	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314025
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	1 8	ug/kg	U
319846	Alpha-BHC	1.8	ug/kg	U
319857	Beta-BHC	1.8	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.8	ug/kg	U
319868	Delta-BHC	1.8	ug/kg	U
60571	Dieldrin	3.6	ug/kg	U
959988	Endosulfan I	1.8	ug/kg	U
33213659	Endosulfan II	3.6	ug/kg	U
1031078	Endosulfan Sulfate	3.6	ug/kg	U
72208	Endrin	3.6	ug/kg	U
7421934	Endrin Aldehyde	3.6	ug/kg	U
53494705	Endrin Ketone	3.6	ug/kg	U
5103742	Gamma-Chlordane	1.8	ug/kg	U
76448	Heptachlor	1.8	ug/kg	U
1024573	Heptachlor Epoxide	1.8	ug/kg	U
58899	Lindane	1 8	ug/kg	U
72435	Methoxychlor	18	ug/kg	U
72548	P,P'-DDD	3.6	ug/kg	U
72559	P,P'-DDE	3.6	ug/kg	U
50293	P,P'-DDT	3.6	ug/kg	U
12674112	PCB-1016	36	ug/kg	U
11104282	PCB-1221	72	ug/kg	U
11141165	PCB-1232	36	ug/kg	U
53469219	PCB-1242	36	ug/kg	U
12672296	PCB-1248	36	ug/kg	U
11097691	PCB-1254	36	ug/kg	U
11096825	PCB-1260	36	ug/kg	U
8001352	Toxaphene	180	ug/kg	U
*2051243	Decachlorobiphenyl	108	%Rec	
*300105	Tetrachlorometaxylene	99	%Rec	

GCMS

Parameter : Semi-volatiles
Method : 8270-M
Prep Method:

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Analytes				
120821	1,2,4-Trichlorobenzene	180	ug/kg	U

			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	180	ug/kg	U
	95954	2,4,5-Trichlorophenol	180	ug/kg	U
	88062	2,4,6-Trichlorophenol	180	ug/kg	U
	120832	2,4-Dichlorophenol	360	ug/kg	U
	105679	2,4-Dimethylphenol	180	ug/kg	U
	51285	2,4-Dinitrophenol	1800	ug/kg	U
	121142	2,4-Dinitrotoluene	360	ug/kg	U
	606202	2,6-Dinitrotoluene	360	ug/kg	U
	91587	2-Chloronaphthalene	180	ug/kg	U
	95578	2-Chlorophenol	180	ug/kg	U
	88744	2-Nitroaniline	899	ug/kg	U
	88755	2-Nitrophenol	899	ug/kg	U
	91941	3,3'-Dichlorobenzidine	719	ug/kg	UJK
	99092	3-Nitroaniline	360	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1800	ug/kg	U
	101553	4-Bromophenyl-Phenylether	180	ug/kg	U
	59507	4-Chloro-3-methylphenol	899	ug/kg	U
	106478	4-Chloroaniline	180	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	180	ug/kg	U
	106445	4-Methylphenol	180	ug/kg	U
	100016	4-Nitroaniline	899	ug/kg	U
	100027	4-Nitrophenol	899	ug/kg	U
	86748	9H-Carbazole	180	ug/kg	U
	86737	9H-Fluorene	180	ug/kg	U
	83329	Acenaphthene	180	ug/kg	U
	208968	Acenaphthylene	180	ug/kg	U
	62533	Aniline	180	ug/kg	U
	120127	Anthracene	180	ug/kg	U
	95501	Benzene, 1,2-dichloro-	180	ug/kg	U
	541731	Benzene, 1,3-dichloro-	180	ug/kg	U
	106467	Benzene, 1,4-dichloro-	180	ug/kg	U
	100516	Benzenemethanol	899	ug/kg	U
	92875	Benzidine	719	ug/kg	UJK
	56553	Benzo(a)anthracene	180	ug/kg	U
	50328	Benzo(a)pyrene	180	ug/kg	U
	191242	Benzo(g,h,i)perylene	360	ug/kg	U
	205992	Benzo[b]Fluoranthene	180	ug/kg	U
	207089	Benzo[k]fluoranthene	180	ug/kg	U
	65850	Benzoic acid	1800	ug/kg	U
	111444	bis(2-Chloroethyl)ether	180	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	180	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	899	ug/kg	U
	85687	Butylbenzylphthalate	180	ug/kg	U
	218019	Chrysene	180	ug/kg	U
	84742	Di-n-Butylphthalate	180	ug/kg	U
	117840	Di-n-octylphthalate	360	ug/kg	U
	53703	Dibenz[a,h]anthracene	180	ug/kg	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	180	ug/kg	U
	84662	Diethyl phthalate	180	ug/kg	U
	131113	Dimethylphthalate	180	ug/kg	U
	206440	Fluoranthene	180	ug/kg	U
	118741	Hexachlorobenzene	180	ug/kg	U
	87683	Hexachlorobutadiene	899	ug/kg	U
	77474	Hexachlorocyclopentadiene	899	ug/kg	U
	67721	Hexachloroethane	180	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	180	ug/kg	U
	78591	Isophorone	180	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	180	ug/kg	U
	621647	N-Nitrosodinpropylamine	180	ug/kg	U
	86306	n-Nitrosodiphenylamine	180	ug/kg	U
	91203	Naphthalene	180	ug/kg	U
	90120	Naphthalene, 1-methyl-	180	ug/kg	U
	91576	Naphthalene, 2-methyl-	180	ug/kg	U
	98953	Nitrobenzene	180	ug/kg	U
	87865	Pentachlorophenol	360	ug/kg	U
	85018	Phenanthrene	180	ug/kg	U
	108952	Phenol	180	ug/kg	U
	95487	Phenol, 2-methyl-	180	ug/kg	U
	129000	Pyrene	180	ug/kg	U
	483658	Retene	180	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	92.7	%Rec	
	2199691	1,2-Dichlorobenzene-d4	81.8	%Rec	
	93951736	2-chlorophenol-d4	96.7	%Rec	
	1718521	D10-Pyrene	88.7	%Rec	
	4165600	Nitrobenzene-d5	73.5	%Rec	
	367124	Phenol, 2-fluoro-	95.2	%Rec	
	4165622	Phenol-d5	85.4	%Rec	
	1718510	Terphenyl-d14	91.8	%Rec	
Parameter :	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes :	2216333	Octane, 3-methyl-	1120	ug/kg	NJ
	83008001	Unknown 01	1190	ug/kg	NJ
	83008002	Unknown 02	1950	ug/kg	NJ
	83008003	Unknown 03	1100	ug/kg	NJ
	83008004	Unknown 04	950	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method					
Analytes :	630206	1,1,1,2-Tetrachloroethane	3 2	ug/kg	U
	71556	1,1,1-Trichloroethane	3 2	ug/kg	U
	79005	1,1,2-Trichloroethane	3 2	ug/kg	U
	75343	1,1-Dichloroethane	3 2	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 75354	1,1-Dichloroethene	3.2	ug/kg	U
	563586	1,1-Dichloropropene	3.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	6.3	ug/kg	U
	96184	1,2,3-Trichloropropane	3.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	6 3	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	6.3	ug/kg	U
	107062	1,2-Dichloroethane	3.2	ug/kg	U
	78875	1,2-Dichloropropane	3.2	ug/kg	U
	142289	1,3-Dichloropropane	3.2	ug/kg	U
	594207	2,2-Dichloropropane	3.2	ug/kg	U
	78933	**2-Butanone**	**29.7**	**ug/kg**	**JL**
	95498	2-Chlorotoluene	3 2	ug/kg	U
	591786	2-Hexanone	12.6	ug/kg	U
	108101	2-Pentanone, 4-methyl-	3.2	ug/kg	U
	67641	2-Propanone	185	ug/kg	U
	106434	4-Chlorotoluene	3.2	ug/kg	U
	71432	Benzene	3.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	3.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	3.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	3.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	3.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	3 2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	3.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	3 2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3.2	ug/kg	U
	108907	Benzene, chloro-	3.2	ug/kg	U
	100425	Benzene, ethenyl-	3.2	ug/kg	U
	103651	Benzene, propyl-	3.2	ug/kg	U
	98066	Benzene, tert-butyl-	3 2	ug/kg	U
	108861	Bromobenzene	3.2	ug/kg	U
	74975	Bromochloromethane	6 3	ug/kg	U
	75274	Bromodichloromethane	3.2	ug/kg	U
	75252	Bromoform	6.3	ug/kg	U
	74839	Bromomethane	3 2	ug/kg	U
	75150	Carbon disulfide	3.2	ug/kg	U
	56235	Carbon Tetrachloride	3.2	ug/kg	U
	156592	cis-1,2-Dichloroethene	3.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3.3	ug/kg	U
	124481	Dibromochloromethane	3 2	ug/kg	U
	74953	Dibromomethane	3 2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3 2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3 2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3.2	ug/kg	U
	79016	Ethene, trichloro-	6 3	ug/kg	U
	75003	Ethyl Chloride	3 2	ug/kg	U
	100414	Ethylbenzene	3 2	ug/kg	U
	75694	Freon 11	6 3	ug/kg	U

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			Result	Units	Qlfr
Analytes :	75718	Freon 12	3.2	ug/kg	U
	87683	Hexachlorobutadiene	3.2	ug/kg	U
	74873	Methane, chloro-	3.2	ug/kg	U
	67663	Methane, trichloro-	3.2	ug/kg	U
	75092	Methylene Chloride	40.6	ug/kg	UJK
	*1330207	MP-Xylene	6 3	ug/kg	U
	104518	n-Butylbenzene	3.2	ug/kg	U
	91203	Naphthalene	6.3	ug/kg	U
	135988	sec-Butylbenzene	3.2	ug/kg	U
	127184	Tetrachloroethene	3.2	ug/kg	U
	108883	Toluene	3.2	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5.9	ug/kg	U
	75014	Vinyl Chloride	3.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	101	%Rec	
	17060070	1,2-Dichloroethane-d4	110	%Rec	
	540363	Benzene, 1,4-difluoro-	98 5	%Rec	
	460004	p-Bromofluorobenzene	103	%Rec	
	2037265	Toluene-d8	103	%Rec	
Parameter :	Volatiles - Tentatives				
Method :	8260-M				
Prep Method.					
Analytes :	127913	.beta.-Pinene	26.0	ug/kg	NJ
	4889832	BICYCLO[3.1.1]HEPT-2-ENE, 3,6, 6-TRIMETHY	7.0	ug/kg	NJ
	*3008001	Unknown 01	22.0	ug/kg	NJ
	*3008002	Unknown 02	8.0	ug/kg	NJ
	*3008003	Unknown 03	11.7	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314027
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	2.5	ug/kg	U
319846	Alpha-BHC	2.5	ug/kg	U
319857	Beta-BHC	2.5	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	2.5	ug/kg	U
319868	Delta-BHC	2.5	ug/kg	U
60571	Dieldrin	5.0	ug/kg	U
959988	Endosulfan I	2.5	ug/kg	U
33213659	Endosulfan II	5.0	ug/kg	U
1031078	Endosulfan Sulfate	5.0	ug/kg	U
72208	Endrin	5.0	ug/kg	U
7421934	Endrin Aldehyde	5 0	ug/kg	U
53494705	Endrin Ketone	5 0	ug/kg	U
5103742	Gamma-Chlordane	2.5	ug/kg	U
76448	Heptachlor	2 5	ug/kg	U
1024573	Heptachlor Epoxide	2.5	ug/kg	U
58899	Lindane	2.5	ug/kg	U
72435	Methoxychlor	25	ug/kg	U
72548	P,P'-DDD	5 0	ug/kg	U
72559	P,P'-DDE	5 0	ug/kg	U
50293	P,P'-DDT	5.0	ug/kg	U
12674112	PCB-1016	50	ug/kg	U
11104282	PCB-1221	100	ug/kg	U
11141165	PCB-1232	50	ug/kg	U
53469219	PCB-1242	50	ug/kg	U
12672296	PCB-1248	50	ug/kg	U
11097691	PCB-1254	50	ug/kg	U
11096825	PCB-1260	50	ug/kg	U
8001352	Toxaphene	250	ug/kg	U
*2051243	Decachlorobiphenyl	103	%Rec	
*300105	Tetrachlorometaxylene	96	%Rec	

GCMS

Parameter Semi-volatiles
Method 8270-M
Prep Method cled paper
Analytes cled p

120821	1,2,4-Trichlorobenzene	250	ug/kg	U

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	250	ug/kg	U
	95954	2,4,5-Trichlorophenol	250	ug/kg	U
	88062	2,4,6-Trichlorophenol	250	ug/kg	U
	120832	2,4-Dichlorophenol	501	ug/kg	U
	105679	2,4-Dimethylphenol	250	ug/kg	U
	51285	2,4-Dinitrophenol	2500	ug/kg	U
	121142	2,4-Dinitrotoluene	501	ug/kg	U
	606202	2,6-Dinitrotoluene	501	ug/kg	U
	91587	2-Chloronaphthalene	250	ug/kg	U
	95578	2-Chlorophenol	250	ug/kg	U
	88744	2-Nitroaniline	1250	ug/kg	U
	88755	2-Nitrophenol	1250	ug/kg	U
	91941	3,3'-Dichlorobenzidine	1000	ug/kg	UJK
	99092	3-Nitroaniline	501	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2500	ug/kg	U
	101553	4-Bromophenyl-Phenylether	250	ug/kg	U
	59507	4-Chloro-3-methylphenol	1250	ug/kg	U
	106478	4-Chloroaniline	250	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	250	ug/kg	U
	106445	4-Methylphenol	250	ug/kg	U
	100016	4-Nitroaniline	1250	ug/kg	U
	100027	4-Nitrophenol	1250	ug/kg	U
	86748	9H-Carbazole	250	ug/kg	U
	86737	9H-Fluorene	250	ug/kg	U
	83329	Acenaphthene	250	ug/kg	U
	208968	Acenaphthylene	250	ug/kg	U
	62533	Aniline	250	ug/kg	U
	120127	Anthracene	250	ug/kg	U
	95501	Benzene, 1,2-dichloro-	250	ug/kg	U
	541731	Benzene, 1,3-dichloro-	250	ug/kg	U
	106467	Benzene, 1,4-dichloro-	250	ug/kg	U
	100516	Benzenemethanol	1250	ug/kg	U
	92875	Benzidine	1000	ug/kg	UJK
	56553	Benzo(a)anthracene	250	ug/kg	U
	50328	Benzo(a)pyrene	250	ug/kg	U
	191242	Benzo(g,h,i)perylene	501	ug/kg	U
	205992	Benzo[b]Fluoranthene	250	ug/kg	U
	207089	Benzo[k]fluoranthene	250	ug/kg	U
	65850	Benzoic acid	2500	ug/kg	U
	111444	bis(2-Chloroethyl)ether	250	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	250	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1250	ug/kg	U
	85687	Butylbenzylphthalate	250	ug/kg	U
	218019	Chrysene	250	ug/kg	U
	84742	Di-n-Butylphthalate	250	ug/kg	U
	117840	Di-n-octylphthalate	501	ug/kg	U
	53703	Dibenz[a,h]anthracene	250	ug/kg	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	250	ug/kg	U
	84662	Diethyl phthalate	250	ug/kg	U
	131113	Dimethylphthalate	250	ug/kg	U
	206440	Fluoranthene	250	ug/kg	U
	118741	Hexachlorobenzene	250	ug/kg	U
	87683	Hexachlorobutadiene	1250	ug/kg	U
	77474	Hexachlorocyclopentadiene	1250	ug/kg	U
	67721	Hexachloroethane	250	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	250	ug/kg	U
	78591	Isophorone	250	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	250	ug/kg	U
	621647	N-Nitrosodinpropylamine	250	ug/kg	U
	86306	n-Nitrosodiphenylamine	250	ug/kg	U
	91203	Naphthalene	250	ug/kg	U
	90120	Naphthalene, 1-methyl-	250	ug/kg	U
	91576	Naphthalene, 2-methyl-	250	ug/kg	U
	98953	Nitrobenzene	250	ug/kg	U
	87865	Pentachlorophenol	501	ug/kg	U
	85018	Phenanthrene	250	ug/kg	U
	108952	Phenol	250	ug/kg	U
	95487	Phenol, 2-methyl-	250	ug/kg	U
	129000	Pyrene	250	ug/kg	U
	483658	Retene	250	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	105	%Rec	
	2199691	1,2-Dichlorobenzene-d4	81 0	%Rec	
	93951736	2-chlorophenol-d4	107	%Rec	
	1718521	D10-Pyrene	101	%Rec	
	4165600	Nitrobenzene-d5	95.0	%Rec	
	367124	Phenol, 2-fluoro-	101	%Rec	
	4165622	Phenol-d5	93.6	%Rec	
	1718510	Terphenyl-d14	101	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method

Analytes	77899106	(Z)14-TRICOSENYL FORMATE	3590	ug/kg	NJ
	83476	.gamma.-Sitosterol	17400	ug/kg	NJ
	56554906	13-Octadecenal	4370	ug/kg	NJ
	3187584	Benzoic acid, 2,4-dihydroxy-6- methyl-, m	2180	ug/kg	NJ
	53366384	Cyclopentane, (2-methylbutyl)-	1310	ug/kg	NJ
	5945539	D:C-Friedooleanan-3-one	6090	ug/kg	NJ
	629970	Docosane	4510	ug/kg	NJ
	630068	Hexatriacontane	4540	ug/kg	NJ
	630024	Octacosane	5340	ug/kg	NJ
	18302664	Palmitaldehyde, diisopropyl ac etal	1360	ug/kg	NJ
recycle	1058613	Stigmast-4-en-3-one	5010	ug/kg	NJ
recycled p	7098228	Tetratetracontane	1420	ug/kg	NJ

			Result	Units	Qlfr
Analytes :	*3008001	Unknown 01	5020	ug/kg	NJ
	83008002	Unknown 02	2970	ug/kg	NJ
	*3008003	Unknown 03	2320	ug/kg	NJ
	*3008004	Unknown 04	1870	ug/kg	NJ
	*3008005	Unknown 05	4860	ug/kg	NJ
	83008006	Unknown 06	5030	ug/kg	NJ
Parameter :	Volatiles				
Method :	8260-M				
Prep Method:					
Analytes :	630206	1,1,1,2-Tetrachloroethane	3.2	ug/kg	U
	71556	1,1,1-Trichloroethane	3.2	ug/kg	U
	79005	1,1,2-Trichloroethane	3.2	ug/kg	U
	75343	1,1-Dichloroethane	3.2	ug/kg	U
	75354	1,1-Dichloroethene	3.2	ug/kg	U
	563586	1,1-Dichloropropene	3.2	ug/kg	U
	87616	1,2,3-Trichlorobenzene	6 4	ug/kg	U
	96184	1,2,3-Trichloropropane	3.2	ug/kg	U
	120821	1,2,4-Trichlorobenzene	6.4	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	6.4	ug/kg	U
	107062	1,2-Dichloroethane	3.2	ug/kg	U
	78875	1,2-Dichloropropane	3.2	ug/kg	U
	142289	1,3-Dichloropropane	3.2	ug/kg	U
	594207	2,2-Dichloropropane	3 2	ug/kg	U
	78933	2-Butanone	12.7	ug/kg	UJK
	95498	2-Chlorotoluene	3.2	ug/kg	U
	591786	2-Hexanone	12.7	ug/kg	U
	108101	2-Pentanone, 4-methyl-	3.2	ug/kg	U
	67641	2-Propanone	89 4	ug/kg	U
	106434	4-Chlorotoluene	3.2	ug/kg	U
	71432	Benzene	3.2	ug/kg	U
	98828	Benzene, (1-methylethyl)-	3.2	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	3.2	ug/kg	U
	95501	Benzene, 1,2-dichloro-	3.2	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	3.2	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	3.2	ug/kg	U
	541731	Benzene, 1,3-dichloro-	3.2	ug/kg	U
	106467	Benzene, 1,4-dichloro-	3.2	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3.2	ug/kg	U
	108907	Benzene, chloro-	3 2	ug/kg	U
	100425	Benzene, ethenyl-	3.2	ug/kg	U
	103651	Benzene, propyl-	3.2	ug/kg	U
	98066	Benzene, tert-butyl-	3 2	ug/kg	U
	108861	Bromobenzene	3 2	ug/kg	U
	74975	Bromochloromethane	6 4	ug/kg	U
	75274	Bromodichloromethane	3 2	ug/kg	U
	75252	Bromoform	6 4	ug/kg	U
	74839	Bromomethane	3 2	ug/kg	U

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			Result	Units	Qlfr
Analytes	: 75150	Carbon disulfide	3 2	ug/kg	U
	56235	Carbon Tetrachloride	3 2	ug/kg	U
	156592	cis-1,2-Dichloroethene	3.2	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3.4	ug/kg	U
	124481	Dibromochloromethane	3.2	ug/kg	U
	74953	Dibromomethane	3.2	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3.2	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3 2	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3 2	ug/kg	U
	79016	Ethene, trichloro-	6 4	ug/kg	U
	75003	Ethyl Chloride	3.2	ug/kg	U
	100414	Ethylbenzene	3.2	ug/kg	U
	75694	Freon 11	6.4	ug/kg	U
	75718	Freon 12	3.2	ug/kg	U
	87683	Hexachlorobutadiene	3.2	ug/kg	U
	74873	Methane, chloro-	3.2	ug/kg	U
	67663	Methane, trichloro-	3.2	ug/kg	U
	75092	Methylene Chloride	31 8	ug/kg	UJK
	*1330207	MP-Xylene	6.4	ug/kg	U
	104518	n-Butylbenzene	3.2	ug/kg	U
	91203	Naphthalene	6.4	ug/kg	U
	135988	sec-Butylbenzene	3.2	ug/kg	U
	127184	Tetrachloroethene	3.2	ug/kg	U
	108883	Toluene	3.2	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	6.0	ug/kg	U
	75014	Vinyl Chloride	3.2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	98.8	%Rec	
	17060070	1,2-Dichloroethane-d4	105	%Rec	
	540363	Benzene, 1,4-difluoro-	98.9	%Rec	
	460004	p-Bromofluorobenzene	103	%Rec	
	2037265	Toluene-d8	104	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314028
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	: Pesticides - PCB's				
Method	: 8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	: 3510M	liq-liq extraction via stir-bar			
Analytes	: 309002	Aldrin	0.014	ug/L	U
	319846	Alpha-BHC	0 014	ug/L	U
	319857	Beta-BHC	0 014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0.014	ug/L	U
	319868	Delta-BHC	0.014	ug/L	U
	60571	Dieldrin	0.029	ug/L	U
	959988	Endosulfan I	0.014	ug/L	U
	33213659	Endosulfan II	0.029	ug/L	U
	1031078	Endosulfan Sulfate	0 029	ug/L	U
	72208	Endrin	0.029	ug/L	U
	7421934	Endrin Aldehyde	0.029	ug/L	U
	53494705	Endrin Ketone	0 029	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0 014	ug/L	U
	1024573	Heptachlor Epoxide	0.014	ug/L	U
	58899	Lindane	0.014	ug/L	U
	72435	Methoxychlor	0.14	ug/L	U
	72548	P,P'-DDD	0.029	ug/L	U
	72559	P,P'-DDE	0 029	ug/L	U
	50293	P,P'-DDT	0 029	ug/L	U
	12674112	PCB-1016	0.29	ug/L	U
	11104282	PCB-1221	0 57	ug/L	U
	11141165	PCB-1232	0 29	ug/L	U
	53469219	PCB-1242	0.29	ug/L	U
	12672296	PCB-1248	0 29	ug/L	U
	11097691	PCB-1254	0 29	ug/L	U
	11096825	PCB-1260	0 29	ug/L	U
	8001352	Toxaphene	1 4	ug/L	U
	*2051243	Decachlorobiphenyl	97	%Rec	
	*300105	Tetrachlorometaxylene	61	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	: 8270-M				
Prep Method	:				
Analytes	: 120821	1,2,4-Trichlorobenzene	0 26	ug/L	U

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			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	0 26	ug/L	U
	95954	2,4,5-Trichlorophenol	0.26	ug/L	U
	88062	2,4,6-Trichlorophenol	0.26	ug/L	U
	120832	2,4-Dichlorophenol	0.52	ug/L	U
	105679	2,4-Dimethylphenol	0.26	ug/L	U
	51285	2,4-Dinitrophenol	2.6	ug/L	U
	121142	2,4-Dinitrotoluene	0.52	ug/L	U
	606202	2,6-Dinitrotoluene	0.52	ug/L	U
	91587	2-Chloronaphthalene	0.26	ug/L	U
	95578	2-Chlorophenol	0 26	ug/L	U
	88744	2-Nitroaniline	1.3	ug/L	U
	88755	2-Nitrophenol	1.3	ug/L	U
	91941	3,3'-Dichlorobenzidine	1.0	ug/L	U
	99092	3-Nitroaniline	0.52	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2.6	ug/L	U
	101553	4-Bromophenyl-Phenylether	0 26	ug/L	U
	59507	4-Chloro-3-methylphenol	1.3	ug/L	U
	106478	4-Chloroaniline	0.26	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.26	ug/L	U
	106445	4-Methylphenol	0.26	ug/L	U
	100016	4-Nitroaniline	1.3	ug/L	U
	100027	4-Nitrophenol	1.3	ug/L	U
	86748	9H-Carbazole	0 26	ug/L	U
	86737	9H-Fluorene	0.26	ug/L	U
	83329	Acenaphthene	0.26	ug/L	U
	208968	Acenaphthylene	0.26	ug/L	U
	62533	Aniline	0.26	ug/L	U
	120127	Anthracene	0 26	ug/L	U
	95501	Benzene, 1,2-dichloro-	0.26	ug/L	U
	541731	Benzene, 1,3-dichloro-	0.26	ug/L	U
	106467	Benzene, 1,4-dichloro-	0.26	ug/L	U
	100516	Benzenemethanol	1.3	ug/L	U
	92875	Benzidine	1 0	ug/L	U
	56553	Benzo(a)anthracene	0.26	ug/L	U
	50328	Benzo(a)pyrene	0.26	ug/L	U
	191242	Benzo(g,h,i)perylene	0 52	ug/L	U
	205992	Benzo[b]Fluoranthene	0 26	ug/L	U
	207089	Benzo[k]fluoranthene	0 26	ug/L	U
	65850	Benzoic acid	2 6	ug/L	U
	111444	bis(2-Chloroethyl)ether	0.26	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0.26	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1.3	ug/L	U
	85687	Butylbenzylphthalate	0 26	ug/L	U
	218019	Chrysene	0 26	ug/L	U
	84742	Di-n-Butylphthalate	0 26	ug/L	U
	117840	Di-n-octylphthalate	0 52	ug/L	U
	53703	Dibenz[a,h]anthracene	0 26	ug/L	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	0.26	ug/L	U
	84662	Diethyl phthalate	0.26	ug/L	U
	131113	Dimethylphthalate	0.26	ug/L	U
	206440	Fluoranthene	0.26	ug/L	U
	118741	Hexachlorobenzene	0.26	ug/L	U
	87683	Hexachlorobutadiene	1.3	ug/L	U
	77474	Hexachlorocyclopentadiene	1.3	ug/L	U
	67721	Hexachloroethane	0.26	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.26	ug/L	U
	78591	Isophorone	0.26	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.26	ug/L	U
	621647	N-Nitrosodinpropylamine	0.26	ug/L	U
	86306	n-Nitrosodiphenylamine	0.26	ug/L	U
	91203	Naphthalene	0.26	ug/L	U
	90120	Naphthalene, 1-methyl-	0.26	ug/L	U
	91576	Naphthalene, 2-methyl-	0.26	ug/L	U
	98953	Nitrobenzene	0.26	ug/L	U
	87865	Pentachlorophenol	0.52	ug/L	U
	85018	Phenanthrene	0.26	ug/L	U
	108952	Phenol	0.26	ug/L	U
	95487	Phenol, 2-methyl-	0.26	ug/L	U
	129000	Pyrene	0 26	ug/L	U
	483658	Retene	0.26	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	30 7	%Rec	
	2199691	1,2-Dichlorobenzene-d4	32.5	%Rec	
	93951736	2-chlorophenol-d4	64.7	%Rec	
	1718521	D10-Pyrene	89.2	%Rec	
	4165600	Nitrobenzene-d5	81.2	%Rec	
	367124	Phenol, 2-fluoro-	36.1	%Rec	
	4165622	Phenol-d5	20.7	%Rec	
	1718510	Terphenyl-d14	93.0	%Rec	
Parameter :	Volatiles				
Method :	8260-M				
Prep Method :					
Analytes :	630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
	71556	1,1,1-Trichloroethane	2.0	ug/L	U
	79005	1,1,2-Trichloroethane	1.0	ug/L	U
	75343	1,1-Dichloroethane	1.0	ug/L	U
	75354	1,1-Dichloroethene	1 0	ug/L	U
	513882	1,1-Dichloropropanone	2 0	ug/L	U
	563586	1,1-Dichloropropene	1 0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
	96184	1,2,3-Trichloropropane	1 0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1 0	ug/L	U
	107062	1,2-Dichloroethane	1.0	ug/L	U
	78875	1,2-Dichloropropane	1 0	ug/L	U

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			Result	Units	Qlfr
Analytes	: 142289	1,3-Dichloropropane	1.0	ug/L	U
	594207	2,2-Dichloropropane	1.0	ug/L	U
	78933	2-Butanone	2.0	ug/L	U
	95498	2-Chlorotoluene	1.0	ug/L	U
	591786	2-Hexanone	2.0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
	67641	**2-Propanone**	**4.0**	**ug/L**	
	106434	4-Chlorotoluene	1.0	ug/L	U
	71432	Benzene	1.0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1.0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1 0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1.0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1 0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1.0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1.0	ug/L	U
	108907	Benzene, chloro-	1.0	ug/L	U
	100425	Benzene, ethenyl-	1.0	ug/L	U
	103651	Benzene, propyl-	1.0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1.0	ug/L	U
	74975	Bromochloromethane	1.0	ug/L	U
	75274	Bromodichloromethane	1.0	ug/L	U
	75252	Bromoform	1 0	ug/L	U
	74839	Bromomethane	1.0	ug/L	U
	75150	**Carbon disulfide**	**24.1**	**ug/L**	
	56235	Carbon Tetrachloride	1 0	ug/L	U
	156592	cis-1,2-Dichloroethene	1 0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1.1	ug/L	U
	124481	Dibromochloromethane	1.0	ug/L	U
	74953	Dibromomethane	1.0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1 0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1.0	ug/L	U
	79016	Ethene, trichloro-	1.0	ug/L	U
	75003	Ethyl Chloride	1.0	ug/L	U
	100414	Ethylbenzene	1.0	ug/L	U
	75694	Freon 11	1 0	ug/L	U
	75718	Freon 12	1 0	ug/L	U
	87683	Hexachlorobutadiene	1 0	ug/L	U
	74873	Methane, chloro-	1 0	ug/L	U
	67663	Methane, trichloro-	1 0	ug/L	U
	75092	Methylene Chloride	2 0	ug/L	U
	*1330207	MP-Xylene	2 0	ug/L	U
	104518	n-Butylbenzene	1 0	ug/L	U
	91203	Naphthalene	1 0	ug/L	U

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			Result	Units	Qlfr
Analytes	: 135988	sec-Butylbenzene	1.0	ug/L	U
	127184	Tetrachloroethene	1.0	ug/L	U
	108883	Toluene	1.0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0.94	ug/L	U
	75014	Vinyl Chloride	1.0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	102	%Rec	
	17060070	1,2-Dichloroethane-d4	104	%Rec	
	540363	Benzene, 1,4-difluoro-	100	%Rec	
	460004	p-Bromofluorobenzene	101	%Rec	
	2037265	Toluene-d8	100	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314029
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method 3540/608 Soxhlet extraction

		Result	Units	Qlfr
Analytes : 309002	Aldrin	1.6	ug/kg	U
319846	Alpha-BHC	1 6	ug/kg	U
319857	Beta-BHC	1.6	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1.6	ug/kg	U
319868	Delta-BHC	1.6	ug/kg	U
60571	Dieldrin	3.2	ug/kg	U
959988	Endosulfan I	1 6	ug/kg	U
33213659	Endosulfan II	3.2	ug/kg	U
1031078	Endosulfan Sulfate	3.2	ug/kg	U
72208	Endrin	3.2	ug/kg	U
7421934	Endrin Aldehyde	3.2	ug/kg	U
53494705	Endrin Ketone	3.2	ug/kg	U
5103742	Gamma-Chlordane	1.6	ug/kg	U
76448	Heptachlor	1 6	ug/kg	U
1024573	Heptachlor Epoxide	1.6	ug/kg	U
58899	Lindane	1 6	ug/kg	U
72435	Methoxychlor	16	ug/kg	U
72548	P,P'-DDD	3.2	ug/kg	U
72559	P,P'-DDE	3.2	ug/kg	U
50293	P,P'-DDT	3 2	ug/kg	U
12674112	PCB-1016	32	ug/kg	U
11104282	PCB-1221	64	ug/kg	U
11141165	PCB-1232	32	ug/kg	U
53469219	PCB-1242	32	ug/kg	U
12672296	PCB-1248	32	ug/kg	U
11097691	PCB-1254	32	ug/kg	U
11096825	PCB-1260	32	ug/kg	U
8001352	Toxaphene	159	ug/kg	U
*2051243	Decachlorobiphenyl	111	%Rec	
*300105	Tetrachlorometaxylene	99	%Rec	

GCMS

Parameter . Semi-volatiles
Method : 8270-M
Prep Method

Analytes 120821	1,2,4-Trichlorobenzene	159 ug/kg	U

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			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	159	ug/kg	U
	95954	2,4,5-Trichlorophenol	159	ug/kg	U
	88062	2,4,6-Trichlorophenol	159	ug/kg	U
	120832	2,4-Dichlorophenol	319	ug/kg	U
	105679	2,4-Dimethylphenol	159	ug/kg	U
	51285	2,4-Dinitrophenol	1590	ug/kg	U
	121142	2,4-Dinitrotoluene	319	ug/kg	U
	606202	2,6-Dinitrotoluene	319	ug/kg	U
	91587	2-Chloronaphthalene	159	ug/kg	U
	95578	2-Chlorophenol	159	ug/kg	U
	88744	2-Nitroaniline	796	ug/kg	U
	88755	2-Nitrophenol	796	ug/kg	U
	91941	3,3'-Dichlorobenzidine	637	ug/kg	UJK
	99092	3-Nitroaniline	319	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1590	ug/kg	U
	101553	4-Bromophenyl-Phenylether	159	ug/kg	U
	59507	4-Chloro-3-methylphenol	796	ug/kg	U
	106478	4-Chloroaniline	159	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	159	ug/kg	U
	106445	4-Methylphenol	159	ug/kg	U
	100016	4-Nitroaniline	796	ug/kg	U
	100027	4-Nitrophenol	796	ug/kg	U
	86748	9H-Carbazole	159	ug/kg	U
	86737	9H-Fluorene	159	ug/kg	U
	83329	Acenaphthene	159	ug/kg	U
	208968	Acenaphthylene	159	ug/kg	U
	62533	Aniline	159	ug/kg	U
	120127	Anthracene	159	ug/kg	U
	95501	Benzene, 1,2-dichloro-	159	ug/kg	U
	541731	Benzene, 1,3-dichloro-	159	ug/kg	U
	106467	Benzene, 1,4-dichloro-	159	ug/kg	U
	100516	Benzenemethanol	796	ug/kg	U
	92875	Benzidine	637	ug/kg	UJK
	56553	Benzo(a)anthracene	159	ug/kg	U
	50328	Benzo(a)pyrene	159	ug/kg	U
	191242	Benzo(g,h,i)perylene	319	ug/kg	U
	205992	Benzo[b]Fluoranthene	159	ug/kg	U
	207089	Benzo[k]fluoranthene	159	ug/kg	U
	65850	Benzoic acid	1590	ug/kg	U
	111444	bis(2-Chloroethyl)ether	159	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	159	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	796	ug/kg	U
	85687	Butylbenzylphthalate	159	ug/kg	U
	218019	Chrysene	159	ug/kg	U
	84742	Di-n-Butylphthalate	159	ug/kg	U
	117840	Di-n-octylphthalate	319	ug/kg	U
	53703	Dibenz[a,h]anthracene	159	ug/kg	U

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			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	159	ug/kg	U
	84662	Diethyl phthalate	159	ug/kg	U
	131113	Dimethylphthalate	159	ug/kg	U
	206440	Fluoranthene	159	ug/kg	U
	118741	Hexachlorobenzene	159	ug/kg	U
	87683	Hexachlorobutadiene	796	ug/kg	U
	77474	Hexachlorocyclopentadiene	796	ug/kg	U
	67721	Hexachloroethane	159	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	159	ug/kg	U
	78591	Isophorone	159	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	159	ug/kg	U
	621647	N-Nitrosodinpropylamine	159	ug/kg	U
	86306	n-Nitrosodiphenylamine	159	ug/kg	U
	91203	Naphthalene	159	ug/kg	U
	90120	Naphthalene, 1-methyl-	159	ug/kg	U
	91576	Naphthalene, 2-methyl-	159	ug/kg	U
	98953	Nitrobenzene	159	ug/kg	U
	87865	Pentachlorophenol	319	ug/kg	U
	85018	Phenanthrene	159	ug/kg	U
	108952	Phenol	159	ug/kg	U
	95487	Phenol, 2-methyl-	159	ug/kg	U
	129000	Pyrene	159	ug/kg	U
	483658	Retene	159	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	98.8	%Rec	
	2199691	1,2-Dichlorobenzene-d4	91.5	%Rec	
	93951736	2-chlorophenol-d4	106	%Rec	
	1718521	D10-Pyrene	95.8	%Rec	
	4165600	Nitrobenzene-d5	104	%Rec	
	367124	Phenol, 2-fluoro-	98.8	%Rec	
	4165622	Phenol-d5	90 3	%Rec	
	1718510	Terphenyl-d14	99 4	%Rec	

Parameter : Semi-volatiles - Tentatives
Method : 8270-M
Prep Method:

Analytes :	2216333	Octane, 3-methyl-	1890	ug/kg	NJ
	*3008001	Unknown 01	1000	ug/kg	NJ
	*3008002	Unknown 02	1090	ug/kg	NJ
	3008003	Unknown 03	1360	ug/kg	NJ
	*3008004	Unknown 04	863	ug/kg	NJ
	3008005	Unknown 05	3900	ug/kg	NJ

Parameter . Volatiles
Method : 8260-M
Prep Method·

Analytes	630206	1,1,1,2-Tetrachloroethane	4 9	ug/kg	UJK
	71556	1,1,1-Trichloroethane	4 9	ug/kg	UJK
	79005	1,1,2-Trichloroethane	4 9	ug/kg	UJK

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			Result	Units	Qlfr
Analytes	75343	1,1-Dichloroethane	4 9	ug/kg	UJK
	75354	1,1-Dichloroethene	4 9	ug/kg	UJK
	563586	1,1-Dichloropropene	4.9	ug/kg	UJK
	87616	1,2,3-Trichlorobenzene	9 8	ug/kg	UJK
	96184	1,2,3-Trichloropropane	4 9	ug/kg	UJK
	120821	1,2,4-Trichlorobenzene	9.8	ug/kg	UJK
	96128	1,2-Dibromo-3-chloropropane	9 8	ug/kg	UJK
	107062	1,2-Dichloroethane	4 9	ug/kg	UJK
	78875	1,2-Dichloropropane	4 9	ug/kg	UJK
	142289	1,3-Dichloropropane	4 9	ug/kg	UJK
	594207	2,2-Dichloropropane	4 9	ug/kg	UJK
	78933	2-Butanone	49 2	ug/kg	UJK
	95498	2-Chlorotoluene	4 9	ug/kg	UJK
	591786	2-Hexanone	98 5	ug/kg	UJK
	108101	2-Pentanone, 4-methyl-	4 9	ug/kg	UJK
	67641	2-Propanone	98 5	ug/kg	UJK
	106434	4-Chlorotoluene	4 9	ug/kg	UJK
	71432	Benzene	4.9	ug/kg	UJK
	98828	Benzene, (1-methylethyl)-	4 9	ug/kg	UJK
	95636	Benzene, 1,2,4-trimethyl-	4.9	ug/kg	UJK
	95501	Benzene, 1,2-dichloro-	4 9	ug/kg	UJK
	95476	Benzene, 1,2-dimethyl-	4 9	ug/kg	UJK
	108678	Benzene, 1,3,5-trimethyl-	4 9	ug/kg	UJK
	541731	Benzene, 1,3-dichloro-	4 9	ug/kg	UJK
	106467	Benzene, 1,4-dichloro-	4 9	ug/kg	UJK
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	4 9	ug/kg	UJK
	108907	Benzene, chloro-	4 9	ug/kg	UJK
	100425	Benzene, ethenyl-	4 9	ug/kg	UJK
	103651	Benzene, propyl-	4 9	ug/kg	UJK
	98066	Benzene, tert-butyl-	4 9	ug/kg	UJK
	108861	Bromobenzene	4 9	ug/kg	UJK
	74975	Bromochloromethane	9 8	ug/kg	UJK
	75274	Bromodichloromethane	4 9	ug/kg	UJK
	75252	Bromoform	9 8	ug/kg	UJK
	74839	Bromomethane	4 9	ug/kg	UJK
	75150	Carbon disulfide	4 9	ug/kg	UJK
	56235	Carbon Tetrachloride	4 9	ug/kg	UJK
	156592	cis-1,2-Dichloroethene	4 9	ug/kg	UJK
	10061015	cis-1,3-Dichloropropene	5 2	ug/kg	UJK
	124481	Dibromochloromethane	4 9	ug/kg	UJK
	74953	Dibromomethane	4 9	ug/kg	UJK
	79345	Ethane, 1,1,2,2-tetrachloro-	4 9	ug/kg	UJK
	106934	Ethane, 1,2-dibromo-	4 9	ug/kg	UJK
	156605	Ethene, 1,2-dichloro-, (E)-	4 9	ug/kg	UJK
	79016	Ethene, trichloro-	9 8	ug/kg	UJK
	75003	Ethyl Chloride	4 9	ug/kg	UJK
	100414	Ethylbenzene	4 9	ug/kg	UJK

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Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes	75694	Freon 11	9 8	ug/kg	UJK
	75718	Freon 12	4.9	ug/kg	UJK
	87683	Hexachlorobutadiene	4 9	ug/kg	UJK
	74873	Methane, chloro-	4 9	ug/kg	UJK
	67663	Methane, trichloro-	4 9	ug/kg	UJK
	75092	Methylene Chloride	72 0	ug/kg	UJK
	*1330207	MP-Xylene	9 8	ug/kg	UJK
	104518	n-Butylbenzene	4 9	ug/kg	UJK
	91203	Naphthalene	9 8	ug/kg	UJK
	135988	sec-Butylbenzene	4 9	ug/kg	UJK
	127184	Tetrachloroethene	4 9	ug/kg	UJK
	108883	Toluene	4 9	ug/kg	UJK
	10061026	Trans-1,3-Dichloropropene	9 2	ug/kg	UJK
	75014	Vinyl Chloride	4 9	ug/kg	UJK
	2199691	1,2-Dichlorobenzene-d4	106	%Rec	
	17060070	1,2-Dichloroethane-d4	116	%Rec	
	540363	Benzene, 1,4-difluoro-	97.2	%Rec	
	460004	p-Bromofluorobenzene	104	%Rec	
	2037265	Toluene-d8	99 6	%Rec	

Parameter : Volatiles - Tentatives
Method : 8260-M
Prep Method:

Analytes :	3789853	Benzoic acid, 2-[(trimethylsil yl)oxy]-,	356	ug/kg	NJ
	*3008001	Unknown 01	38.5	ug/kg	NJ

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[redacted]98314029 Rep sample [redacted]

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314030
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3540/608	Soxhlet extraction			
Analytes	309002	Aldrin	1.6	ug/kg	U
	319846	Alpha-BHC	1 6	ug/kg	U
	319857	Beta-BHC	1.6	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1 6	ug/kg	U
	319868	Delta-BHC	1.6	ug/kg	U
	60571	Dieldrin	3.2	ug/kg	U
	959988	Endosulfan I	1.6	ug/kg	U
	33213659	Endosulfan II	3.2	ug/kg	U
	1031078	Endosulfan Sulfate	3 2	ug/kg	U
	72208	Endrin	3 2	ug/kg	U
	7421934	Endrin Aldehyde	3 2	ug/kg	U
	53494705	Endrin Ketone	3.2	ug/kg	U
	5103742	Gamma-Chlordane	1.6	ug/kg	U
	76448	Heptachlor	1.6	ug/kg	U
	1024573	Heptachlor Epoxide	1.6	ug/kg	U
	58899	Lindane	1.6	ug/kg	U
	72435	Methoxychlor	16	ug/kg	U
	72548	P,P'-DDD	3 2	ug/kg	U
	72559	P,P'-DDE	3.2	ug/kg	U
	50293	P,P'-DDT	3.2	ug/kg	U
	12674112	PCB-1016	32	ug/kg	U
	11104282	PCB-1221	65	ug/kg	U
	11141165	PCB-1232	32	ug/kg	U
	53469219	PCB-1242	32	ug/kg	U
	12672296	PCB-1248	32	ug/kg	U
	11097691	PCB-1254	32	ug/kg	U
	11096825	PCB-1260	32	ug/kg	U
	8001352	Toxaphene	162	ug/kg	U
	*2051243	Decachlorobiphenyl	130	%Rec	
	*300105	Tetrachlorometaxylene	125	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	162	ug/kg	U

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			Result	Units	Qlfr
Analytes	122667	1,2-Diphenylhydrazine	162	ug/kg	U
	95954	2,4,5-Trichlorophenol	162	ug/kg	U
	88062	2,4,6-Trichlorophenol	162	ug/kg	U
	120832	2,4-Dichlorophenol	324	ug/kg	U
	105679	2,4-Dimethylphenol	162	ug/kg	U
	51285	2,4-Dinitrophenol	1620	ug/kg	U
	121142	2,4-Dinitrotoluene	324	ug/kg	U
	606202	2,6-Dinitrotoluene	324	ug/kg	U
	91587	2-Chloronaphthalene	162	ug/kg	U
	95578	2-Chlorophenol	162	ug/kg	U
	88744	2-Nitroaniline	809	ug/kg	U
	88755	2-Nitrophenol	809	ug/kg	U
	91941	3,3'-Dichlorobenzidine	647	ug/kg	UJK
	99092	3-Nitroaniline	324	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1620	ug/kg	U
	101553	4-Bromophenyl-Phenylether	162	ug/kg	U
	59507	4-Chloro-3-methylphenol	809	ug/kg	U
	106478	4-Chloroaniline	162	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	162	ug/kg	U
	106445	4-Methylphenol	162	ug/kg	U
	100016	4-Nitroaniline	809	ug/kg	U
	100027	4-Nitrophenol	809	ug/kg	U
	86748	9H-Carbazole	162	ug/kg	U
	86737	9H-Fluorene	162	ug/kg	U
	83329	Acenaphthene	162	ug/kg	U
	208968	Acenaphthylene	162	ug/kg	U
	62533	Aniline	162	ug/kg	U
	120127	Anthracene	162	ug/kg	U
	95501	Benzene, 1,2-dichloro-	162	ug/kg	U
	541731	Benzene, 1,3-dichloro-	162	ug/kg	U
	106467	Benzene, 1,4-dichloro-	162	ug/kg	U
	100516	Benzenemethanol	809	ug/kg	U
	92875	Benzidine	647	ug/kg	UJK
	56553	Benzo(a)anthracene	162	ug/kg	U
	50328	Benzo(a)pyrene	162	ug/kg	U
	191242	Benzo(g,h,i)perylene	324	ug/kg	U
	205992	Benzo[b]Fluoranthene	162	ug/kg	U
	207089	Benzo[k]fluoranthene	162	ug/kg	U
	65850	Benzoic acid	1620	ug/kg	U
	111444	bis(2-Chloroethyl)ether	162	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	162	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	809	ug/kg	U
	85687	Butylbenzylphthalate	162	ug/kg	U
	218019	Chrysene	162	ug/kg	U
	84742	Di-n-Butylphthalate	162	ug/kg	U
	117840	Di-n-octylphthalate	324	ug/kg	U
	53703	Dibenz[a,h]anthracene	162	ug/kg	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	162	ug/kg	U
	84662	Diethyl phthalate	162	ug/kg	U
	131113	Dimethylphthalate	162	ug/kg	U
	206440	Fluoranthene	162	ug/kg	U
	118741	Hexachlorobenzene	162	ug/kg	U
	87683	Hexachlorobutadiene	809	ug/kg	U
	77474	Hexachlorocyclopentadiene	809	ug/kg	U
	67721	Hexachloroethane	162	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	162	ug/kg	U
	78591	Isophorone	162	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	162	ug/kg	U
	621647	N-Nitrosodinpropylamine	162	ug/kg	U
	86306	n-Nitrosodiphenylamine	162	ug/kg	U
	91203	Naphthalene	162	ug/kg	U
	90120	Naphthalene, 1-methyl-	162	ug/kg	U
	91576	Naphthalene, 2-methyl-	162	ug/kg	U
	98953	Nitrobenzene	162	ug/kg	U
	87865	Pentachlorophenol	324	ug/kg	U
	85018	Phenanthrene	162	ug/kg	U
	108952	Phenol	162	ug/kg	U
	95487	Phenol, 2-methyl-	162	ug/kg	U
	129000	Pyrene	162	ug/kg	U
	483658	Retene	162	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	115	%Rec	
	2199691	1,2-Dichlorobenzene-d4	97 8	%Rec	
	93951736	2-chlorophenol-d4	113	%Rec	
	1718521	D10-Pyrene	108	%Rec	
	4165600	Nitrobenzene-d5	106	%Rec	
	367124	Phenol, 2-fluoro-	111	%Rec	
	4165622	Phenol-d5	99 3	%Rec	
	1718510	Terphenyl-d14	111	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method					
Analytes	***3008001**	**Unknown 01**	**2600**	**ug/kg**	**NJ**
	83008002	**Unknown 02**	**971**	**ug/kg**	**NJ**
	***3008003**	**Unknown 03**	**1920**	**ug/kg**	**NJ**
Parameter	Volatiles				
Method	8260-M				
Prep Method:					
Analytes	630206	1,1,1,2-Tetrachloroethane	2.4	ug/kg	U
	71556	1,1,1-Trichloroethane	2 4	ug/kg	U
	79005	1,1,2-Trichloroethane	2 4	ug/kg	U
	75343	1,1-Dichloroethane	2 4	ug/kg	U
	75354	1,1-Dichloroethene	2 4	ug/kg	U
	563586	1,1-Dichloropropene	2 4	ug/kg	U

			Result	Units	Qlfr
Analytes	87616	1,2,3-Trichlorobenzene	4 7	ug/kg	U
	96184	1,2,3-Trichloropropane	2 4	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4 7	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4 7	ug/kg	U
	107062	1,2-Dichloroethane	2.4	ug/kg	U
	78875	1,2-Dichloropropane	2 4	ug/kg	U
	142289	1,3-Dichloropropane	2 4	ug/kg	U
	594207	2,2-Dichloropropane	2 4	ug/kg	U
	78933	2-Butanone	23 6	ug/kg	UJK
	95498	2-Chlorotoluene	2 4	ug/kg	U
	591786	2-Hexanone	9 4	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2 4	ug/kg	U
	67641	2-Propanone	115	ug/kg	U
	106434	4-Chlorotoluene	2 4	ug/kg	U
	71432	Benzene	2 4	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2 4	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.4	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.4	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2.4	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2.4	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2 4	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 4	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2 4	ug/kg	U
	108907	Benzene, chloro-	2 4	ug/kg	U
	100425	Benzene, ethenyl-	2 4	ug/kg	U
	103651	Benzene, propyl-	2.4	ug/kg	U
	98066	Benzene, tert-butyl-	2 4	ug/kg	U
	108861	Bromobenzene	2 4	ug/kg	U
	74975	Bromochloromethane	4 7	ug/kg	U
	75274	Bromodichloromethane	2 4	ug/kg	U
	75252	Bromoform	4 7	ug/kg	U
	74839	Bromomethane	2 4	ug/kg	U
	75150	Carbon disulfide	2 4	ug/kg	U
	56235	Carbon Tetrachloride	2 4	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 4	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 5	ug/kg	U
	124481	Dibromochloromethane	2 4	ug/kg	U
	74953	Dibromomethane	2 4	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 4	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2 4	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2 4	ug/kg	U
	79016	Ethene, trichloro-	4 7	ug/kg	U
	75003	Ethyl Chloride	2 4	ug/kg	U
	100414	Ethylbenzene	2 4	ug/kg	U
	75694	Freon 11	4 7	ug/kg	U
	75718	Freon 12	2 4	ug/kg	U
	87683	Hexachlorobutadiene	2 4	ug/kg	U

			Result	Units	Qlfr
Analytes	. 74873	Methane, chloro-	2 4	ug/kg	U
	67663	Methane, trichloro-	2 4	ug/kg	U
	75092	Methylene Chloride	48 0	ug/kg	UJK
	*1330207	MP-Xylene	4 7	ug/kg	U
	104518	n-Butylbenzene	2 4	ug/kg	U
	91203	Naphthalene	4 7	ug/kg	U
	135988	sec-Butylbenzene	2 4	ug/kg	U
	127184	Tetrachloroethene	2 4	ug/kg	U
	108883	Toluene	2 4	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	4 4	ug/kg	U
	75014	Vinyl Chloride	2 4	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	101	%Rec	
	17060070	1,2-Dichloroethane-d4	108	%Rec	
	540363	Benzene, 1,4-difluoro-	99 9	%Rec	
	460004	p-Bromofluorobenzene	103	%Rec	
	2037265	Toluene-d8	99 4	%Rec	
Parameter	: Volatiles - Tentatives				
Method	: 8260-M				
Prep Method:					
Analytes	: ***3008001**	**Unknown 01**	**8.6**	**ug/kg**	**NJ**

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	98314031
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3540/608	Soxhlet extraction			
Analytes :	309002	Aldrin	2 4	ug/kg	U
	319846	Alpha-BHC	2.4	ug/kg	U
	319857	Beta-BHC	2 4	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	2.4	ug/kg	U
	319868	Delta-BHC	2 4	ug/kg	U
	60571	Dieldrin	4 8	ug/kg	U
	959988	Endosulfan I	2.4	ug/kg	U
	33213659	Endosulfan II	4 8	ug/kg	U
	1031078	Endosulfan Sulfate	4 8	ug/kg	U
	72208	Endrin	4 8	ug/kg	U
	7421934	Endrin Aldehyde	4 8	ug/kg	U
	53494705	Endrin Ketone	4 8	ug/kg	U
	5103742	Gamma-Chlordane	2 4	ug/kg	U
	76448	Heptachlor	2.4	ug/kg	U
	1024573	Heptachlor Epoxide	2 4	ug/kg	U
	58899	Lindane	2 4	ug/kg	U
	72435	Methoxychlor	24	ug/kg	U
	72548	P,P'-DDD	4 8	ug/kg	U
	72559	P,P'-DDE	4 8	ug/kg	U
	50293	P,P'-DDT	4 8	ug/kg	U
	12674112	PCB-1016	96	ug/kg	U
	11104282	PCB-1221	136	ug/kg	U
	11141165	PCB-1232	48	ug/kg	U
	53469219	PCB-1242	48	ug/kg	U
	12672296	PCB-1248	48	ug/kg	U
	11097691	PCB-1254	48	ug/kg	U
	11096825	PCB-1260	48	ug/kg	U
	8001352	Toxaphene	240	ug/kg	U
	*2051243	Decachlorobiphenyl	125	%Rec	
	*300105	Tetrachlorometaxylene	121	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	240	ug/kg	U

			Result	Units	Qlfr
Analytes	122667	1,2-Diphenylhydrazine	240	ug/kg	U
	95954	2,4,5-Trichlorophenol	240	ug/kg	U
	88062	2,4,6-Trichlorophenol	240	ug/kg	U
	120832	2,4-Dichlorophenol	480	ug/kg	U
	105679	2,4-Dimethylphenol	240	ug/kg	U
	51285	2,4-Dinitrophenol	2400	ug/kg	U
	121142	2,4-Dinitrotoluene	480	ug/kg	U
	606202	2,6-Dinitrotoluene	480	ug/kg	U
	91587	2-Chloronaphthalene	240	ug/kg	U
	95578	2-Chlorophenol	240	ug/kg	U
	88744	2-Nitroaniline	1200	ug/kg	U
	88755	2-Nitrophenol	1200	ug/kg	U
	91941	3,3'-Dichlorobenzidine	960	ug/kg	UJK
	99092	3-Nitroaniline	480	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	2400	ug/kg	U
	101553	4-Bromophenyl-Phenylether	240	ug/kg	U
	59507	4-Chloro-3-methylphenol	1200	ug/kg	U
	106478	4-Chloroaniline	240	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	240	ug/kg	U
	106445	4-Methylphenol	240	ug/kg	U
	100016	4-Nitroaniline	1200	ug/kg	U
	100027	4-Nitrophenol	1200	ug/kg	U
	86748	9H-Carbazole	240	ug/kg	U
	86737	9H-Fluorene	240	ug/kg	U
	83329	Acenaphthene	240	ug/kg	U
	208968	Acenaphthylene	240	ug/kg	U
	62533	Aniline	240	ug/kg	U
	120127	Anthracene	240	ug/kg	U
	95501	Benzene, 1,2-dichloro-	240	ug/kg	U
	541731	Benzene, 1,3-dichloro-	240	ug/kg	U
	106467	Benzene, 1,4-dichloro-	240	ug/kg	U
	100516	Benzenemethanol	1200	ug/kg	U
	92875	Benzidine	960	ug/kg	UJK
	56553	Benzo(a)anthracene	240	ug/kg	U
	50328	Benzo(a)pyrene	240	ug/kg	U
	191242	Benzo(g,h,i)perylene	480	ug/kg	U
	205992	Benzo[b]Fluoranthene	240	ug/kg	U
	207089	Benzo[k]fluoranthene	240	ug/kg	U
	65850	Benzoic acid	2400	ug/kg	U
	111444	bis(2-Chloroethyl)ether	240	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	240	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	1200	ug/kg	U
	85687	Butylbenzylphthalate	240	ug/kg	U
	218019	Chrysene	240	ug/kg	U
	84742	Di-n-Butylphthalate	240	ug/kg	U
	117840	Di-n-octylphthalate	480	ug/kg	U
	53703	Dibenz[a,h]anthracene	240	ug/kg	U

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Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	240	ug/kg	U
	84662	Diethyl phthalate	240	ug/kg	U
	131113	Dimethylphthalate	240	ug/kg	U
	206440	Fluoranthene	240	ug/kg	U
	118741	Hexachlorobenzene	240	ug/kg	U
	87683	Hexachlorobutadiene	1200	ug/kg	U
	77474	Hexachlorocyclopentadiene	1200	ug/kg	U
	67721	Hexachloroethane	240	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	240	ug/kg	U
	78591	Isophorone	240	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	240	ug/kg	U
	621647	N-Nitrosodinpropylamine	240	ug/kg	U
	86306	n-Nitrosodiphenylamine	240	ug/kg	U
	91203	Naphthalene	240	ug/kg	U
	90120	Naphthalene, 1-methyl-	240	ug/kg	U
	91576	Naphthalene, 2-methyl-	240	ug/kg	U
	98953	Nitrobenzene	480	ug/kg	U
	87865	Pentachlorophenol	240	ug/kg	U
	85018	Phenanthrene	240	ug/kg	U
	108952	Phenol	240	ug/kg	U
	95487	Phenol, 2-methyl-	240	ug/kg	U
	129000	Pyrene	240	ug/kg	U
	483658	Retene	104	%Rec	
	321608	1,1'-Biphenyl, 2-fluoro-	82 9	%Rec	
	2199691	1,2-Dichlorobenzene-d4	106	%Rec	
	93951736	2-chlorophenol-d4	106	%Rec	
	1718521	D10-Pyrene	106	%Rec	
	4165600	Nitrobenzene-d5	99 7	%Rec	
	367124	Phenol, 2-fluoro-	92 3	%Rec	
	4165622	Phenol-d5	108	%Rec	
	1718510	Terphenyl-d14			

Parameter : Semi-volatiles - Tentatives
Method 8270-M
Prep Method

Analytes	83476	.gamma.-Sitosterol	15300	ug/kg	NJ
	36653824	1-Hexadecanol	1970	ug/kg	NJ
	629970	Docosane	4420	ug/kg	NJ
	593497	Heptacosane	5200	ug/kg	NJ
	638664	Octadecanal	1240	ug/kg	NJ
	630079	Pentatriacontane	4420	ug/kg	NJ
	*3008001	Unknown 01	2420	ug/kg	NJ
	*3008002	Unknown 02	6660	ug/kg	NJ
	*3008003	Unknown 03	2660	ug/kg	NJ
	*3008004	Unknown 04	8610	ug/kg	NJ
	*3008005	Unknown 05	2290	ug/kg	NJ
	*3008006	Unknown 06	3120	ug/kg	NJ
	*3008007	Unknown 07	5940	ug/kg	NJ

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			Result	Units	Qlfr
Analytes	*3008008	Unknown 08	8280	ug/kg	NJ
	*3008009	Unknown 09	3640	ug/kg	NJ
Parameter	Volatiles				
Method	8260-M				
Prep Method:					
Analytes	630206	1,1,1,2-Tetrachloroethane	3.5	ug/kg	U
	71556	1,1,1-Trichloroethane	3.5	ug/kg	U
	79005	1,1,2-Trichloroethane	3.5	ug/kg	U
	75343	1,1-Dichloroethane	3.5	ug/kg	U
	75354	1,1-Dichloroethene	3.5	ug/kg	U
	563586	1,1-Dichloropropene	3 5	ug/kg	U
	87616	1,2,3-Trichlorobenzene	7 0	ug/kg	U
	96184	1,2,3-Trichloropropane	3.5	ug/kg	U
	120821	1,2,4-Trichlorobenzene	7.0	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	7 0	ug/kg	U
	107062	1,2-Dichloroethane	3.5	ug/kg	U
	78875	1,2-Dichloropropane	3 5	ug/kg	U
	142289	1,3-Dichloropropane	3 5	ug/kg	U
	594207	2,2-Dichloropropane	3.5	ug/kg	U
	78933	2-Butanone	35 2	ug/kg	UJK
	95498	2-Chlorotoluene	3.5	ug/kg	U
	591786	2-Hexanone	14 1	ug/kg	U
	108101	2-Pentanone, 4-methyl-	3 5	ug/kg	U
	67641	2-Propanone	70 4	ug/kg	U
	106434	4-Chlorotoluene	3 5	ug/kg	U
	71432	Benzene	3.5	ug/kg	U
	98828	Benzene, (1-methylethyl)-	3 5	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	3 5	ug/kg	U
	95501	Benzene, 1,2-dichloro-	3 5	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	3 5	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	3.5	ug/kg	U
	541731	Benzene, 1,3-dichloro-	3 5	ug/kg	U
	106467	Benzene, 1,4-dichloro-	3 5	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3 5	ug/kg	U
	108907	Benzene, chloro-	3 5	ug/kg	U
	100425	Benzene, ethenyl-	3 5	ug/kg	U
	103651	Benzene, propyl-	3 5	ug/kg	U
	98066	Benzene, tert-butyl-	3 5	ug/kg	U
	108861	Bromobenzene	3 5	ug/kg	U
	74975	Bromochloromethane	7 0	ug/kg	U
	75274	Bromodichloromethane	3 5	ug/kg	U
	75252	Bromoform	7 0	ug/kg	U
	74839	Bromomethane	3.5	ug/kg	U
	75150	Carbon disulfide	3 5	ug/kg	U
	56235	Carbon Tetrachloride	3 5	ug/kg	U
	156592	cis-1,2-Dichloroethene	3 5	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3 7	ug/kg	U

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			Result	Units	Qlfr
Analytes	. 124481	Dibromochloromethane	3 5	ug/kg	U
	74953	Dibromomethane	3.5	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3 5	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3 5	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3 5	ug/kg	U
	79016	Ethene, trichloro-	7 0	ug/kg	U
	75003	Ethyl Chloride	3 5	ug/kg	U
	100414	Ethylbenzene	3 5	ug/kg	U
	75694	Freon 11	7 0	ug/kg	U
	75718	Freon 12	3 5	ug/kg	U
	87683	Hexachlorobutadiene	3 5	ug/kg	U
	74873	Methane, chloro-	3 5	ug/kg	U
	67663	Methane, trichloro-	3.5	ug/kg	U
	75092	Methylene Chloride	128	ug/kg	UJK
	*1330207	MP-Xylene	7 0	ug/kg	U
	104518	n-Butylbenzene	3 5	ug/kg	U
	91203	Naphthalene	7 0	ug/kg	U
	135988	sec-Butylbenzene	3.5	ug/kg	U
	127184	Tetrachloroethene	3.5	ug/kg	U
	108883	Toluene	3.5	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	6.6	ug/kg	U
	75014	Vinyl Chloride	3.5	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	93.1	%Rec	
	17060070	1,2-Dichloroethane-d4	106	%Rec	
	540363	Benzene, 1,4-difluoro-	98 6	%Rec	
	460004	p-Bromofluorobenzene	86 2	%Rec	
	2037265	Toluene-d8	103	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314032
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3510M	liq-liq extraction via stir-bar			
Analytes	309002	Aldrin	0 014	ug/L	U
	319846	Alpha-BHC	0 014	ug/L	U
	319857	Beta-BHC	0 014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0 014	ug/L	U
	319868	Delta-BHC	0.014	ug/L	U
	60571	Dieldrin	0 028	ug/L	U
	959988	Endosulfan I	0.014	ug/L	U
	33213659	Endosulfan II	0.028	ug/L	U
	1031078	Endosulfan Sulfate	0 028	ug/L	U
	72208	Endrin	0 028	ug/L	U
	7421934	Endrin Aldehyde	0 028	ug/L	U
	53494705	Endrin Ketone	0 028	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0 014	ug/L	U
	1024573	Heptachlor Epoxide	0 014	ug/L	U
	58899	Lindane	0 014	ug/L	U
	72435	Methoxychlor	0 14	ug/L	U
	72548	P,P'-DDD	0.028	ug/L	U
	72559	P,P'-DDE	0 028	ug/L	U
	50293	P,P'-DDT	0 028	ug/L	U
	12674112	PCB-1016	0 28	ug/L	U
	11104282	PCB-1221	0 56	ug/L	U
	11141165	PCB-1232	0.28	ug/L	U
	53469219	PCB-1242	0.28	ug/L	U
	12672296	PCB-1248	0 28	ug/L	U
	11097691	PCB-1254	0 28	ug/L	U
	11096825	PCB-1260	0 28	ug/L	U
	8001352	Toxaphene	1 4	ug/L	U
	*2051243	Decachlorobiphenyl	96	%Rec	
	*300105	Tetrachlorometaxylene	62	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	0 28	ug/L	U

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			Result	Units	Qlfr
Analytes	122667	1,2-Diphenylhydrazine	0 28	ug/L	U
	95954	2,4,5-Trichlorophenol	0 28	ug/L	U
	88062	2,4,6-Trichlorophenol	0 28	ug/L	U
	120832	2,4-Dichlorophenol	0 57	ug/L	U
	105679	2,4-Dimethylphenol	0.28	ug/L	U
	51285	2,4-Dinitrophenol	2 8	ug/L	U
	121142	2,4-Dinitrotoluene	0 57	ug/L	U
	606202	2,6-Dinitrotoluene	0 57	ug/L	U
	91587	2-Chloronaphthalene	0.28	ug/L	U
	95578	2-Chlorophenol	0 28	ug/L	U
	88744	2-Nitroaniline	1 4	ug/L	U
	88755	2-Nitrophenol	1 4	ug/L	U
	91941	3,3'-Dichlorobenzidine	1 1	ug/L	U
	99092	3-Nitroaniline	0.57	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2.8	ug/L	U
	101553	4-Bromophenyl-Phenylether	0 28	ug/L	U
	59507	4-Chloro-3-methylphenol	1 4	ug/L	U
	106478	4-Chloroaniline	0 28	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0 28	ug/L	U
	106445	4-Methylphenol	0 28	ug/L	U
	100016	4-Nitroaniline	1 4	ug/L	U
	100027	4-Nitrophenol	1 4	ug/L	U
	86748	9H-Carbazole	0.28	ug/L	U
	86737	9H-Fluorene	0.28	ug/L	U
	83329	Acenaphthene	0.28	ug/L	U
	208968	Acenaphthylene	0 28	ug/L	U
	62533	Aniline	0 28	ug/L	U
	120127	Anthracene	0 28	ug/L	U
	95501	Benzene, 1,2-dichloro-	0 28	ug/L	U
	541731	Benzene, 1,3-dichloro-	0 28	ug/L	U
	106467	Benzene, 1,4-dichloro-	0.28	ug/L	U
	100516	Benzenemethanol	1 4	ug/L	U
	92875	Benzidine	1 1	ug/L	U
	56553	Benzo(a)anthracene	0 28	ug/L	U
	50328	Benzo(a)pyrene	0 28	ug/L	U
	191242	Benzo(g,h,i)perylene	0.57	ug/L	U
	205992	Benzo[b]Fluoranthene	0 28	ug/L	U
	207089	Benzo[k]fluoranthene	0 28	ug/L	U
	65850	Benzoic acid	2 8	ug/L	U
	111444	bis(2-Chloroethyl)ether	0 28	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0 28	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1 4	ug/L	U
	85687	Butylbenzylphthalate	0 28	ug/L	U
	218019	Chrysene	0 28	ug/L	U
	84742	Di-n-Butylphthalate	0 28	ug/L	U
	117840	Di-n-octylphthalate	0 57	ug/L	U
	53703	Dibenz[a,h]anthracene	0 28	ug/L	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	0.28	ug/L	U
	84662	Diethyl phthalate	0 28	ug/L	U
	131113	Dimethylphthalate	0.28	ug/L	U
	206440	Fluoranthene	0 28	ug/L	U
	118741	Hexachlorobenzene	0 28	ug/L	U
	87683	Hexachlorobutadiene	1 4	ug/L	U
	77474	Hexachlorocyclopentadiene	1 4	ug/L	U
	67721	Hexachloroethane	0 28	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.28	ug/L	U
	78591	Isophorone	0 28	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.28	ug/L	U
	621647	N-Nitrosodinpropylamine	0.28	ug/L	U
	86306	n-Nitrosodiphenylamine	0.28	ug/L	U
	91203	Naphthalene	0 28	ug/L	U
	90120	Naphthalene, 1-methyl-	0 28	ug/L	U
	91576	Naphthalene, 2-methyl-	0.28	ug/L	U
	98953	Nitrobenzene	0.28	ug/L	U
	87865	Pentachlorophenol	0.57	ug/L	U
	85018	Phenanthrene	0.28	ug/L	U
	108952	Phenol	0 28	ug/L	U
	95487	Phenol, 2-methyl-	0.28	ug/L	U
	129000	Pyrene	0 28	ug/L	U
	483658	Retene	0.28	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	31.2	%Rec	
	2199691	1,2-Dichlorobenzene-d4	32.8	%Rec	
	93951736	2-chlorophenol-d4	84.6	%Rec	
	1718521	D10-Pyrene	92 7	%Rec	
	4165600	Nitrobenzene-d5	85 2	%Rec	
	367124	Phenol, 2-fluoro-	56.8	%Rec	
	4165622	Phenol-d5	36.6	%Rec	
	1718510	Terphenyl-d14	95 5	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method					
Analytes	6754661	5(1H)-Azulenone, 2,4,6,7,8,8a-hexahydro-	1.8	ug/L	NJ
	630068	Hexatriacontane	1.5	ug/L	NJ
	*3008001	Unknown 01	3.6	ug/L	NJ
Parameter	Volatiles				
Method	8260-M				
Prep Method					
Analytes	630206	1,1,1,2-Tetrachloroethane	1 0	ug/L	U
	71556	1,1,1-Trichloroethane	2 0	ug/L	U
	79005	1,1,2-Trichloroethane	1 0	ug/L	U
	75343	1,1-Dichloroethane	1 0	ug/L	U
	75354	1,1-Dichloroethene	1 0	ug/L	U

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			Result	Units	Qlfr
Analytes	513882	1,1-Dichloropropanone	2 0	ug/L	U
	563586	1,1-Dichloropropene	1 0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1 0	ug/L	U
	96184	1,2,3-Trichloropropane	1 0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1 0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1 0	ug/L	U
	107062	1,2-Dichloroethane	1 0	ug/L	U
	78875	1,2-Dichloropropane	1 0	ug/L	U
	142289	1,3-Dichloropropane	1.0	ug/L	U
	594207	2,2-Dichloropropane	1 0	ug/L	U
	78933	2-Butanone	2 0	ug/L	U
	95498	2-Chlorotoluene	1 0	ug/L	U
	591786	2-Hexanone	2 0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2 0	ug/L	U
	67641	2-Propanone	4 0	ug/L	U
	106434	4-Chlorotoluene	1.0	ug/L	U
	71432	Benzene	1 0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1 0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1 0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1 0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1.0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1 0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1 0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1 0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1 0	ug/L	U
	108907	Benzene, chloro-	1.0	ug/L	U
	100425	Benzene, ethenyl-	1 0	ug/L	U
	103651	Benzene, propyl-	1 0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1 0	ug/L	U
	74975	Bromochloromethane	1.0	ug/L	U
	75274	Bromodichloromethane	1.0	ug/L	U
	75252	Bromoform	1.0	ug/L	U
	74839	Bromomethane	1 0	ug/L	U
	75150	**Carbon disulfide**	**23.8**	**ug/L**	
	56235	Carbon Tetrachloride	1 0	ug/L	U
	156592	cis-1,2-Dichloroethene	1 0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1 1	ug/L	U
	124481	Dibromochloromethane	1 0	ug/L	U
	74953	Dibromomethane	1 0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1 0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1 0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1 0	ug/L	U
	79016	Ethene, trichloro-	1 0	ug/L	U
	75003	Ethyl Chloride	1 0	ug/L	U
	100414	Ethylbenzene	1 0	ug/L	U
	75694	Freon 11	1 0	ug/L	U

Report by Parameter for Project TEC-721A

			Result	Units	Qlfr
Analytes	75718	Freon 12	1 0	ug/L	U
	87683	Hexachlorobutadiene	1 0	ug/L	U
	74873	Methane, chloro-	1.0	ug/L	U
	67663	Methane, trichloro-	1 0	ug/L	U
	75092	Methylene Chloride	2.0	ug/L	U
	*1330207	MP-Xylene	2.0	ug/L	U
	104518	n-Butylbenzene	1.0	ug/L	U
	91203	Naphthalene	1 0	ug/L	U
	135988	sec-Butylbenzene	1.0	ug/L	U
	127184	Tetrachloroethene	1 0	ug/L	U
	108883	Toluene	1 0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0 94	ug/L	U
	75014	Vinyl Chloride	1.0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	96 6	%Rec	
	17060070	1,2-Dichloroethane-d4	102	%Rec	
	540363	Benzene, 1,4-difluoro-	97 9	%Rec	
	460004	p-Bromofluorobenzene	104	%Rec	
	2037265	Toluene-d8	102	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314034
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:	MS/MSD		

GCMS

Parameter : *Volatiles*
Method : 8260-M
Prep Method.

			Result	Units	Qlfr
Analytes	630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
	71556	1,1,1-Trichloroethane	2.0	ug/L	U
	79005	1,1,2-Trichloroethane	1.0	ug/L	U
	75343	1,1-Dichloroethane	1 0	ug/L	U
	75354	1,1-Dichloroethene	1.0	ug/L	U
	513882	1,1-Dichloropropanone	2.0	ug/L	U
	563586	1,1-Dichloropropene	1.0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1.0	ug/L	U
	96184	1,2,3-Trichloropropane	1 0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1 0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1 0	ug/L	U
	107062	1,2-Dichloroethane	1.0	ug/L	U
	78875	1,2-Dichloropropane	1 0	ug/L	U
	142289	1,3-Dichloropropane	1 0	ug/L	U
	594207	2,2-Dichloropropane	1.0	ug/L	U
	78933	2-Butanone	2 0	ug/L	U
	95498	2-Chlorotoluene	1 0	ug/L	U
	591786	2-Hexanone	2 0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
	67641	2-Propanone	4 0	ug/L	U
	106434	4-Chlorotoluene	1 0	ug/L	U
	71432	Benzene	1 0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1 0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1 0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1 0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1 0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1 0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1 0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1 0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1 0	ug/L	U
	108907	Benzene, chloro-	1 0	ug/L	U
	100425	Benzene, ethenyl-	1 0	ug/L	U
	103651	Benzene, propyl-	1 0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1 0	ug/L	U
	74975	Bromochloromethane	1 0	ug/L	U

			Result	Units	Qlfr
Analytes	75274	Bromodichloromethane	1 0	ug/L	U
	75252	Bromoform	1 0	ug/L	U
	74839	Bromomethane	1.0	ug/L	U
	75150	Carbon disulfide	2 0	ug/L	U
	56235	Carbon Tetrachloride	1 0	ug/L	U
	156592	cis-1,2-Dichloroethene	1 0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1 1	ug/L	U
	124481	Dibromochloromethane	1 0	ug/L	U
	74953	Dibromomethane	1 0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1.0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1 0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1 0	ug/L	U
	79016	Ethene, trichloro-	1.0	ug/L	U
	75003	Ethyl Chloride	1 0	ug/L	U
	100414	Ethylbenzene	1.0	ug/L	U
	75694	Freon 11	1.0	ug/L	U
	75718	Freon 12	1.0	ug/L	U
	87683	Hexachlorobutadiene	1.0	ug/L	U
	74873	Methane, chloro-	1.0	ug/L	U
	67663	Methane, trichloro-	1 0	ug/L	U
	75092	Methylene Chloride	2 0	ug/L	U
	*1330207	MP-Xylene	2 0	ug/L	U
	104518	n-Butylbenzene	1 0	ug/L	U
	91203	Naphthalene	1 0	ug/L	U
	135988	sec-Butylbenzene	1 0	ug/L	U
	127184	Tetrachloroethene	1.0	ug/L	U
	108883	Toluene	1 0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0 94	ug/L	U
	75014	Vinyl Chloride	1 0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	100	%Rec	
	17060070	1,2-Dichloroethane-d4	99 2	%Rec	
	540363	Benzene, 1,4-difluoro-	98 9	%Rec	
	460004	p-Bromofluorobenzene	102	%Rec	
	2037265	Toluene-d8	102	%Rec	

Project Code:	TEC-721A	**Collected:**	7/28/98
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	98314047
Account Code:	98T10PFAX10ZZLA00	**Type:**	Reg sample
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method.	3510M	liq-liq extraction via stir-bar			
Analytes	309002	Aldrin	0 014	ug/L	U
	319846	Alpha-BHC	0.014	ug/L	U
	319857	Beta-BHC	0 014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0 014	ug/L	U
	319868	Delta-BHC	0 014	ug/L	U
	60571	Dieldrin	0 029	ug/L	U
	959988	Endosulfan I	0 014	ug/L	U
	33213659	Endosulfan II	0 029	ug/L	U
	1031078	Endosulfan Sulfate	0 029	ug/L	U
	72208	Endrin	0 029	ug/L	U
	7421934	Endrin Aldehyde	0 029	ug/L	U
	53494705	Endrin Ketone	0 029	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0 014	ug/L	U
	1024573	Heptachlor Epoxide	0 014	ug/L	U
	58899	Lindane	0.014	ug/L	U
	72435	Methoxychlor	0 14	ug/L	U
	72548	P,P'-DDD	0 029	ug/L	U
	72559	P,P'-DDE	0 029	ug/L	U
	50293	P,P'-DDT	0 029	ug/L	U
	12674112	PCB-1016	0.29	ug/L	U
	11104282	PCB-1221	0 57	ug/L	U
	11141165	PCB-1232	0 29	ug/L	U
	53469219	PCB-1242	0 29	ug/L	U
	12672296	PCB-1248	0 29	ug/L	U
	11097691	PCB-1254	0.29	ug/L	U
	11096825	PCB-1260	0 29	ug/L	U
	8001352	Toxaphene	1 4	ug/L	U
	*2051243	Decachlorobiphenyl	93	%Rec	
	*300105	Tetrachlorometaxylene	54	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	0 28	ug/L	U

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			Result	Units	Qlfr
Analytes	122667	1,2-Diphenylhydrazine	0.28	ug/L	U
	95954	2,4,5-Trichlorophenol	0.28	ug/L	U
	88062	2,4,6-Trichlorophenol	0.28	ug/L	U
	120832	2,4-Dichlorophenol	0.56	ug/L	U
	105679	2,4-Dimethylphenol	0.28	ug/L	U
	51285	2,4-Dinitrophenol	2.8	ug/L	U
	121142	2,4-Dinitrotoluene	0 56	ug/L	U
	606202	2,6-Dinitrotoluene	0.56	ug/L	U
	91587	2-Chloronaphthalene	0 28	ug/L	U
	95578	2-Chlorophenol	0 28	ug/L	U
	88744	2-Nitroaniline	1 4	ug/L	U
	88755	2-Nitrophenol	1 4	ug/L	U
	91941	3,3'-Dichlorobenzidine	1 1	ug/L	U
	99092	3-Nitroaniline	0 56	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2 8	ug/L	U
	101553	4-Bromophenyl-Phenylether	0 28	ug/L	U
	59507	4-Chloro-3-methylphenol	1 4	ug/L	U
	106478	4-Chloroaniline	0.28	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.28	ug/L	U
	106445	4-Methylphenol	0.28	ug/L	U
	100016	4-Nitroaniline	1 4	ug/L	U
	100027	4-Nitrophenol	1 4	ug/L	U
	86748	9H-Carbazole	0 28	ug/L	U
	86737	9H-Fluorene	0.28	ug/L	U
	83329	Acenaphthene	0.28	ug/L	U
	208968	Acenaphthylene	0.28	ug/L	U
	62533	Aniline	0 28	ug/L	U
	120127	Anthracene	0 28	ug/L	U
	95501	Benzene, 1,2-dichloro-	0 28	ug/L	U
	541731	Benzene, 1,3-dichloro-	0 28	ug/L	U
	106467	Benzene, 1,4-dichloro-	0.28	ug/L	U
	100516	Benzenemethanol	1 4	ug/L	U
	92875	Benzidine	1 1	ug/L	U
	56553	Benzo(a)anthracene	0 28	ug/L	U
	50328	Benzo(a)pyrene	0 28	ug/L	U
	191242	Benzo(g,h,i)perylene	0.56	ug/L	U
	205992	Benzo[b]Fluoranthene	0.28	ug/L	U
	207089	Benzo[k]fluoranthene	0 28	ug/L	U
	65850	Benzoic acid	2 8	ug/L	U
	111444	bis(2-Chloroethyl)ether	0 28	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0.28	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1 4	ug/L	U
	85687	Butylbenzylphthalate	0.28	ug/L	U
	218019	Chrysene	0 28	ug/L	U
	84742	Di-n-Butylphthalate	0.28	ug/L	U
	117840	Di-n-octylphthalate	0 56	ug/L	U
	53703	Dibenz[a,h]anthracene	0 28	ug/L	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	0.28	ug/L	U
	84662	Diethyl phthalate	0.28	ug/L	U
	131113	Dimethylphthalate	0 28	ug/L	U
	206440	Fluoranthene	0 28	ug/L	U
	118741	Hexachlorobenzene	0 28	ug/L	U
	87683	Hexachlorobutadiene	1 4	ug/L	U
	77474	Hexachlorocyclopentadiene	1 4	ug/L	U
	67721	Hexachloroethane	0 28	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.28	ug/L	U
	78591	Isophorone	0 28	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.28	ug/L	U
	621647	N-Nitrosodinpropylamine	0.28	ug/L	U
	86306	n-Nitrosodiphenylamine	0 28	ug/L	U
	91203	Naphthalene	0 28	ug/L	U
	90120	Naphthalene, 1-methyl-	0.28	ug/L	U
	91576	Naphthalene, 2-methyl-	0.28	ug/L	U
	98953	Nitrobenzene	0.28	ug/L	U
	87865	Pentachlorophenol	0.56	ug/L	U
	85018	Phenanthrene	0.28	ug/L	U
	108952	Phenol	0.28	ug/L	U
	95487	Phenol, 2-methyl-	0.28	ug/L	U
	129000	Pyrene	0 28	ug/L	U
	483658	Retene	0.28	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	31.2	%Rec	
	2199691	1,2-Dichlorobenzene-d4	33.1	%Rec	
	93951736	2-chlorophenol-d4	88 3	%Rec	
	1718521	D10-Pyrene	90.2	%Rec	
	4165600	Nitrobenzene-d5	85 4	%Rec	
	367124	Phenol, 2-fluoro-	65 9	%Rec	
	4165622	Phenol-d5	43 9	%Rec	
	1718510	Terphenyl-d14	93 0	%Rec	
Parameter	: Semi-volatiles - Tentatives				
Method	: 8270-M				
Prep Method					
Analytes	: *3008001	Unknown 01	1.4	ug/L	NJ
Parameter	: Volatiles				
Method	: 8260-M				
Prep Method					
Analytes	630206	1,1,1,2-Tetrachloroethane	1 0	ug/L	U
	71556	1,1,1-Trichloroethane	2.0	ug/L	U
	79005	1,1,2-Trichloroethane	1 0	ug/L	U
	75343	1,1-Dichloroethane	1 0	ug/L	U
	75354	1,1-Dichloroethene	1 0	ug/L	U
	513882	1,1-Dichloropropanone	2 0	ug/L	U
	563586	1,1-Dichloropropene	1 0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1 0	ug/L	U

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			Result	Units	Qlfr
Analytes :	96184	1,2,3-Trichloropropane	1 0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1 0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1 0	ug/L	U
	107062	1,2-Dichloroethane	1.0	ug/L	U
	78875	1,2-Dichloropropane	1.0	ug/L	U
	142289	1,3-Dichloropropane	1.0	ug/L	U
	594207	2,2-Dichloropropane	1 0	ug/L	U
	78933	2-Butanone	2.0	ug/L	U
	95498	2-Chlorotoluene	1 0	ug/L	U
	591786	2-Hexanone	2 0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/L	U
	67641	2-Propanone	4 0	ug/L	U
	106434	4-Chlorotoluene	1 0	ug/L	U
	71432	Benzene	1.0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1 0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1 0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1.0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1 0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1.0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1.0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1 0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1 0	ug/L	U
	108907	Benzene, chloro-	1 0	ug/L	U
	100425	Benzene, ethenyl-	1 0	ug/L	U
	103651	Benzene, propyl-	1.0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1 0	ug/L	U
	74975	Bromochloromethane	1 0	ug/L	U
	75274	Bromodichloromethane	1 0	ug/L	U
	75252	Bromoform	1 0	ug/L	U
	74839	Bromomethane	1 0	ug/L	U
	75150	Carbon disulfide	2.0	ug/L	U
	56235	Carbon Tetrachloride	1 0	ug/L	U
	156592	cis-1,2-Dichloroethene	1 0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1 1	ug/L	U
	124481	Dibromochloromethane	1 0	ug/L	U
	74953	Dibromomethane	1 0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1 0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1 0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1 0	ug/L	U
	79016	Ethene, trichloro-	1 0	ug/L	U
	75003	Ethyl Chloride	1 0	ug/L	U
	100414	Ethylbenzene	1 0	ug/L	U
	75694	Freon 11	1 0	ug/L	U
	75718	Freon 12	1 0	ug/L	U
	87683	Hexachlorobutadiene	1 0	ug/L	U
	74873	Methane, chloro-	1 0	ug/L	U

			Result	Units	Qlfr
Analytes	. 67663	**Methane, trichloro-**	**2.0**	**ug/L**	
	75092	Methylene Chloride	2 0	ug/L	U
	*1330207	MP-Xylene	2 0	ug/L	U
	104518	n-Butylbenzene	1 0	ug/L	U
	91203	Naphthalene	1.0	ug/L	U
	135988	sec-Butylbenzene	1.0	ug/L	U
	127184	Tetrachloroethene	1 0	ug/L	U
	108883	Toluene	1 0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0 94	ug/L	U
	75014	Vinyl Chloride	1.0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	96 4	%Rec	
	17060070	1,2-Dichloroethane-d4	100	%Rec	
	540363	Benzene, 1,4-difluoro-	99 0	%Rec	
	460004	p-Bromofluorobenzene	100	%Rec	
	2037265	Toluene-d8	100	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	OBS8216A1
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GC

Parameter : Pesticides - PCB's
Method : 8080 GC - Organochlorine Pesticides and PCB's
Prep Method: 3540/608 Soxhlet extraction

Analytes		Result	Units	Qlfr
309002	Aldrin	1 7	ug/kg	U
319846	Alpha-BHC	1 7	ug/kg	U
319857	Beta-BHC	1 7	ug/kg	U
5103719	cis-Chlordane (alpha-Chlordane)	1 7	ug/kg	U
319868	Delta-BHC	1 7	ug/kg	U
60571	Dieldrin	3.5	ug/kg	U
959988	Endosulfan I	1 7	ug/kg	U
33213659	Endosulfan II	3 5	ug/kg	U
1031078	Endosulfan Sulfate	3.5	ug/kg	U
72208	Endrin	3 5	ug/kg	U
7421934	Endrin Aldehyde	3.5	ug/kg	U
53494705	Endrin Ketone	3.5	ug/kg	U
5103742	Gamma-Chlordane	1 7	ug/kg	U
76448	Heptachlor	1 7	ug/kg	U
1024573	Heptachlor Epoxide	1 7	ug/kg	U
58899	Lindane	1.7	ug/kg	U
72435	Methoxychlor	17	ug/kg	U
72548	P,P'-DDD	3.5	ug/kg	U
72559	P,P'-DDE	3 5	ug/kg	U
50293	P,P'-DDT	3 5	ug/kg	U
12674112	PCB-1016	35	ug/kg	U
11104282	PCB-1221	69	ug/kg	U
11141165	PCB-1232	35	ug/kg	U
53469219	PCB-1242	35	ug/kg	U
12672296	PCB-1248	35	ug/kg	U
11097691	PCB-1254	35	ug/kg	U
11096825	PCB-1260	35	ug/kg	U
8001352	Toxaphene	173	ug/kg	U
*2051243	Decachlorobiphenyl	118	%Rec	
*300105	Tetrachlorometaxylene	105	%Rec	

GCMS

Parameter : Semi-volatiles
Method 8270-M
Prep Method

Analytes		Result	Units	Qlfr
120821	1,2,4-Trichlorobenzene	173	ug/kg	U

			Result	Units	Qlfr
Analytes	: 122667	1,2-Diphenylhydrazine	173	ug/kg	U
	95954	2,4,5-Trichlorophenol	173	ug/kg	U
	88062	2,4,6-Trichlorophenol	173	ug/kg	U
	120832	2,4-Dichlorophenol	347	ug/kg	U
	105679	2,4-Dimethylphenol	173	ug/kg	U
	51285	2,4-Dinitrophenol	1730	ug/kg	U
	121142	2,4-Dinitrotoluene	347	ug/kg	U
	606202	2,6-Dinitrotoluene	347	ug/kg	U
	91587	2-Chloronaphthalene	173	ug/kg	U
	95578	2-Chlorophenol	173	ug/kg	U
	88744	2-Nitroaniline	867	ug/kg	U
	88755	2-Nitrophenol	867	ug/kg	U
	91941	3,3'-Dichlorobenzidine	693	ug/kg	U
	99092	3-Nitroaniline	347	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1730	ug/kg	U
	101553	4-Bromophenyl-Phenylether	173	ug/kg	U
	59507	4-Chloro-3-methylphenol	867	ug/kg	U
	106478	4-Chloroaniline	173	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	173	ug/kg	U
	106445	4-Methylphenol	173	ug/kg	U
	100016	4-Nitroaniline	867	ug/kg	U
	100027	4-Nitrophenol	867	ug/kg	U
	86748	9H-Carbazole	173	ug/kg	U
	86737	9H-Fluorene	173	ug/kg	U
	83329	Acenaphthene	173	ug/kg	U
	208968	Acenaphthylene	173	ug/kg	U
	62533	Aniline	173	ug/kg	U
	120127	Anthracene	173	ug/kg	U
	95501	Benzene, 1,2-dichloro-	173	ug/kg	U
	541731	Benzene, 1,3-dichloro-	173	ug/kg	U
	106467	Benzene, 1,4-dichloro-	173	ug/kg	U
	100516	Benzenemethanol	867	ug/kg	U
	92875	Benzidine	693	ug/kg	U
	56553	Benzo(a)anthracene	173	ug/kg	U
	50328	Benzo(a)pyrene	173	ug/kg	U
	191242	Benzo(g,h,i)perylene	347	ug/kg	U
	205992	Benzo[b]Fluoranthene	173	ug/kg	U
	207089	Benzo[k]fluoranthene	173	ug/kg	U
	65850	Benzoic acid	1730	ug/kg	U
	111444	bis(2-Chloroethyl)ether	173	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	173	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	867	ug/kg	U
	85687	Butylbenzylphthalate	173	ug/kg	U
	218019	Chrysene	173	ug/kg	U
	84742	Di-n-Butylphthalate	173	ug/kg	U
	117840	Di-n-octylphthalate	347	ug/kg	U
	53703	Dibenz[a,h]anthracene	173	ug/kg	U

			Result	Units	Qlfr
Analytes :	132649	Dibenzofuran	173	ug/kg	U
	84662	Diethyl phthalate	173	ug/kg	U
	131113	Dimethylphthalate	173	ug/kg	U
	206440	Fluoranthene	173	ug/kg	U
	118741	Hexachlorobenzene	173	ug/kg	U
	87683	Hexachlorobutadiene	867	ug/kg	U
	77474	Hexachlorocyclopentadiene	867	ug/kg	U
	67721	Hexachloroethane	173	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	173	ug/kg	U
	78591	Isophorone	173	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	173	ug/kg	U
	621647	N-Nitrosodinpropylamine	173	ug/kg	U
	86306	n-Nitrosodiphenylamine	173	ug/kg	U
	91203	Naphthalene	173	ug/kg	U
	90120	Naphthalene, 1-methyl-	173	ug/kg	U
	91576	Naphthalene, 2-methyl-	173	ug/kg	U
	98953	Nitrobenzene	173	ug/kg	U
	87865	Pentachlorophenol	347	ug/kg	U
	85018	Phenanthrene	173	ug/kg	U
	108952	Phenol	173	ug/kg	U
	95487	Phenol, 2-methyl-	173	ug/kg	U
	129000	Pyrene	173	ug/kg	U
	483658	Retene	173	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	101	%Rec	
	2199691	1,2-Dichlorobenzene-d4	90.7	%Rec	
	93951736	2-chlorophenol-d4	103	%Rec	
	1718521	D10-Pyrene	101	%Rec	
	4165600	Nitrobenzene-d5	100	%Rec	
	367124	Phenol, 2-fluoro-	100	%Rec	
	4165622	Phenol-d5	91 6	%Rec	
	1718510	Terphenyl-d14	98 6	%Rec	
Parameter :	Semi-volatiles - Tentatives				
Method :	8270-M				
Prep Method					
Analytes	123422	2-Pentanone, 4-hydroxy-4-methy l-	297000	ug/kg	NJ
	141797	3-Penten-2-one, 4-methyl-	6370	ug/kg	NJ
	619998	Hexane, 3-ethyl-	874	ug/kg	NJ
	3221612	Octane, 2-methyl-	968	ug/kg	NJ
	2216333	Octane, 3-methyl-	2320	ug/kg	NJ
	*3008001	Unknown 01	2910	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	OBS8217A1
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3540/608	Soxhlet extraction			
Analytes	309002	Aldrin	1 7	ug/kg	U
	319846	Alpha-BHC	1.7	ug/kg	U
	319857	Beta-BHC	1.7	ug/kg	U
	5103719	cis-Chlordane (alpha-Chlordane)	1.7	ug/kg	U
	319868	Delta-BHC	1.7	ug/kg	U
	60571	Dieldrin	3.5	ug/kg	U
	959988	Endosulfan I	1.7	ug/kg	U
	33213659	Endosulfan II	3.5	ug/kg	U
	1031078	Endosulfan Sulfate	3.5	ug/kg	U
	72208	Endrin	3 5	ug/kg	U
	7421934	Endrin Aldehyde	3 5	ug/kg	U
	53494705	Endrin Ketone	3 5	ug/kg	U
	5103742	Gamma-Chlordane	1 7	ug/kg	U
	76448	Heptachlor	1 7	ug/kg	U
	1024573	Heptachlor Epoxide	1 7	ug/kg	U
	58899	Lindane	1.7	ug/kg	U
	72435	Methoxychlor	17	ug/kg	U
	72548	P,P'-DDD	3.5	ug/kg	U
	72559	P,P'-DDE	3.5	ug/kg	U
	50293	P,P'-DDT	3 5	ug/kg	U
	12674112	PCB-1016	35	ug/kg	U
	11104282	PCB-1221	69	ug/kg	U
	11141165	PCB-1232	35	ug/kg	U
	53469219	PCB-1242	35	ug/kg	U
	12672296	PCB-1248	35	ug/kg	U
	11097691	PCB-1254	35	ug/kg	U
	11096825	PCB-1260	35	ug/kg	U
	8001352	Toxaphene	173	ug/kg	U
	*2051243	Decachlorobiphenyl	119	%Rec	
	*300105	Tetrachlorometaxylene	113	%Rec	

GCMS

Parameter	Semi-volatiles				
Method	8270-M				
Prep Method					
Analytes	120821	1,2,4-Trichlorobenzene	173	ug/kg	U

recycled paper
ecology and environment
ecology and environment

			Result	Units	Qlfr
Analytes :	122667	1,2-Diphenylhydrazine	173	ug/kg	U
	95954	2,4,5-Trichlorophenol	173	ug/kg	U
	88062	2,4,6-Trichlorophenol	173	ug/kg	U
	120832	2,4-Dichlorophenol	347	ug/kg	U
	105679	2,4-Dimethylphenol	173	ug/kg	U
	51285	2,4-Dinitrophenol	1730	ug/kg	U
	121142	2,4-Dinitrotoluene	347	ug/kg	U
	606202	2,6-Dinitrotoluene	347	ug/kg	U
	91587	2-Chloronaphthalene	173	ug/kg	U
	95578	2-Chlorophenol	173	ug/kg	U
	88744	2-Nitroaniline	867	ug/kg	U
	88755	2-Nitrophenol	867	ug/kg	U
	91941	3,3'-Dichlorobenzidine	693	ug/kg	U
	99092	3-Nitroaniline	347	ug/kg	U
	534521	4,6-Dinitro-2-methylphenol	1730	ug/kg	U
	101553	4-Bromophenyl-Phenylether	173	ug/kg	U
	59507	4-Chloro-3-methylphenol	867	ug/kg	U
	106478	4-Chloroaniline	173	ug/kg	U
	7005723	4-Chlorophenyl-Phenylether	173	ug/kg	U
	106445	4-Methylphenol	173	ug/kg	U
	100016	4-Nitroaniline	867	ug/kg	U
	100027	4-Nitrophenol	867	ug/kg	U
	86748	9H-Carbazole	173	ug/kg	U
	86737	9H-Fluorene	173	ug/kg	U
	83329	Acenaphthene	173	ug/kg	U
	208968	Acenaphthylene	173	ug/kg	U
	62533	Aniline	173	ug/kg	U
	120127	Anthracene	173	ug/kg	U
	95501	Benzene, 1,2-dichloro-	173	ug/kg	U
	541731	Benzene, 1,3-dichloro-	173	ug/kg	U
	106467	Benzene, 1,4-dichloro-	173	ug/kg	U
	100516	Benzenemethanol	867	ug/kg	U
	92875	Benzidine	693	ug/kg	U
	56553	Benzo(a)anthracene	173	ug/kg	U
	50328	Benzo(a)pyrene	173	ug/kg	U
	191242	Benzo(g,h,i)perylene	347	ug/kg	U
	205992	Benzo[b]Fluoranthene	173	ug/kg	U
	207089	Benzo[k]fluoranthene	173	ug/kg	U
	65850	Benzoic acid	1730	ug/kg	U
	111444	bis(2-Chloroethyl)ether	173	ug/kg	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	173	ug/kg	U
	117817	Bis(2-ethylhexyl) phthalate	867	ug/kg	U
	85687	Butylbenzylphthalate	173	ug/kg	U
	218019	Chrysene	173	ug/kg	U
	84742	Di-n-Butylphthalate	173	ug/kg	U
	117840	Di-n-octylphthalate	347	ug/kg	U
	53703	Dibenz[a,h]anthracene	173	ug/kg	U

			Result	Units	Qlfr
Analytes	132649	Dibenzofuran	173	ug/kg	U
	84662	Diethyl phthalate	173	ug/kg	U
	131113	Dimethylphthalate	173	ug/kg	U
	206440	Fluoranthene	173	ug/kg	U
	118741	Hexachlorobenzene	173	ug/kg	U
	87683	Hexachlorobutadiene	867	ug/kg	U
	77474	Hexachlorocyclopentadiene	867	ug/kg	U
	67721	Hexachloroethane	173	ug/kg	U
	193395	Indeno(1,2,3-cd)pyrene	173	ug/kg	U
	78591	Isophorone	173	ug/kg	U
	111911	Methane, bis(2-chloroethoxy)-	173	ug/kg	U
	621647	N-Nitrosodinpropylamine	173	ug/kg	U
	86306	n-Nitrosodiphenylamine	173	ug/kg	U
	91203	Naphthalene	173	ug/kg	U
	90120	Naphthalene, 1-methyl-	173	ug/kg	U
	91576	Naphthalene, 2-methyl-	173	ug/kg	U
	98953	Nitrobenzene	173	ug/kg	U
	87865	Pentachlorophenol	347	ug/kg	U
	85018	Phenanthrene	173	ug/kg	U
	108952	Phenol	173	ug/kg	U
	95487	Phenol, 2-methyl-	173	ug/kg	U
	129000	Pyrene	173	ug/kg	U
	483658	Retene	173	ug/kg	U
	321608	1,1'-Biphenyl, 2-fluoro-	104	%Rec	
	2199691	1,2-Dichlorobenzene-d4	92 4	%Rec	
	93951736	2-chlorophenol-d4	103	%Rec	
	1718521	D10-Pyrene	95 7	%Rec	
	4165600	Nitrobenzene-d5	105	%Rec	
	367124	Phenol, 2-fluoro-	99 5	%Rec	
	4165622	Phenol-d5	88.5	%Rec	
	1718510	Terphenyl-d14	95 1	%Rec	
Parameter	Semi-volatiles - Tentatives				
Method	8270-M				
Prep Method.					
Analytes	1626091	2,7-Octanedione	5150	ug/kg	NJ
	123422	2-Pentanone, 4-hydroxy-4-methy l-	322000	ug/kg	NJ
	141797	3-Penten-2-one, 4-methyl-	3080	ug/kg	NJ
	3074713	Heptane, 2,3-dimethyl-	1900	ug/kg	NJ
	2216300	Heptane, 2,5-dimethyl-	867	ug/kg	NJ
	619998	Hexane, 3-ethyl-	906	ug/kg	NJ
	3221612	Octane, 2-methyl-	1030	ug/kg	NJ
	2216333	Octane, 3-methyl-	2550	ug/kg	NJ
	*3008001	Unknown 01	909	ug/kg	NJ
	*3008002	Unknown 02	1300	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	OBW8216A1
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter · Semi-volatiles
Method · 8270-M
Prep Method.

			Result	Units	Qlfr
Analytes ·	120821	1,2,4-Trichlorobenzene	0 28	ug/L	U
	122667	1,2-Diphenylhydrazine	0 28	ug/L	U
	95954	2,4,5-Trichlorophenol	0.28	ug/L	U
	88062	2,4,6-Trichlorophenol	0.28	ug/L	U
	120832	2,4-Dichlorophenol	0 57	ug/L	U
	105679	2,4-Dimethylphenol	0.28	ug/L	U
	51285	2,4-Dinitrophenol	2.8	ug/L	U
	121142	2,4-Dinitrotoluene	0 57	ug/L	U
	606202	2,6-Dinitrotoluene	0.57	ug/L	U
	91587	2-Chloronaphthalene	0 28	ug/L	U
	95578	2-Chlorophenol	0 28	ug/L	U
	88744	2-Nitroaniline	1.4	ug/L	U
	88755	2-Nitrophenol	1 4	ug/L	U
	91941	3,3'-Dichlorobenzidine	1.1	ug/L	U
	99092	3-Nitroaniline	0 57	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2.8	ug/L	U
	101553	4-Bromophenyl-Phenylether	0 28	ug/L	U
	59507	4-Chloro-3-methylphenol	1.4	ug/L	U
	106478	4-Chloroaniline	0 28	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.28	ug/L	U
	106445	4-Methylphenol	0.28	ug/L	U
	100016	4-Nitroaniline	1 4	ug/L	U
	100027	4-Nitrophenol	1 4	ug/L	U
	86748	9H-Carbazole	0 28	ug/L	U
	86737	9H-Fluorene	0 28	ug/L	U
	83329	Acenaphthene	0.28	ug/L	U
	208968	Acenaphthylene	0 28	ug/L	U
	62533	Aniline	0 28	ug/L	U
	120127	Anthracene	0.28	ug/L	U
	95501	Benzene, 1,2-dichloro-	0 28	ug/L	U
	541731	Benzene, 1,3-dichloro-	0 28	ug/L	U
	106467	Benzene, 1,4-dichloro-	0 28	ug/L	U
	100516	Benzenemethanol	1 4	ug/L	U
	92875	Benzidine	1 1	ug/L	U
	56553	Benzo(a)anthracene	0 28	ug/L	U
	50328	Benzo(a)pyrene	0 28	ug/L	U

			Result	Units	Qlfr
Analytes	191242	Benzo(g,h,i)perylene	0 57	ug/L	U
	205992	Benzo[b]Fluoranthene	0 28	ug/L	U
	207089	Benzo[k]fluoranthene	0 28	ug/L	U
	65850	Benzoic acid	2.8	ug/L	U
	111444	bis(2-Chloroethyl)ether	0.28	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0.28	ug/L	U
	117817	Bis(2-ethylhexyl) phthalate	1 4	ug/L	U
	85687	Butylbenzylphthalate	0 28	ug/L	U
	218019	Chrysene	0 28	ug/L	U
	84742	Di-n-Butylphthalate	0 28	ug/L	U
	117840	Di-n-octylphthalate	0.57	ug/L	U
	53703	Dibenz[a,h]anthracene	0.28	ug/L	U
	132649	Dibenzofuran	0.28	ug/L	U
	84662	Diethyl phthalate	0 28	ug/L	U
	131113	Dimethylphthalate	0 28	ug/L	U
	206440	Fluoranthene	0 28	ug/L	U
	118741	Hexachlorobenzene	0 28	ug/L	U
	87683	Hexachlorobutadiene	1.4	ug/L	U
	77474	Hexachlorocyclopentadiene	1.4	ug/L	U
	67721	Hexachloroethane	0.28	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.28	ug/L	U
	78591	Isophorone	0.28	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0 28	ug/L	U
	621647	N-Nitrosodinpropylamine	0 28	ug/L	U
	86306	n-Nitrosodiphenylamine	0.28	ug/L	U
	91203	Naphthalene	0 28	ug/L	U
	90120	Naphthalene, 1-methyl-	0 28	ug/L	U
	91576	Naphthalene, 2-methyl-	0.28	ug/L	U
	98953	Nitrobenzene	0.28	ug/L	U
	87865	Pentachlorophenol	0 57	ug/L	U
	85018	Phenanthrene	0 28	ug/L	U
	108952	Phenol	0 28	ug/L	U
	95487	Phenol, 2-methyl-	0 28	ug/L	U
	129000	Pyrene	0.28	ug/L	U
	483658	Retene	0.28	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	41.3	%Rec	
	2199691	1,2-Dichlorobenzene-d4	36 1	%Rec	
	93951736	2-chlorophenol-d4	94 5	%Rec	
	1718521	D10-Pyrene	99 0	%Rec	
	4165600	Nitrobenzene-d5	95 2	%Rec	
	367124	Phenol, 2-fluoro-	70 2	%Rec	
	4165622	Phenol-d5	43 8	%Rec	
	1718510	Terphenyl-d14	96 7	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	OBW8216A2
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter : Semi-volatiles
Method 8270-M
Prep Method

Analytes			Result	Units	Qlfr
	120821	1,2,4-Trichlorobenzene	0.25	ug/L	U
	122667	1,2-Diphenylhydrazine	0.25	ug/L	U
	95954	2,4,5-Trichlorophenol	0.25	ug/L	U
	88062	2,4,6-Trichlorophenol	0.25	ug/L	U
	120832	2,4-Dichlorophenol	0 50	ug/L	U
	105679	2,4-Dimethylphenol	0 25	ug/L	U
	51285	2,4-Dinitrophenol	2.5	ug/L	U
	121142	2,4-Dinitrotoluene	0 50	ug/L	U
	606202	2,6-Dinitrotoluene	0 50	ug/L	U
	91587	2-Chloronaphthalene	0 25	ug/L	U
	95578	2-Chlorophenol	0.25	ug/L	U
	88744	2-Nitroaniline	1 2	ug/L	U
	88755	2-Nitrophenol	1.2	ug/L	U
	91941	3,3'-Dichlorobenzidine	1 0	ug/L	U
	99092	3-Nitroaniline	0 50	ug/L	U
	534521	4,6-Dinitro-2-methylphenol	2 5	ug/L	U
	101553	4-Bromophenyl-Phenylether	0 25	ug/L	U
	59507	4-Chloro-3-methylphenol	1 2	ug/L	U
	106478	4-Chloroaniline	0 25	ug/L	U
	7005723	4-Chlorophenyl-Phenylether	0.25	ug/L	U
	106445	4-Methylphenol	0 25	ug/L	U
	100016	4-Nitroaniline	1 2	ug/L	U
	100027	4-Nitrophenol	1.2	ug/L	U
	86748	9H-Carbazole	0.25	ug/L	U
	86737	9H-Fluorene	0 25	ug/L	U
	83329	Acenaphthene	0.25	ug/L	U
	208968	Acenaphthylene	0.25	ug/L	U
	62533	Aniline	0.25	ug/L	U
	120127	Anthracene	0.25	ug/L	U
	95501	Benzene, 1,2-dichloro-	0 25	ug/L	U
	541731	Benzene, 1,3-dichloro-	0 25	ug/L	U
	106467	Benzene, 1,4-dichloro-	0 25	ug/L	U
	100516	Benzenemethanol	1 2	ug/L	U
	92875	Benzidine	1 0	ug/L	U
	56553	Benzo(a)anthracene	0 25	ug/L	U
	50328	Benzo(a)pyrene	0 25	ug/L	U

			Result	Units	Qlfr
Analytes	191242	Benzo(g,h,i)perylene	0 50	ug/L	U
	205992	Benzo[b]Fluoranthene	0 25	ug/L	U
	207089	Benzo[k]fluoranthene	0.25	ug/L	U
	65850	Benzoic acid	2 5	ug/L	U
	111444	bis(2-Chloroethyl)ether	0 25	ug/L	U
	108601	BIS(2-CHLOROISOPROPYL)ETHER	0 25	ug/L	U
	117817	**Bis(2-ethylhexyl) phthalate**	**1.8**	**ug/L**	
	85687	Butylbenzylphthalate	0.25	ug/L	U
	218019	Chrysene	0 25	ug/L	U
	84742	Di-n-Butylphthalate	0 25	ug/L	U
	117840	Di-n-octylphthalate	0 50	ug/L	U
	53703	Dibenz[a,h]anthracene	0.25	ug/L	U
	132649	Dibenzofuran	0.25	ug/L	U
	84662	Diethyl phthalate	0.25	ug/L	U
	131113	Dimethylphthalate	0.25	ug/L	U
	206440	Fluoranthene	0 25	ug/L	U
	118741	Hexachlorobenzene	0 25	ug/L	U
	87683	Hexachlorobutadiene	1.2	ug/L	U
	77474	Hexachlorocyclopentadiene	1.2	ug/L	U
	67721	Hexachloroethane	0.25	ug/L	U
	193395	Indeno(1,2,3-cd)pyrene	0.25	ug/L	U
	78591	Isophorone	0.25	ug/L	U
	111911	Methane, bis(2-chloroethoxy)-	0.25	ug/L	U
	621647	N-Nitrosodinpropylamine	0 25	ug/L	U
	86306	n-Nitrosodiphenylamine	0 25	ug/L	U
	91203	Naphthalene	0 25	ug/L	U
	90120	Naphthalene, 1-methyl-	0 25	ug/L	U
	91576	Naphthalene, 2-methyl-	0 25	ug/L	U
	98953	Nitrobenzene	0.25	ug/L	U
	87865	Pentachlorophenol	0 50	ug/L	U
	85018	Phenanthrene	0 25	ug/L	U
	108952	Phenol	0 25	ug/L	U
	95487	Phenol, 2-methyl-	0 25	ug/L	U
	129000	Pyrene	0.25	ug/L	U
	483658	Retene	0 25	ug/L	U
	321608	1,1'-Biphenyl, 2-fluoro-	76 7	%Rec	
	2199691	1,2-Dichlorobenzene-d4	59 1	%Rec	
	93951736	2-chlorophenol-d4	90 2	%Rec	
	1718521	D10-Pyrene	96 5	%Rec	
	4165600	Nitrobenzene-d5	94 4	%Rec	
	367124	Phenol, 2-fluoro-	62 5	%Rec	
	4165622	Phenol-d5	36 7	%Rec	
	1718510	Terphenyl-d14	97 6	%Rec	

Parameter Semi-volatiles - Tentatives
Method 8270-M
Prep Method
Analytes 111900 Ethanol, 2-(2-ethoxyethoxy)- 1.4 ug/L NJ

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			Result	Units	Qlfr
Analytes	764998	Ethene, 1,1'-[oxybis(2,1-ethan edıyloxy)]	2.1	ug/L	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	OBW8261A1
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3510M	liq-liq extraction via stir-bar			
Analytes	309002	Aldrin	0 014	ug/L	U
	319846	Alpha-BHC	0 014	ug/L	U
	319857	Beta-BHC	0 014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0.014	ug/L	U
	319868	Delta-BHC	0 014	ug/L	U
	60571	Dieldrin	0.029	ug/L	U
	959988	Endosulfan I	0.014	ug/L	U
	33213659	Endosulfan II	0 029	ug/L	U
	1031078	Endosulfan Sulfate	0 029	ug/L	U
	72208	Endrin	0 029	ug/L	U
	7421934	Endrin Aldehyde	0 029	ug/L	U
	53494705	Endrin Ketone	0 029	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0.014	ug/L	U
	1024573	Heptachlor Epoxide	0 014	ug/L	U
	58899	Lindane	0.014	ug/L	U
	72435	Methoxychlor	0 14	ug/L	U
	72548	P,P'-DDD	0 029	ug/L	U
	72559	P,P'-DDE	0 029	ug/L	U
	50293	P,P'-DDT	0.029	ug/L	U
	12674112	PCB-1016	0.29	ug/L	U
	11104282	PCB-1221	0 57	ug/L	U
	11141165	PCB-1232	0 29	ug/L	U
	53469219	PCB-1242	0 29	ug/L	U
	12672296	PCB-1248	0 29	ug/L	U
	11097691	PCB-1254	0 29	ug/L	U
	11096825	PCB-1260	0 29	ug/L	U
	8001352	Toxaphene	4 1	ug/L	U
	*2051243	Decachlorobiphenyl	83	%Rec	
	*300105	Tetrachlorometaxylene	36	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	OBW8261A2
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GC

			Result	Units	Qlfr
Parameter	Pesticides - PCB's				
Method	8080	GC - Organochlorine Pesticides and PCB's			
Prep Method	3510M	liq-liq extraction via stir-bar			
Analytes	309002	Aldrin	0 014	ug/L	U
	319846	Alpha-BHC	0 014	ug/L	U
	319857	Beta-BHC	0.014	ug/L	U
	5103719	cis-Chlordane (alpha-Chlordane)	0.014	ug/L	U
	319868	Delta-BHC	0 014	ug/L	U
	60571	Dieldrin	0 028	ug/L	U
	959988	Endosulfan I	0 014	ug/L	U
	33213659	Endosulfan II	0 028	ug/L	U
	1031078	Endosulfan Sulfate	0.028	ug/L	U
	72208	Endrin	0 028	ug/L	U
	7421934	Endrin Aldehyde	0 028	ug/L	U
	53494705	Endrin Ketone	0 028	ug/L	U
	5103742	Gamma-Chlordane	0 014	ug/L	U
	76448	Heptachlor	0 014	ug/L	U
	1024573	Heptachlor Epoxide	0 014	ug/L	U
	58899	Lindane	0 014	ug/L	U
	72435	Methoxychlor	0 14	ug/L	U
	72548	P,P'-DDD	0 028	ug/L	U
	72559	P,P'-DDE	0 028	ug/L	U
	50293	P,P'-DDT	0 028	ug/L	U
	12674112	PCB-1016	0 28	ug/L	U
	11104282	PCB-1221	0 55	ug/L	U
	11141165	PCB-1232	0 28	ug/L	U
	53469219	PCB-1242	0 28	ug/L	U
	12672296	PCB-1248	0 28	ug/L	U
	11097691	PCB-1254	0 28	ug/L	U
	11096825	PCB-1260	0 28	ug/L	U
	8001352	Toxaphene	1 4	ug/L	U
	*2051243	Decachlorobiphenyl	94	%Rec	
	*300105	Tetrachlorometaxylene	35	%Rec	

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	vbs8218
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter Volatiles
Method 8260-M
Prep Method.

Analytes			Result	Units	Qlfr
	630206	1,1,1,2-Tetrachloroethane	3.1	ug/kg	U
	71556	1,1,1-Trichloroethane	3 1	ug/kg	U
	79005	1,1,2-Trichloroethane	3 1	ug/kg	U
	75343	1,1-Dichloroethane	3.1	ug/kg	U
	75354	1,1-Dichloroethene	3.1	ug/kg	U
	563586	1,1-Dichloropropene	3 1	ug/kg	U
	87616	**1,2,3-Trichlorobenzene**	**4.8**	**ug/kg**	**J**
	96184	1,2,3-Trichloropropane	3.1	ug/kg	U
	120821	**1,2,4-Trichlorobenzene**	**2.5**	**ug/kg**	**J**
	96128	1,2-Dibromo-3-chloropropane	6 2	ug/kg	U
	107062	1,2-Dichloroethane	3.1	ug/kg	U
	78875	1,2-Dichloropropane	3.1	ug/kg	U
	142289	1,3-Dichloropropane	3.1	ug/kg	U
	594207	2,2-Dichloropropane	3 1	ug/kg	U
	78933	2-Butanone	12 5	ug/kg	U
	95498	2-Chlorotoluene	3 1	ug/kg	U
	591786	2-Hexanone	12.5	ug/kg	U
	108101	2-Pentanone, 4-methyl-	3.1	ug/kg	U
	67641	2-Propanone	62.5	ug/kg	U
	106434	4-Chlorotoluene	3.1	ug/kg	U
	71432	Benzene	3.1	ug/kg	U
	98828	Benzene, (1-methylethyl)-	3 1	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	3.1	ug/kg	U
	95501	Benzene, 1,2-dichloro-	3.1	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	3 1	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	3 1	ug/kg	U
	541731	Benzene, 1,3-dichloro-	3 1	ug/kg	U
	106467	Benzene, 1,4-dichloro-	3.1	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3 1	ug/kg	U
	108907	Benzene, chloro-	3 1	ug/kg	U
	100425	Benzene, ethenyl-	3.1	ug/kg	U
	103651	Benzene, propyl-	3.1	ug/kg	U
	98066	Benzene, tert-butyl-	3 1	ug/kg	U
	108861	Bromobenzene	3.1	ug/kg	U
	74975	Bromochloromethane	3 1	ug/kg	U
	75274	Bromodichloromethane	3 1	ug/kg	U

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			Result	Units	Qlfr
Analytes	75252	Bromoform	3 1	ug/kg	U
	74839	Bromomethane	3 1	ug/kg	U
	75150	Carbon disulfide	6 2	ug/kg	U
	56235	Carbon Tetrachloride	3 1	ug/kg	U
	156592	cis-1,2-Dichloroethene	3 1	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3 3	ug/kg	U
	124481	Dibromochloromethane	3 1	ug/kg	U
	74953	Dibromomethane	3 1	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3 1	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3.1	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3 1	ug/kg	U
	79016	Ethene, trichloro-	3 1	ug/kg	U
	75003	Ethyl Chloride	3 1	ug/kg	U
	100414	Ethylbenzene	3 1	ug/kg	U
	75694	Freon 11	6 2	ug/kg	U
	75718	Freon 12	3 1	ug/kg	U
	87683	Hexachlorobutadiene	3 1	ug/kg	U
	74873	Methane, chloro-	3 1	ug/kg	U
	67663	Methane, trichloro-	6.2	ug/kg	U
	75092	**Methylene Chloride**	**37.0**	**ug/kg**	
	*1330207	MP-Xylene	6 2	ug/kg	U
	104518	n-Butylbenzene	3 1	ug/kg	U
	91203	**Naphthalene**	**7.2**	**ug/kg**	
	135988	sec-Butylbenzene	3.1	ug/kg	U
	127184	Tetrachloroethene	3 1	ug/kg	U
	108883	Toluene	3 1	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5 9	ug/kg	U
	75014	Vinyl Chloride	6 2	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	100	%Rec	
	17060070	1,2-Dichloroethane-d4	92.0	%Rec	
	540363	Benzene, 1,4-difluoro-	99 5	%Rec	
	460004	p-Bromofluorobenzene	99 8	%Rec	
	2037265	Toluene-d8	101	%Rec	
Parameter	Volatiles - Tentatives				
Method	8260-M				
Prep Method					
Analytes	**25144041**	**Cyclopentanol, 2-methyl-, t**	**8.5**	**ug/kg**	**NJ**
	66251	**Hexanal**	**10.1**	**ug/kg**	**NJ**
	124196	**Nonanal**	**21.3**	**ug/kg**	**NJ**

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	vbs8219a
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter Volatiles
Method 8260-M
Prep Method.

Analytes :		**Result**	**Units**	**Qlfr**
630206	1,1,1,2-Tetrachloroethane	3 1	ug/kg	U
71556	1,1,1-Trichloroethane	3.1	ug/kg	U
79005	1,1,2-Trichloroethane	3.1	ug/kg	U
75343	1,1-Dichloroethane	3.1	ug/kg	U
75354	1,1-Dichloroethene	3 1	ug/kg	U
563586	1,1-Dichloropropene	3.1	ug/kg	U
87616	1,2,3-Trichlorobenzene	6.2	ug/kg	U
96184	1,2,3-Trichloropropane	3.1	ug/kg	U
120821	1,2,4-Trichlorobenzene	6 2	ug/kg	U
96128	1,2-Dibromo-3-chloropropane	6.2	ug/kg	U
107062	1,2-Dichloroethane	3.1	ug/kg	U
78875	1,2-Dichloropropane	3 1	ug/kg	U
142289	1,3-Dichloropropane	3 1	ug/kg	U
594207	2,2-Dichloropropane	3.1	ug/kg	U
78933	2-Butanone	31.2	ug/kg	U
95498	2-Chlorotoluene	3 1	ug/kg	U
591786	2-Hexanone	12.5	ug/kg	U
108101	2-Pentanone, 4-methyl-	3.1	ug/kg	U
67641	**2-Propanone**	**28.8**	**ug/kg**	**J**
106434	4-Chlorotoluene	3.1	ug/kg	U
71432	Benzene	3 1	ug/kg	U
98828	Benzene, (1-methylethyl)-	3 1	ug/kg	U
95636	Benzene, 1,2,4-trimethyl-	3.1	ug/kg	U
95501	Benzene, 1,2-dichloro-	3 1	ug/kg	U
95476	Benzene, 1,2-dimethyl-	3 1	ug/kg	U
108678	Benzene, 1,3,5-trimethyl-	3 1	ug/kg	U
541731	Benzene, 1,3-dichloro-	3 1	ug/kg	U
106467	Benzene, 1,4-dichloro-	3 1	ug/kg	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	3.1	ug/kg	U
108907	Benzene, chloro-	3 1	ug/kg	U
100425	Benzene, ethenyl-	3 1	ug/kg	U
103651	Benzene, propyl-	3 1	ug/kg	U
98066	Benzene, tert-butyl-	3 1	ug/kg	U
108861	Bromobenzene	3 1	ug/kg	U
74975	Bromochloromethane	6 2	ug/kg	U
75274	Bromodichloromethane	3 1	ug/kg	U

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			Result	Units	Qlfr
Analytes	75252	Bromoform	6 2	ug/kg	U
	74839	Bromomethane	3 1	ug/kg	U
	75150	Carbon disulfide	3 1	ug/kg	U
	56235	Carbon Tetrachloride	3 1	ug/kg	U
	156592	cis-1,2-Dichloroethene	3 1	ug/kg	U
	10061015	cis-1,3-Dichloropropene	3 3	ug/kg	U
	124481	Dibromochloromethane	3 1	ug/kg	U
	74953	Dibromomethane	3 1	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	3 1	ug/kg	U
	106934	Ethane, 1,2-dibromo-	3 1	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	3.1	ug/kg	U
	79016	Ethene, trichloro-	6 2	ug/kg	U
	75003	Ethyl Chloride	3 1	ug/kg	U
	100414	Ethylbenzene	3 1	ug/kg	U
	75694	Freon 11	6.2	ug/kg	U
	75718	Freon 12	3 1	ug/kg	U
	87683	Hexachlorobutadiene	3 1	ug/kg	U
	74873	Methane, chloro-	3 1	ug/kg	U
	67663	Methane, trichloro-	3 1	ug/kg	U
	75092	**Methylene Chloride**	**53.0**	**ug/kg**	
	*1330207	MP-Xylene	6.2	ug/kg	U
	104518	n-Butylbenzene	3 1	ug/kg	U
	91203	Naphthalene	6.2	ug/kg	U
	135988	sec-Butylbenzene	3 1	ug/kg	U
	127184	Tetrachloroethene	3 1	ug/kg	U
	108883	Toluene	3 1	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	5 9	ug/kg	U
	75014	Vinyl Chloride	3 1	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	100	%Rec	
	17060070	1,2-Dichloroethane-d4	102	%Rec	
	540363	Benzene, 1,4-difluoro-	100	%Rec	
	460004	p-Bromofluorobenzene	100	%Rec	
	2037265	Toluene-d8	100	%Rec	
Parameter	Volatiles - Tentatives				
Method	8260-M				
Prep Method:					
Analytes	**2919235**	**Cyclobutanol**	**54.7**	**ug/kg**	**NJ**
	112312	**Decanal**	**15.9**	**ug/kg**	**NJ**
	124196	**Nonanal**	**33.0**	**ug/kg**	**NJ**

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	vbs8222
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter · Volatiles
Method · 8260-M
Prep Method ·

		Result	Units	Qlfr
Analytes · 630206	1,1,1,2-Tetrachloroethane	2.0	ug/kg	U
71556	1,1,1-Trichloroethane	2.0	ug/kg	U
79005	1,1,2-Trichloroethane	2.0	ug/kg	U
75343	1,1-Dichloroethane	2.0	ug/kg	U
75354	1,1-Dichloroethene	2.0	ug/kg	U
563586	1,1-Dichloropropene	2.0	ug/kg	U
87616	**1,2,3-Trichlorobenzene**	**6.1**	**ug/kg**	
96184	1,2,3-Trichloropropane	2.0	ug/kg	U
120821	1,2,4-Trichlorobenzene	4.0	ug/kg	U
96128	1,2-Dibromo-3-chloropropane	4.0	ug/kg	U
107062	1,2-Dichloroethane	2.0	ug/kg	U
78875	1,2-Dichloropropane	2.0	ug/kg	U
142289	1,3-Dichloropropane	2 0	ug/kg	U
594207	2,2-Dichloropropane	2 0	ug/kg	U
78933	2-Butanone	20.0	ug/kg	U
95498	2-Chlorotoluene	2 0	ug/kg	U
591786	2-Hexanone	40 0	ug/kg	U
108101	2-Pentanone, 4-methyl-	2 0	ug/kg	U
67641	**2-Propanone**	**18.9**	**ug/kg**	**J**
106434	4-Chlorotoluene	2.0	ug/kg	U
71432	Benzene	2.0	ug/kg	U
98828	Benzene, (1-methylethyl)-	2 0	ug/kg	U
95636	Benzene, 1,2,4-trimethyl-	2.0	ug/kg	U
95501	Benzene, 1,2-dichloro-	2.0	ug/kg	U
95476	Benzene, 1,2-dimethyl-	2.0	ug/kg	U
108678	Benzene, 1,3,5-trimethyl-	2.0	ug/kg	U
541731	Benzene, 1,3-dichloro-	2.0	ug/kg	U
106467	Benzene, 1,4-dichloro-	2 0	ug/kg	U
99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2 0	ug/kg	U
108907	Benzene, chloro-	2.0	ug/kg	U
100425	Benzene, ethenyl-	2 0	ug/kg	U
103651	Benzene, propyl-	2 0	ug/kg	U
98066	Benzene, tert-butyl-	2 0	ug/kg	U
108861	Bromobenzene	2 0	ug/kg	U
74975	Bromochloromethane	4 0	ug/kg	U
75274	Bromodichloromethane	2 0	ug/kg	U

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			Result	Units	Qlfr
Analytes	75252	Bromoform	4 0	ug/kg	U
	74839	Bromomethane	2.0	ug/kg	U
	75150	Carbon disulfide	2 0	ug/kg	U
	56235	Carbon Tetrachloride	2 0	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2 1	ug/kg	U
	124481	Dibromochloromethane	2 0	ug/kg	U
	74953	Dibromomethane	2 0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 0	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2 0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2 0	ug/kg	U
	79016	Ethene, trichloro-	4 0	ug/kg	U
	75003	Ethyl Chloride	2 0	ug/kg	U
	100414	Ethylbenzene	2 0	ug/kg	U
	75694	Freon 11	4.0	ug/kg	U
	75718	Freon 12	2 0	ug/kg	U
	87683	Hexachlorobutadiene	2 0	ug/kg	U
	74873	Methane, chloro-	2 0	ug/kg	U
	67663	Methane, trichloro-	2.0	ug/kg	U
	75092	**Methylene Chloride**	**18.2**	**ug/kg**	**J**
	*1330207	MP-Xylene	4 0	ug/kg	U
	104518	n-Butylbenzene	2 0	ug/kg	U
	91203	***Naphthalene***	**7.2**	**ug/kg**	
	135988	sec-Butylbenzene	2.0	ug/kg	U
	127184	Tetrachloroethene	2 0	ug/kg	U
	108883	Toluene	2 0	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	3 8	ug/kg	U
	75014	Vinyl Chloride	2 0	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	98 8	%Rec	
	17060070	1,2-Dichloroethane-d4	91 3	%Rec	
	540363	Benzene, 1,4-difluoro-	99 6	%Rec	
	460004	p-Bromofluorobenzene	98 0	%Rec	
	2037265	Toluene-d8	101	%Rec	
Parameter	Volatiles - Tentatives				
Method	8260-M				
Prep Method					
Analytes	56554962	**2-OCTADECENAL**	7.0	ug/kg	NJ
	112549	**Dodecanal**	13.8	ug/kg	NJ
	124196	**Nonanal**	10.1	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	vbs8225a
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter Volatiles
Method 8260-M
Prep Method

Analytes			Result	Units	Qlfr
	630206	1,1,1,2-Tetrachloroethane	2 0	ug/kg	U
	71556	1,1,1-Trichloroethane	2 0	ug/kg	U
	79005	1,1,2-Trichloroethane	2.0	ug/kg	U
	75343	1,1-Dichloroethane	2 0	ug/kg	U
	75354	1,1-Dichloroethene	2 0	ug/kg	U
	563586	1,1-Dichloropropene	2 0	ug/kg	U
	87616	1,2,3-Trichlorobenzene	4.0	ug/kg	U
	96184	1,2,3-Trichloropropane	2.0	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4 0	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4 0	ug/kg	U
	107062	1,2-Dichloroethane	2.0	ug/kg	U
	78875	1,2-Dichloropropane	2 0	ug/kg	U
	142289	1,3-Dichloropropane	2.0	ug/kg	U
	594207	2,2-Dichloropropane	2 0	ug/kg	U
	78933	2-Butanone	20 0	ug/kg	U
	95498	2-Chlorotoluene	2 0	ug/kg	U
	591786	2-Hexanone	40 0	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2.0	ug/kg	U
	67641	**2-Propanone**	**55.4**	**ug/kg**	
	106434	4-Chlorotoluene	2 0	ug/kg	U
	71432	Benzene	2 0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2.0	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2.0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2 0	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2 0	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2 0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2 0	ug/kg	U
	108907	Benzene, chloro-	2 0	ug/kg	U
	100425	Benzene, ethenyl-	2 0	ug/kg	U
	103651	Benzene, propyl-	2 0	ug/kg	U
	98066	Benzene, tert-butyl-	2 0	ug/kg	U
	108861	Bromobenzene	2 0	ug/kg	U
	74975	Bromochloromethane	4 0	ug/kg	U
	75274	Bromodichloromethane	2 0	ug/kg	U

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			Result	Units	Qlfr
Analytes	75252	Bromoform	4 0	ug/kg	U
	74839	Bromomethane	2 0	ug/kg	U
	75150	Carbon disulfide	2.0	ug/kg	U
	56235	Carbon Tetrachloride	2.0	ug/kg	U
	156592	cis-1,2-Dichloroethene	2 0	ug/kg	U
	10061015	cis-1,3-Dichloropropene	2.1	ug/kg	U
	124481	Dibromochloromethane	2 0	ug/kg	U
	74953	Dibromomethane	2 0	ug/kg	U
	79345	Ethane, 1,1,2,2-tetrachloro-	2 0	ug/kg	U
	106934	Ethane, 1,2-dibromo-	2.0	ug/kg	U
	156605	Ethene, 1,2-dichloro-, (E)-	2 0	ug/kg	U
	79016	Ethene, trichloro-	4 0	ug/kg	U
	75003	Ethyl Chloride	2 0	ug/kg	U
	100414	Ethylbenzene	2 0	ug/kg	U
	75694	Freon 11	4 0	ug/kg	U
	75718	Freon 12	2 0	ug/kg	U
	87683	Hexachlorobutadiene	2.0	ug/kg	U
	74873	Methane, chloro-	2 0	ug/kg	U
	67663	Methane, trichloro-	2.0	ug/kg	U
	75092	**Methylene Chloride**	**18.0**	**ug/kg**	**J**
	*1330207	MP-Xylene	4 0	ug/kg	U
	104518	n-Butylbenzene	2.0	ug/kg	U
	91203	Naphthalene	4 0	ug/kg	U
	135988	sec-Butylbenzene	2 0	ug/kg	U
	127184	Tetrachloroethene	2 0	ug/kg	U
	108883	Toluene	2.0	ug/kg	U
	10061026	Trans-1,3-Dichloropropene	3 8	ug/kg	U
	75014	Vinyl Chloride	2.0	ug/kg	U
	2199691	1,2-Dichlorobenzene-d4	103	%Rec	
	17060070	1,2-Dichloroethane-d4	99 7	%Rec	
	540363	Benzene, 1,4-difluoro-	99 6	%Rec	
	460004	p-Bromofluorobenzene	99.4	%Rec	
	2037265	Toluene-d8	103	%Rec	

Parameter Volatiles - Tentatives
Method 8260-M
Prep Method

Analytes	928687	2-Heptanone, 6-methyl-	8.1	ug/kg	NJ
	821556	2-Nonanone	1.2	ug/kg	NJ
	25144041	Cyclopentanol, 2-methyl-, t	48 8	ug/kg	NJ
	112312	Decanal	29.6	ug/kg	NJ
	111717	Heptanal	5.7	ug/kg	NJ
	29354981	Hexadecanol	5.5	ug/kg	NJ
	66251	Hexanal	6.7	ug/kg	NJ
	124130	Octanal	20.1	ug/kg	NJ

Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Solid
Project Officer:	DAVID BENNETT	**Sample Number:**	vbs8229
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter : Volatiles
Method : 8260-M
Prep Method

			Result	Units	Qlfr
Analytes	630206	1,1,1,2-Tetrachloroethane	2 0	ug/kg	U
	71556	1,1,1-Trichloroethane	2.0	ug/kg	U
	79005	1,1,2-Trichloroethane	2 0	ug/kg	U
	75343	1,1-Dichloroethane	2.0	ug/kg	U
	75354	1,1-Dichloroethene	2.0	ug/kg	U
	563586	1,1-Dichloropropene	2.0	ug/kg	U
	87616	**1,2,3-Trichlorobenzene**	**4.6**	**ug/kg**	
	96184	1,2,3-Trichloropropane	2.0	ug/kg	U
	120821	1,2,4-Trichlorobenzene	4 0	ug/kg	U
	96128	1,2-Dibromo-3-chloropropane	4 0	ug/kg	U
	107062	1,2-Dichloroethane	2 0	ug/kg	U
	78875	1,2-Dichloropropane	2 0	ug/kg	U
	142289	1,3-Dichloropropane	2.0	ug/kg	U
	594207	2,2-Dichloropropane	2 0	ug/kg	U
	78933	2-Butanone	20.0	ug/kg	U
	95498	2-Chlorotoluene	2 0	ug/kg	U
	591786	2-Hexanone	8.0	ug/kg	U
	108101	2-Pentanone, 4-methyl-	2 0	ug/kg	U
	67641	2-Propanone	80 0	ug/kg	U
	106434	4-Chlorotoluene	2.0	ug/kg	U
	71432	Benzene	2.0	ug/kg	U
	98828	Benzene, (1-methylethyl)-	2 0	ug/kg	U
	95636	Benzene, 1,2,4-trimethyl-	2.0	ug/kg	U
	95501	Benzene, 1,2-dichloro-	2 0	ug/kg	U
	95476	Benzene, 1,2-dimethyl-	2 0	ug/kg	U
	108678	Benzene, 1,3,5-trimethyl-	2 0	ug/kg	U
	541731	Benzene, 1,3-dichloro-	2 0	ug/kg	U
	106467	Benzene, 1,4-dichloro-	2 0	ug/kg	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	2.0	ug/kg	U
	108907	Benzene, chloro-	2 0	ug/kg	U
	100425	Benzene, ethenyl-	2 0	ug/kg	U
	103651	Benzene, propyl-	2 0	ug/kg	U
	98066	Benzene, tert-butyl-	2 0	ug/kg	U
	108861	Bromobenzene	2 0	ug/kg	U
	74975	Bromochloromethane	4 0	ug/kg	U
	75274	Bromodichloromethane	2 0	ug/kg	U

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Project Code:	TEC-721A	**Collected:**	
Project Name:	CANOL PUMP STATION	**Matrix:**	Liquid-Total
Project Officer:	DAVID BENNETT	**Sample Number:**	vbw8217
Account Code:	98T10PFAX10ZZLA00	**Type:**	Blank
Station Description:			

GCMS

Parameter Volatiles
Method 8260-M
Prep Method

Analytes			Result	Units	Qlfr
	630206	1,1,1,2-Tetrachloroethane	1.0	ug/L	U
	71556	1,1,1-Trichloroethane	2 0	ug/L	U
	79005	1,1,2-Trichloroethane	1.0	ug/L	U
	75343	1,1-Dichloroethane	1.0	ug/L	U
	75354	1,1-Dichloroethene	1.0	ug/L	U
	513882	1,1-Dichloropropanone	2 0	ug/L	U
	563586	1,1-Dichloropropene	1.0	ug/L	U
	87616	1,2,3-Trichlorobenzene	1 0	ug/L	U
	96184	1,2,3-Trichloropropane	1.0	ug/L	U
	120821	1,2,4-Trichlorobenzene	1.0	ug/L	U
	96128	1,2-Dibromo-3-chloropropane	1 0	ug/L	U
	107062	1,2-Dichloroethane	1.0	ug/L	U
	78875	1,2-Dichloropropane	1 0	ug/L	U
	142289	1,3-Dichloropropane	1 0	ug/L	U
	594207	2,2-Dichloropropane	1.0	ug/L	U
	78933	2-Butanone	2 0	ug/L	U
	95498	2-Chlorotoluene	1.0	ug/L	U
	591786	2-Hexanone	2 0	ug/L	U
	108101	2-Pentanone, 4-methyl-	2 0	ug/L	U
	67641	2-Propanone	4 0	ug/L	U
	106434	4-Chlorotoluene	1 0	ug/L	U
	71432	Benzene	1 0	ug/L	U
	98828	Benzene, (1-methylethyl)-	1 0	ug/L	U
	95636	Benzene, 1,2,4-trimethyl-	1 0	ug/L	U
	95501	Benzene, 1,2-dichloro-	1 0	ug/L	U
	95476	Benzene, 1,2-dimethyl-	1 0	ug/L	U
	108678	Benzene, 1,3,5-trimethyl-	1 0	ug/L	U
	541731	Benzene, 1,3-dichloro-	1 0	ug/L	U
	106467	Benzene, 1,4-dichloro-	1 0	ug/L	U
	99876	Benzene, 1-methyl-4-(1-methyle thyl)-	1.0	ug/L	U
	108907	Benzene, chloro-	1 0	ug/L	U
	100425	Benzene, ethenyl-	1 0	ug/L	U
	103651	Benzene, propyl-	1 0	ug/L	U
	98066	Benzene, tert-butyl-	1 0	ug/L	U
	108861	Bromobenzene	1 0	ug/L	U
	74975	Bromochloromethane	1 0	ug/L	U

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			Result	Units	Qlfr
Analytes	75274	Bromodichloromethane	1 0	ug/L	U
	75252	Bromoform	1 0	ug/L	U
	74839	Bromomethane	1 0	ug/L	U
	75150	Carbon disulfide	2 0	ug/L	U
	56235	Carbon Tetrachloride	1 0	ug/L	U
	156592	cis-1,2-Dichloroethene	1 0	ug/L	U
	10061015	cis-1,3-Dichloropropene	1 1	ug/L	U
	124481	Dibromochloromethane	1.0	ug/L	U
	74953	Dibromomethane	1 0	ug/L	U
	79345	Ethane, 1,1,2,2-tetrachloro-	1 0	ug/L	U
	106934	Ethane, 1,2-dibromo-	1 0	ug/L	U
	156605	Ethene, 1,2-dichloro-, (E)-	1 0	ug/L	U
	79016	Ethene, trichloro-	1 0	ug/L	U
	75003	Ethyl Chloride	1 0	ug/L	U
	100414	Ethylbenzene	1 0	ug/L	U
	75694	Freon 11	1 0	ug/L	U
	75718	Freon 12	1 0	ug/L	U
	87683	Hexachlorobutadiene	1 0	ug/L	U
	74873	Methane, chloro-	1 0	ug/L	U
	67663	Methane, trichloro-	1 0	ug/L	U
	75092	Methylene Chloride	2.0	ug/L	U
	*1330207	MP-Xylene	2 0	ug/L	U
	104518	n-Butylbenzene	1 0	ug/L	U
	91203	Naphthalene	1 0	ug/L	U
	135988	sec-Butylbenzene	1 0	ug/L	U
	127184	Tetrachloroethene	1 0	ug/L	U
	108883	Toluene	1 0	ug/L	U
	10061026	Trans-1,3-Dichloropropene	0 94	ug/L	U
	75014	Vinyl Chloride	1 0	ug/L	U
	2199691	1,2-Dichlorobenzene-d4	98 4	%Rec	
	17060070	1,2-Dichloroethane-d4	99 0	%Rec	
	540363	Benzene, 1,4-difluoro-	98 3	%Rec	
	460004	p-Bromofluorobenzene	101	%Rec	
	2037265	Toluene-d8	100	%Rec	

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MEMORANDUM

DATE: November 2, 1998

TO: Paul Cooley, Project Manager, E & E, Anchorage, AK

FROM: Alasdair Turner, START-Chemist, E & E, Seattle, WA AT

THRU: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Organic Data Quality Assurance Review, Canol Pump Station Site, Tanacross-Northway, Alaska**

REF: TDD: 97-09-0013 PAN: BI1101SIDM

The data quality assurance review of 29 soil samples and 5 water samples collected from the Kotzebue Drum Dump site located in Kotzebue, Alaska, has been completed. Analysis for Gasoline Range Organics and BTEX (ADEC Method AK 101) was performed by OnSite Environmental, Redmond, Washington.

Soil:

98314021	98314029	98314030	98314023	98314031	98314003
98314025	98314027	98314036	98314000	98314001	98314002
98314004	98314005	98314006	98314007	98314010	98314011
98314008	98314009	98314016	98314017	98314018	98314019
98314012	98314013	98314014	98314015	98314033	

Water:

98314022	98314024	98314032	98314047	98314028	98314035

<u>Data Qualifications</u>:

1. **Sample Holding Times: Acceptable.**

All samples were maintained at 4°C (± 2°C) The samples were collected on July 15 and 16, 1998, and were analyzed by July 28, 1998, therefore meeting QC criteria of less than 14 days between collection and analysis for preserved water and soil samples

2. **Initial Calibration: Acceptable.**

A seven-point initial calibration was performed with the correlation coefficient greater than 0 995 The calculations were verified as correct.

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3. **Continuing Calibration: Acceptable.**

Calculations were verified as correct. All percent differences (% Ds) were ≤ the control limit of 25.0 %

4. **Error Determination: Not Performed.**

Samples necessary for bias and precision determination were not provided to the laboratory All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

5. **Blanks: Acceptable.**

A method blank was analyzed at the required frequency of every 12 hours beginning with the continuing calibration No target analytes were detected in any associated blanks above the reporting limits.

6. **System Monitoring Compounds (SMC): Satisfactory.**

All recoveries of the system monitoring compounds (surrogates) were greater than 10 % and within QC criteria of 50 % to 150 %, except those associated with samples 98314000 and 98314002, and 98314006-98314007. These samples were diluted, therefore no action was taken based on the outlying surrogates.

7. **Performance Evaluation Samples: Not Provided.**

Performance evaluation samples were not provided to the laboratory

8. **Duplicates: Acceptable.**

Sample 98294328 underwent duplicate analysis for the soil matrix All Relative Percent Differences (RPDs) were within 25 %.

9. **Laboratory Control Sample: Acceptable.**

The laboratory control sample recoveries were within the control limits provided.

10. **Target Compound Identification: Acceptable.**

All target compounds reported by the laboratory met identification criteria

11. **Target Compound Quantitation and CRQLs: Acceptable.**

Concentrations of all reported analytes were correctly calculated

12. **Laboratory Contact: Not Required.**

No laboratory contact was required

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13. Overall Assessment of Data for Use

The R qualifiers, placed on applicable gasoline results to indicate that the result is impacted by heavier range hydrocarbons, were deleted by the data reviewer The overall usefulness of the data is based on the criteria outlined in the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 540/R-94/012) Based upon the information provided, the data are acceptable for use with the above stated data qualifications

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected The associated numerical value is the estimated sample quantitation limit

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314022

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-1

Lab File ID 0806022

Date Received 7/15/98

Date Analyzed 8/7/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

FORM I NWTPH-G 3/90

10/29/98

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314024

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-2

Lab File ID 0806026 D

Date Received 7/15/98

Date Analyzed 8/6/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

FORM I NWTPH-G 3/90

10/29/98

000006

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314032

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-3

Lab File ID 0806027 D

Date Received 7/15/98

Date Analyzed 8/6/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

FORM I NWTPH-G 3/90

10/29/98

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314047

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-4

Lab File ID 0806028 D

Date Received 7/15/98

Date Analyzed 8/6/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

FORM I NWTPH-G 3/90

10/29/98

000008

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-5

Lab File ID 0806029 D

Date Received 7/15/98

Date Analyzed 8/6/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column DB-VRX ID 0 45 (mm) Instrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314035

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) WATER Lab Sample ID 07-184-6

Lab File ID 0806030 D

Date Received 7/15/98

Date Analyzed 8/6/98

Dilution Factor 1 0

Level (low/med) MED Water Purge Volume 5 0 (mL)

GC Column. DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) ug/L	Q
	Gasoline	100	U
	Benzene	1 0	U
	Toluene	1 0	U
	Ethylbenzene	1 0	U
	m,p-Xylene	1 0	U
	o-Xylene	1 0	U

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314021

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-7

Sample Jar Weight 129 0 g Lab File ID 0807015 D

Jar + MeOH + Sample Weight 173 3 g Date Received 7/30/98

Net Sample Weight 25 1 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 67 Soil Aliquot Volume 0 02 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 082 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	75	U,R
	Benzene	0 75	U
	Toluene	0 75	U
	EthylBenzene	0 75	U
	m,p-Xylene	0 75	U
	o-Xylene	0 75	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314029

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-8

Sample Jar Weight 129 5 g Lab File ID 0807016 D

Jar + MeOH + Sample Weight 176 2 g Date Received 7/30/98

Net Sample Weight 27 5 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 11 Soil Aliquot Volume 0 10 (mL)

GC Column. DB-VRX ID 0 45 (mm) nstrument Response 0 095 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 1	U
	Benzene	0 051	U
	Toluene	0 42	
	EthylBenzene	0 051	U
	m,p-Xylene	0 097	
	o-Xylene	0 051	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314030

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-9

Sample Jar Weight 129 3 g Lab File ID 0807017 D

Jar + MeOH + Sample Weight 172 9 g Date Received 7/30/98

Net Sample Weight 24 4 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 4 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 021 (ppm)

MeOH Extract Volume 25 *(mL)*

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 3	U
	Benzene	0 053	U
	Toluene	0 053	U
	EthylBenzene	0 053	U
	m,p-Xylene	0 053	U
	o-Xylene	0 053	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314023

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-10

Sample Jar Weight 129 4 g Lab File ID 0807019 D

Jar + MeOH + Sample Weight 196 2 g Date Received 7/30/98

Net Sample Weight 47 6 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 4 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 024 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	2 7	U
	Benzene	0 027	U
	Toluene	0 027	U
	EthylBenzene	0 027	U
	m,p-Xylene	0 027	U
	o-Xylene	0 027	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314031

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-11

Sample Jar Weight 130 9 g Lab File ID 0807020 D

Jar + MeOH + Sample Weight 173 1 g Date Received 7/30/98

Net Sample Weight 23 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 61 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 048 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	14	U
	Benzene	0 14	U
	Toluene	0 27	
	EthylBenzene	0 14	U
	m,p-Xylene	0 35	
	o-Xylene	0 14	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314025

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-12

Sample Jar Weight 129 4 g Lab File ID 0807021 D

Jar + MeOH + Sample Weight 169 2 g Date Received 7/30/98

Net Sample Weight 20 6 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 24 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 033 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	8 0	U
	Benzene	0 08	U
	Toluene	0 18	
	EthylBenzene	0 08	U
	m,p-Xylene	0 095	
	o-Xylene	0 08	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314027

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-13

Sample Jar Weight 130 9 g Lab File ID 0807022 D

Jar + MeOH + Sample Weight 174 5 g Date Received 7/30/98

Net Sample Weight 24 4 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 30 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 054 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	7 3	U
	Benzene	0 073	U
	Toluene	0 073	U
	EthylBenzene	0 073	U
	m,p-Xylene	0 073	U
	o-Xylene	0 073	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314036

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-14

Sample Jar Weight 131 0 g Lab File ID 0807023 D

Jar + MeOH + Sample Weight 153 4 g Date Received 7/30/98

Net Sample Weight 3 2 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 018 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 0	U
	Benzene	0 39	U
	Toluene	0 39	U
	EthylBenzene	0 39	U
	m,p-Xylene	0 39	U
	o-Xylene	0 39	U

R-Gasoline result impacted by heavier range hydrocarbons

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SAMPLE NO

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-19

Sample Jar Weight 130 7 g Lab File ID 0807025 D

Jar + MeOH + Sample Weight 170 1 g Date Received 7/30/98

Net Sample Weight 20 2 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 48 Soil Aliquot Volume 0 10 (mL)

GC Column. DB-VRX ID 0 45 (mm) nstrument Response 0 048 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	12	U,R
	Benzene	0 12	U
	Toluene	0 59	
	EthylBenzene	0 12	U
	m,p-Xylene	0 17	
	o-Xylene	0 12	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314001

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-20

Sample Jar Weight 130 8 g Lab File ID 0807026 D

Jar + MeOH + Sample Weight 174 1 g Date Received 7/30/98

Net Sample Weight 24 1 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 40 Soil Aliquot Volume 0 02 (mL)

GC Column DB-VRX ID. 0 45 (mm) nstrument Response 0 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	43	U,R
	Benzene	0 43	U
	Toluene	0 43	U
	EthylBenzene	1 4	
	m,p-Xylene	5 4	
	o-Xylene	4 0	

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-21

Sample Jar Weight 129 0 g Lab File ID 0808003 D

Jar + MeOH + Sample Weight 172 6 g Date Received 7/30/98

Net Sample Weight 24 4 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 22 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 032 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	6 6	U
	Benzene	0 066	U
	Toluene	0 066	U
	EthylBenzene	0 066	U
	m,p-Xylene	0 066	U
	o-Xylene	0 066	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314003

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-22

Sample Jar Weight 130 8 g Lab File ID 0807028 D

Jar + MeOH + Sample Weight 176 5 g Date Received 7/30/98

Net Sample Weight 26 5 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 7 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 024 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 1	U
	Benzene	0 051	U
	Toluene	0 051	U
	EthylBenzene	0 051	U
	m,p-Xylene	0 051	U
	o-Xylene	0 051	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314004

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-23

Sample Jar Weight 129 4 g Lab File ID 0807029 D

Jar + MeOH + Sample Weight 173 6 g Date Received 7/30/98

Net Sample Weight 25 0 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 7 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 053 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 4	U
	Benzene	0 054	U
	Toluene	0 083	
	EthylBenzene	0 054	U
	m,p-Xylene	0 16	
	o-Xylene	0 054	U

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SAMPLE NO
98314005

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 08-184-24

Sample Jar Weight 130 8 g Lab File ID 0807030 D

Jar + MeOH + Sample Weight 201 2 g Date Received 7/30/98

Net Sample Weight 51 g Date Analyzed 8/7/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 3 0 Soil Aliquot Volume 0 020 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 037 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	13	U,R
	Benzene	0 13	U
	Toluene	0 13	U
	EthylBenzene	0 13	U
	m,p-Xylene	0 13	U
	o-Xylene	0 13	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314006

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-25

Sample Jar Weight 138 8 g Lab File ID 0808009

Jar + MeOH + Sample Weight 179 2 g Date Received 7/30/98

Net Sample Weight 21 2 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1

% Moisture not dec 6 Soil Aliquot Volume 0 1 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 048 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	6 3	U
	Benzene	0 063	U
	Toluene	0 063	U
	EthylBenzene	0 063	U
	m,p-Xylene	0 063	U
	o-Xylene	0 063	U

R-Gasoline result impacted by heavier range hydrocarbons

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SAMPLE NO

98314007

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-26

Sample Jar Weight 137 9 g Lab File ID 0808011 D

Jar + MeOH + Sample Weight 186 2 g Date Received 7/30/98

Net Sample Weight 29 1 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 33 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 5 132 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	330	R
	Benzene	0 18	
	Toluene	0 064	U
	EthylBenzene	0 11	
	m,p-Xylene	2 5	
	o-Xylene	1 1	

R-Gasoline result impacted by heavier range hydrocarbons

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SAMPLE NO

98314010

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-27

Sample Jar Weight 135 7 g Lab File ID 0810017 D

Jar + MeOH + Sample Weight 178 6 g Date Received 7/30/98

Net Sample Weight 23 7 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 30 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 029 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	7 5	U
	Benzene	0 075	U
	Toluene	0 075	U
	EthylBenzene	0 075	U
	m,p-Xylene	0 075	U
	o-Xylene	0 075	U

R-Gasoline result impacted by heavier range hydrocarbons

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SAMPLE NO

98314011

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-28

Sample Jar Weight 139 0 g Lab File ID 0808013 D

Jar + MeOH + Sample Weight 192 9 g Date Received 7/30/98

Net Sample Weight 34 7 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 11 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 039 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	4	U
	Benzene	0 04	U
	Toluene	0 04	U
	EthylBenzene	0 04	U
	m,p-Xylene	0 04	U
	o-Xylene	0 04	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314008

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 08-184-29

Sample Jar Weight 138 1 g Lab File ID 0808014 D

Jar + MeOH + Sample Weight 178 9 g Date Received 7/30/98

Net Sample Weight 21 6 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 5 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 030 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	6 1	U,R
	Benzene	0 061	U
	Toluene	0 061	U
	EthylBenzene	0 061	U
	m,p-Xylene	0 061	U
	o-Xylene	0 061	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314009

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No. BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-30

Sample Jar Weight 138 5 g Lab File ID 0808015 D

Jar + MeOH + Sample Weight 179 3 g Date Received 7/30/98

Net Sample Weight 21 6 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 12 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	6 6	U,R
	Benzene	0 066	U
	Toluene	0 066	U
	EthylBenzene	0 066	U
	m,p-Xylene	0 066	U
	o-Xylene	0 066	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314016

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-31

Sample Jar Weight 137 2 g Lab File ID 0810019 D

Jar + MeOH + Sample Weight 184 1 g Date Received 7/30/98

Net Sample Weight 27 7 g Date Analyzed 8/10/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 8 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 020 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	4 9	U
	Benzene	0 049	U
	Toluene	0 049	U
	EthylBenzene	0 049	U
	m,p-Xylene	0 049	U
	o-Xylene	0 049	U

R-Gasoline result impacted by heavier range hydrocarbons

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SAMPLE NO

98314017

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-32

Sample Jar Weight 130 7 g Lab File ID 0808017 D

Jar + MeOH + Sample Weight 170 3 g Date Received 7/30/98

Net Sample Weight 20 4 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 4 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 067 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	6 4	U
	Benzene	0 064	U
	Toluene	0 48	
	EthylBenzene	0 064	U
	m,p-Xylene	0 089	
	o-Xylene	0 064	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314018

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-33

Sample Jar Weight 130 7 g Lab File ID 0808019 D

Jar + MeOH + Sample Weight 178 2 g Date Received 7/30/98

Net Sample Weight 28 3 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 5 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 078 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	4 6	U,R
	Benzene	0 046	U
	Toluene	0 47	
	EthylBenzene	0 046	U
	m,p-Xylene	0 076	
	o-Xylene	0 046	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314019

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-34

Sample Jar Weight 131 0 g Lab File ID 0808020 D

Jar + MeOH + Sample Weight 180 4 g Date Received 7/30/98

Net Sample Weight 30 2 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 16 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	4 9	UR
	Benzene	0 049	U
	Toluene	0 049	U
	EthylBenzene	0 049	U
	m,p-Xylene	0 049	U
	o-Xylene	0 090	

R-Gasoline result impacted by heavier range hydrocarbons

10/29/98

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314012

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-35

Sample Jar Weight 137 3 g Lab File ID 0808021 D

Jar + MeOH + Sample Weight 184 6 g Date Received 7/30/98

Net Sample Weight 28 1 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 23 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 8	U
	Benzene	0 058	U
	Toluene	0 058	U
	EthylBenzene	0 058	U
	m,p-Xylene	0 058	U
	o-Xylene	0 058	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314013

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-36

Sample Jar Weight 138 3 g Lab File ID 0808022 D

Jar + MeOH + Sample Weight 194 3 g Date Received 7/30/98

Net Sample Weight 36 8 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 15 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 037 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	4 0	U
	Benzene	0 04	U
	Toluene	0 04	U
	EthylBenzene	0 04	U
	m,p-Xylene	0 04	U
	o-Xylene	0 04	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314014

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-37

Sample Jar Weight 130 7 g Lab File ID 0808023 D

Jar + MeOH + Sample Weight 166 5 g Date Received 7/30/98

Net Sample Weight 16 6 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 34 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 096 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	11	U
	Benzene	0 11	U
	Toluene	0 11	U
	EthylBenzene	0 11	U
	m,p-Xylene	0 11	U
	o-Xylene	0 11	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314015

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-38

Sample Jar Weight 130 8 g Lab File ID 0808024 D

Jar + MeOH + Sample Weight 190 2 g Date Received 7/30/98

Net Sample Weight 40 2 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec 15 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 013 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	3 7	U
	Benzene	0 037	U
	Toluene	0 037	U
	EthylBenzene	0 037	U
	m,p-Xylene	0 037	U
	o-Xylene	0 037	U

R-Gasoline result impacted by heavier range hydrocarbons

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AK101 GRO ANALYSIS DATA SHEET

SAMPLE NO

98314033

Lab Name ONSITE ENVIRONMENTAL Contract E & E

Project No BI13 Group 07-184

Matrix (soil/water) SOIL Lab Sample ID 07-184-39

Sample Jar Weight 129 2 g Lab File ID 080825 D

Jar + MeOH + Sample Weight 147 9 g Date Received 7/30/98

Net Sample Weight 0 53 g Date Analyzed 8/8/98

Level (low/med) MED Dilution Factor 1 0

% Moisture not dec. 0 0 Soil Aliquot Volume 0 10 (mL)

GC Column DB-VRX ID 0 45 (mm) nstrument Response 0 (ppm)

MeOH Extract Volume 25 (mL)

CAS No	Compound	Concentration Units (ug/L or mg/Kg) mg/Kg	Q
	Gasoline	5 0	U
	Benzene	0 063	U
	Toluene	0 063	U
	EthylBenzene	0 063	U
	m,p-Xylene	0 063	U
	o-Xylene	0 063	U

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APPENDIX C

18 AAC 75 OIL AND OTHER HAZARDOUS SUBSTANCES POLLUTION CONTROL REGULATIONS

STATE OF ALASKA

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

18 AAC 70
WATER QUALITY STANDARDS

AND

18 AAC 75
OIL AND OTHER HAZARDOUS SUBSTANCES POLLUTION CONTROL REGULATIONS

CLEANUP STANDARDS

ADOPTION DRAFT INCORPORATING PUBLIC COMMENTS
May 4, 1998

Tony Knowles
Governor

Michele Brown
Commissioner

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CHAPTER 70. WATER QUALITY STANDARDS

The section listing for article 1 of 18 AAC 70 is amended to read:

Section

05 Nonapplicability of groundwater provisions
10 General
15 Antidegradation policy
20 Protected water use classes and subclasses, water quality criteria, water quality standards table
25 Human health risk level for carcinogenic substances
30 Whole effluent toxicity limit
40 Procedure for applying water quality criteria
50 Classification of state water

18 AAC 70 is amended by adding a new section to read:

18 AAC 70.005. NONAPPLICABILITY OF GROUNDWATER PROVISIONS (a) Except as provided in (b) of this section, the provisions of this chapter that are applicable to groundwater do not apply to a response action, a cleanup, or a corrective action approved by

(1) the department under 18 AAC 60 440, 18 AAC 60 860, 18 AAC 75, or 18 AAC 78, except as this chapter is specifically made applicable by 18 AAC 60, 18 AAC 75, or 18 AAC 78, or

(2) the United States Environmental Protection Agency (EPA) under 42 U.S C 9601- 42 U S C 9675 (Comprehensive Environmental Response Compensation Liability Act) or 42 U S C 6901- U.S C 6992k (Resource Conservation Recovery Act, as modified by the Solid Waste Disposal Act amendments) if the response action, cleanup, or corrective action meets, at a minimum, the cleanup requirements of 18 AAC 75 325 - 18 AAC 75.380

(b) Nothing in this section affects the application of this chapter to contaminated surface water and sediment (Eff. ___/___/98, Register ____)

Authority:

AS 46 03 010	AS 46 03 090
AS 46 03 020	AS 46 03 100
AS 46 03 050	AS 46 03 110
AS 46 03 070	AS 46 03 720
AS 46 03 080	AS 46 08 080

The contents page for Title 18 is amended at Chapter 75 to read:

TITLE 18. ENVIRONMENTAL CONSERVATION

Chapter

10 (Repealed)
15 Administrative Procedures (18 AAC 15 010 - 18 AAC 15 920)
18 (Repealed)
20 (Repealed)
25 (Repealed)
27 (Repealed)
30 Environmental Sanitation (18 AAC 30 100 - 18 AAC 30 990)
31 Alaska Food Code (18 AAC 31 010 - 18 AAC 31 990)
32. Dairy, Meat, and Poultry Inspection (18 AAC 32 005 - 18 AAC 32.910)
34 Seafood Processing and Inspection (18 AAC 34 010 - 18 AAC 34 990)
36 Animal Health (18 AAC 36 005 - 18 AAC 36 930)
50 Air Quality Control (18 AAC 50 005 - 18 AAC 50 990)
52. Emissions Inspection and Maintenance Requirements for Motor Vehicles (18 AAC 52.005 - 18 AAC 52.990)
53 Fuel Requirements for Motor Vehicles (18 AAC 53 005 - 18 AAC 53 990)
55. (Repealed)
60 Solid Waste Management (18 AAC 60 005 - 18 AAC 60.990)
62. Hazardous Waste (18 AAC 62.010 - 18 AAC 62.990)
63 Siting of Hazardous Waste Management Facilities (18 AAC 63 010 - 18 AAC 63 900)
64 Litter Receptacles (18 AAC 64 005 - 18 AAC 64 250)
65 Litter Reduction and Resource Recovery Grants (18 AAC 65.005 - 18 AAC 65 900)
66 Waste Reduction and Recycling Awards for Schools (18 AAC 66 005 - 18 AAC 66 900)
70 Water Quality Standards (18 AAC 70 010 - 18 AAC 70 990)
71 Placer Mining Demonstration Grants (18 AAC 71 010 - 18 AAC 71 900)
72 Wastewater Disposal (18 AAC 72.010 - 18 AAC 72.990)
73 Construction Grants (18 AAC 73 010 - 18 AAC 73 060)
74 Water and Wastewater Operator Certification and Training (18 AAC 74 010 - 18 AAC 74 900)
75 Oil and Other Hazardous Substances Pollution Control (18 AAC 75 005 - 18 AAC 75 990)
76 Alaska Clean Water and Drinking Water Revolving Loan Funds (18 AAC 76 005 - 18 AAC 76 990)
77 State-Funded Clean Water Account (18 AAC 77 005 - 18 AAC 77 900)
78 Underground Storage Tanks (18 AAC 78 005 - 18 AAC 78 995)
80 Drinking Water (18 AAC 80 005 - 18 AAC 80 990)
85 Radiation Protection (18 AAC 85 010 - 18 AAC 85 780)
90 Pesticide Control (18 AAC 90 005 - 18 AAC 90 990)
95 Administrative Enforcement (18 AAC 95 010 - 18 AAC 95 900)

The title of 18 AAC 75 is amended to read:

CHAPTER 75. OIL AND OTHER HAZARDOUS SUBSTANCES POLLUTION CONTROL

The article listing for 18 AAC 75 is amended to read:

Article

1 Oil Pollution Prevention Requirements (18 AAC 75 005 - 18 AAC 75 090)
2 Financial Responsibility for Oil Discharges (18 AAC 75.205 - 18 AAC 75 290)
3 Discharge Reporting, Cleanup, and Disposal of Oil and Other Hazardous Substances (18 AAC 75 300 - 18 AAC 75 397 [18 AAC 75 370])
4 Oil Discharge Prevention and Contingency Plans (18 AAC 75 400 - 18 AAC 75.495)
5 Oil Spill Primary Response Action Contractors (18 AAC 75 500 - 18 AAC 75 570)
6 Civil Penalties for Discharge of Petroleum and Petroleum Products and Byproducts (18 AAC 75 605 - 18 AAC 75.670)
7 Surface Oiling (18 AAC 75 700 - 18 AAC 75 730)
8 Oil Discharge for Scientific Purposes (18 AAC 75 800 -18 AAC 75.830)
9 General Provisions (18 AAC 75.905 - 18 AAC 75.990)

18 AAC 75.300 - 18 AAC 75.370 are repealed and readopted to read:

ARTICLE 3. DISCHARGE REPORTING, CLEANUP, AND DISPOSAL OF OIL AND OTHER HAZARDOUS SUBSTANCES.

Section

300 Discharge or release notification, reporting requirements
305 Posting of information required
310 Scope and duration of cleanup activities, applicability of 18 AAC 75 315 - 18 AAC 75 397
315 Initial response actions
320 Department oversight of containment and cleanup
325 Site cleanup rules purpose, applicability, and general provisions
330 Interim removal actions
335 Site characterization
340 Soil cleanup standards
345 Groundwater and surface water cleanup standards
350 Groundwater use
355. Sampling and analysis
360 Cleanup operation requirements
365 Off-site or portable treatment facilities
370 Soil storage and disposal
375 Institutional controls
380 Final reporting requirements and site closure
385 Appeals
390 Waiver or modification
395 Interference with cleanup prohibited
396 Local control
397 Use immunity

18 AAC 75.300. DISCHARGE OR RELEASE NOTIFICATION: REPORTING REQUIREMENTS. (a) Subject to (b) of this section, a person in charge of a facility or operation shall notify the department of a discharge or release of oil or another hazardous substance (referred to in this chapter as "hazardous substance ") at or from the facility or operation as follows

(1) as soon as the person has knowledge of a

(A) discharge or release of a hazardous substance other than oil,

(B) discharge or release of oil to water; or

(C) discharge or release, including a cumulative discharge or release, of oil in excess of 55 gallons solely to land outside an impermeable secondary containment area or structure, and

(2) within 48 hours after the person has knowledge of a discharge or release, including a cumulative discharge, of oil solely to land

(A) in excess of 10 gallons, but 55 gallons or less, or

(B) in excess of 55 gallons, if the discharge or release is the result of the escape or release of oil from its original storage tank, pipeline, or other immediate container into an impermeable secondary containment area or structure

(b) A person in charge of a facility or operation

(1) shall maintain, and provide to the department monthly, a written record of each discharge or release, including a cumulative discharge or release, of one gallon to 10 gallons of oil solely to land, and

(2) may enter into an agreement with the department for the periodic reporting of a discharge or release of a hazardous substance other than oil if the discharge or release is solely to land

(c) The information required by (a) and (b) of this section must include, to the extent known, the information required by (g) of this section

(d) If a person is a person in charge solely through subparagraph (C) of the definition of "person in charge" in 18 AAC 75.990, the requirements of this section are met if notice of the discharge is in fact given by another person in charge

(e) After receiving initial notification of a discharge or release under (a) of this section, the department will, in its discretion, require interim reports until containment and cleanup are completed.

(f) Unless the department finds that a final report is not needed, a written final report must be submitted to the department within 15 days after containment and cleanup are completed or if no cleanup occurs, within 15 days after the discharge or release. The report must be submitted to the department's office in Anchorage, Fairbanks, or Juneau that is nearest to the location of the discharge, unless the department specifies otherwise

(g) Written reports required by this section and written notifications required by 18 AAC 75.300 must contain, as applicable,

(1) the date and time of the discharge or release,

(2) the location of the discharge or release,

(3) the name of the facility, vessel, or operation,

(4) the name, mailing address, and telephone number of

(A) each person causing or responsible for the discharge or release, and

(B) the owner and the operator of the facility, vessel, or operation,

(5) the type and amount of each hazardous substance discharged or released,

(6) factors that caused or contributed to the discharge or release,

(7) a description of any environmental damage caused by the discharge or release, or the containment and cleanup, to the extent the damage can be identified;

(8) a description of the containment or cleanup action taken;

(9) the estimated amount of

(A) hazardous substance cleaned up, and

(B) hazardous waste generated,

(10) the date, location, and method of ultimate disposal of the hazardous substance and any contaminated materials or media,

(11) a description of actions being taken to prevent another discharge or release; and

(12) other information the department requires to fully assess the cause and impact of the discharge or release including any sampling reports and a description and an estimate of any remaining contamination (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 070
AS 46 03 740 AS 46 08 080
AS 46 03.745 AS 46 09 010
AS 46 03.755

18 AAC 75.305. POSTING OF INFORMATION REQUIRED (a) A discharge or release notification placard, provided or approved by the department, that includes telephone numbers of department offices must be displayed in conspicuous locations on

(1) a tank truck containing more than 500 gallons of a hazardous substance, in addition to that required to operate the vehicle

(2) a tugboat, tank vessel, oil barge, tow boat, or other vessel transporting a hazardous substance as cargo in state waters,

(3) a vehicle carrying or towing a hazardous substance other than oil, or more than 500 gallons of oil, as cargo off-road over frozen or unfrozen ground, and

(4) a facility that has a total above-ground or underground storage capacity in excess of 1,000 gallons of a hazardous substance

(b) A person who wants to post a substitute for a placard provided by the department shall submit the proposed placard for department approval A placard approved under this subsection must contain the words "Form approved by the Alaska Department of Environmental Conservation " (Eff. ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46 03 755
	AS 46.03 740	AS 46 08 080
		AS 46 09 010

18 AAC 75.310. SCOPE AND DURATION OF CLEANUP ACTIVITIES; APPLICABILITY OF 18 AAC 75.315 - 18 AAC 75.397 (a) After receiving notice from a person in charge or after otherwise becoming aware of a discharge or release of a hazardous substance, the responsible person or that person s agent, shall, as required by 18 AAC 75 315, contain, clean up, and dispose of the material collected

(b) Upon request, the department, in consultation with federal officials, as appropriate, will waive the requirements of (a) of this section if the department finds that it is technically not feasible to contain or clean up the discharge or release or that the containment or cleanup effort would result in greater environmental damage than the discharge or release itself

(c) Unless relieved under (b) of this section of the obligation to contain and clean up a discharge or release, the responsible person shall immediately begin the initial response actions required by 18 AAC 75 315 until

(1) the department using the factors set out in 18 AAC 75 315, finds that

(A) the lowest practical level of contamination has been achieved,

(B) any imminent and substantial threat to human health, safety, and welfare or the environment is abated, and

(C) no further action is required, including site cleanup under 18 AAC 75 325 - 18 AAC 75 397, or

(2) the department finds, on its own or at the request of the responsible person, that the source of the contamination has been abated and that cleanup of residual soil and groundwater contamination should proceed under 18 AAC 75 325 - 18 AAC 75.397 (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 09 020

18 AAC 75.315. INITIAL RESPONSE ACTIONS. (a) The responsible person shall contain and clean up a discharge or release of a hazardous substance

(1) using methods approved by the department,

(2) in a manner that does not result in a significantly greater overall threat or damage to human health, safety, and welfare or the environment than another alternative, including taking no action; and

(3) until the lowest practical level of contamination is achieved under (b) of this section

(b) For containment and cleanup under this section, the department will determine the lowest practical level of contamination based on

(1) protection of human health, safety, and welfare and the environment, including the routes of human health and environmental exposure,

(2) the nature and toxicity of the hazardous substance, including amount and concentration,

(3) hydrogeological and climatological factors,

(4) the extent to which the hazardous substance has migrated, or is likely to migrate from the area of original contamination if the hazardous substance remains onsite,

(5) the natural dispersion, attenuation, or degradation of the contamination,

(6) the extent to which residual soil contamination exceeds the cleanup standards in 18 AAC 75 340;

(7) the extent to which groundwater contamination exceeds the groundwater cleanup standards in 18 AAC 75 345,

(8) the current and future use of the groundwater under 18 AAC 75 350, and

(9) other appropriate factors, including the need for an interim removal action under 18 AAC 75 330

(c) If the department finds that the lowest practical level of contamination has been achieved under this section, the responsible person is not required to perform further containment or cleanup The department will base a finding under this section on the most current and complete information available to the department. The department will, in its discretion, require the responsible person to perform additional containment or cleanup if subsequent information indicates that

(1) the level of contamination that remains does not protect human health, safety, and welfare and the environment, or

(2) the information the department relied upon was invalid, incomplete, or fraudulent (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 09 020

18 AAC 75.320 DEPARTMENT OVERSIGHT OF CONTAINMENT AND CLEANUP. (a) The department will, in its discretion, find that containment and cleanup efforts are inadequate under 18 AAC 75 315 or 18 AAC 75 325 - 18 AAC 75.397 if

(1) containment equipment is not used to intercept, concentrate, and collect the hazardous substance in its pattern of movement, unless environmental conditions exceed the operational limitations of the equipment,

(2) exclusion equipment is not used to protect a sensitive environmental zone, unless environmental conditions exceed the limitations of the equipment,

(3) the area affected by the hazardous substance is increasing at an avoidable rate despite containment and removal activities unless environmental conditions exceed the limitations of the equipment, or unless immediate containment would pose greater environmental risk than to allow the discharge or release to temporarily spread,

(4) the containment and exclusion equipment is not functioning effectively because of weather or oceanographic conditions, and other equipment is reasonably available that can function effectively in those conditions

(5) containment, exclusion, and lightering equipment is not deployed and operational as specified in an applicable approved oil discharge prevention and contingency plan,

(6) major items of cleanup equipment, including booms skimmers lightering pumps, sorbent, and storage containers, are not fully operational,

(7) available personnel, equipment sorbent, or supplies are inappropriate, are being mismanaged, or are not being used, or additional personnel, equipment, sorbent, or supplies are required, but not being provided, or

(8) containment and cleanup have not proceeded in a timely manner that is protective of human health, safety, and welfare and the environment

(b) *If the department finds that a responsible person's containment and cleanup efforts* are inadequate, the department will, in its discretion,

(1) direct that person or another responsible person to use additional measures or to cease cleanup activities,

(2) authorize an agent of the department to begin cleanup activities, or

(3) take a combination of these actions (Eff ___/___/98, Register ____)

Authority: AS 46 03 020, AS 46 03 740, AS 46 03 745, AS 46 03 755, AS 46 03 822, AS 46 04 020, AS 46 04 070, AS 46 08 080, AS 46 08 130, AS 46 08 140, AS 46 09 020

18 AAC 75.325. SITE CLEANUP RULES: PURPOSE, APPLICABILITY, AND GENERAL PROVISIONS (a) The requirements of 18 AAC 75 325 - 18 AAC 75 380 are referred to in this chapter as the site cleanup rules These rules establish administrative processes and standards to determine the necessity for and degree of cleanup required to protect human health, safety, and welfare and the environment at a site where a hazardous substance is located. Although these rules may be applied to a sudden or recent discharge or release through application of 18 AAC 75 310, the rules are intended to address a release of a hazardous substance caused by past activities The site cleanup rules do not apply to

(1) a release from an underground storage tank (UST) subject to AS 46 03 360 - 46 03 450 and 18 AAC 78, except as provided in 18 AAC 78,

(2) an oil and gas reserve pit closure and permitted solid waste storage or disposal facility regulated under 18 AAC 60, 18 AAC 62, or 42 U S C 6901- 42 U S C 6991i, or

(3) a quantity of a hazardous substance that is demonstrated by the responsible person to the department's satisfaction to be de minimis, the department will base its determination that the quantity of the hazardous substance is de minimis on

(A) a written report by a qualified impartial third party;

(B) an affidavit signed by the responsible person, on a form supplied by the department that describes the quantity, location, and type of substance; or

(C) a site investigation by the department

(b) The department will, in its discretion,

(1) require, or independently take, action necessary to investigate and remedy a release or threatened release of a hazardous substance that could pose a threat to human health, safety, and welfare or the environment, including an interim removal action under 18 AAC 75 330 and

(2) enter into an agreement for a person other than the responsible person to proceed with cleanup under the site cleanup rules

(c) A person conducting cleanup under the site cleanup rules shall

(1) to the maximum extent practical,

(A) use permanent solutions,

(B) recover free product in a manner that

(i) minimizes the spread of contamination into an uncontaminated area by using containment, recovery, and disposal techniques appropriate to site conditions,

(ii) avoids further discharge, and

(iii) disposes of recovery products in compliance with applicable local, state, and federal requirements,

(C) provide for a reasonable restoration time,

(D) prevent eliminate or minimize potential adverse impacts, onsite and offsite from any hazardous substance remaining at the site, and

(E) address surface soil staining attributable to a hazardous substance

(2) meet the applicable cleanup standards determined under 18 AAC 75 340 - 18 AAC 75 350, and

(3) ensure that the cleanup provides for long-term care and management where necessary, including monitoring, operation and maintenance, and institutional controls as determined under 18 AAC 75 375

(d) *If using method two or method three cleanup described in 18 AAC 75 340, the* responsible person shall ensure that, after completing site cleanup, the risk from contaminants does not exceed a cumulative carcinogenic risk of 1 in 100,000 across all pathways and a cumulative noncarcinogenic risk at a hazard index of 1 0 per pathway Procedures for ensuring that cumulative risk levels are not exceeded are set out in Appendix D of the department's *Guidance on Cleanup Standards Equations and Input Parameters*, dated May 4, 1998, adopted by reference

(e) *If using the method four cleanup described in 18 AAC 75.340(b)(2), the responsible* person shall meet the cumulative carcinogenic risk goal of 1×10^{-5} and the cumulative noncarcinogenic risk at a hazard index of 1 0

(f) If using method four, instead of the risk range required in (e) of this section, the department will, in its discretion, consider a risk range consistent with 42 U S C 9605 (National Contingency Plan), based on

10^{-4} to 10^{-6}

(1) site-specific conditions,

(2) land use,

(3) contaminant characteristics,

(4) statutory compliance,

(5) protection of human health, safety, and welfare, and the environment,

(6) ability of cleanup to be implemented,

(7) long-term and short-term effectiveness,

(8) use of treatment technologies,

(9) public comment, and

(10) cost

(g) A person may not move contaminated soil from a site

(1) without department approval, or

(2) unless for a de minimis quantity, the requirements of 18 AAC 60 are met regarding off-site movement of contaminated soil

(h) The department will, in its discretion, seek public comment regarding the planned cleanup for any of the activities specified in the site cleanup rules, using methods the department finds appropriate

(i) If an anadromous fish-bearing stream or lake or a legislatively designated special area is affected by the discharge or release and planned cleanup, activities under the site cleanup rules are subject to coordination with the Alaska Department of Fish and Game under AS 16 05.870 or AS 16 20 (Eff ___/___/98, Register ____)

Authority:

AS 46 03 020	AS 46 04 020
AS 46 03 740	AS 46 04 070
AS 46 03 745	AS 46 08 080
AS 46 03 755	AS 46 09 010
AS 46 03 822	AS 46 09 020

Editor's note: The document adopted by reference in this section is on file in the Office of the Lieutenant Governor and may be reviewed at, or requested from, the department's offices in Anchorage, Fairbanks, Juneau, and Soldotna.

18 AAC 75.330. INTERIM REMOVAL ACTIONS. (a) An interim removal action may be necessary under the site cleanup rules to prevent

(1) exposure to a hazardous substance at the site, or

(2) migration of a hazardous substance at the site

(b) An interim removal action must, to the extent practical, contribute to the efficient performance of any long-term cleanup action at the site An interim removal action may

(1) achieve cleanup standards for a portion of the site,

(2) provide for a partial cleanup for all or part of the site, but not achieve cleanup standards, or

(3) provide for a partial cleanup at the site and not achieve cleanup standards, but provide information on how to achieve cleanup standards for the final cleanup action

(c) An interim removal action may occur at any time during the cleanup process and may be done by the department or by the responsible person with prior department approval of the proposed action An interim removal action may not be used to delay or supplant the cleanup process

(d) An interim removal action must be followed by additional cleanup actions at the site unless the department confirms compliance with the site cleanup rules

(e) An interim removal action taken by the department does not

(1) create in any person a right to a response or enforcement action by the state,

(2) create any duty of the state to take a response action, or

(3) relieve any person from any liability associated with the discharge or release.
(Eff. ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46.04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 08 080
AS 46 03 755 AS 46 08 130
AS 46 03 822 AS 46 08 140
AS 46 09 020

18 AAC 75.335. SITE CHARACTERIZATION (a) To proceed with site cleanup under the site cleanup rules, the responsible person shall first characterize the extent of hazardous substance contamination at the site in a manner approved by the department The site characterization must be prepared by a qualified person The purpose of the site characterization is to provide information to

(1) determine if a discharge or release of a hazardous substance has occurred,

(2) identify each contaminant of concern at the site, including concentration and the extent of contamination sufficient to determine remedial options for the contamination,

(3) identify site characteristics or conditions that could result in site contamination continuing to move into the environment, including the leaching of onsite contamination and the presence of leaking barrels, drums, tanks, or other containers,

(4) evaluate the potential for threat to human health, safety, and welfare or the environment from site contamination, and

(5) identify any interim removal action that may be necessary under 18 AAC 75 330

(b) Unless directed otherwise by the department, the reponsible person shall submit a site characterization workplan to the department for approval before beginning site work The responsible person shall ensure that the site characterization is designed to address the factors in (a) of this section and, to the extent practical and at a minimum,

(1) locate sources of known site contamination, including a description of potential ongoing releases into soil, sediment, groundwater, or surface water;

(2) evaluate the size of the contaminated area, including the concentrations and extent of any soil, sediment, groundwater, or surface water contamination

(3) identify the vertical depth to groundwater and the horizontal distance to nearby wells, surface water, and water supply intakes,

(4) evaluate the potential for surface water runoff from the site and the potential for surface water or sediment contamination, and

(5) identify the soil type and determine if the soil is a continuing source for groundwater contamination (Eff ___/___/98, Register ____)

Authority: AS 46 03 020
AS 46 03 740
AS 46 03 745
AS 46 03 755
AS 46 03 822
AS 46 04 020
AS 46 04 070
AS 46 08 080
AS 46 08 130
AS 46 08 140
AS 46 09 020

18 AAC 75.340. SOIL CLEANUP STANDARDS. (a) This section provides the requirements for cleanup standards for hazardous substances in soil Soil cleanup standards must be based on estimates of the reasonable maximum exposure expected to occur under current and future site conditions and, subject to this condition, the responsible person may propose soil cleanup standards for department approval based on cleanup method one set out in Table A1 or A2 of this subsection, method two set out in Table B1 and B2 of this subsection, site-specific alternative cleanup standards under method three described in (b)(1) of this section, or method four described in (b)(2) of this section Alternative soil cleanup standards developed under method three or method four may not be used from one site to another without prior department approval and opportunity for public comment The department will, in its discretion, approve the use of alternative cleanup standards developed for one site within a facility with multiple similarly contaminated sites

TABLE A1. METHOD ONE - PETROLEUM HYDROCARBON SOIL CLEANUP STANDARDS IN NONARCTIC ZONES

Part A: Determine score for each item*

1. Depth to Groundwater		
Less than 5 feet	(10)	
5 feet to 15 feet	(8)	
More than 15 feet to 25 feet	(6)	
More than 25 feet to 50 feet	(4)	
More than 50 feet	(1)	
2. Mean Annual Precipitation		
More than 40 inches	(10)	
More than 25 inches to 40 inches	(5)	
15 inches to 25 inches	(3)	
Less than 15 inches	(1)	
3. Soil Type (Unified Soil Classification)		
Clean coarse-grained soils	(10)	
Coarse-grained soils with fines	(8)	
Fine-grained soils (low organic carbon)	(3)	
Fine-grained soils (high organic carbon)	(1)	
4. Potential Receptors		
(Select the most applicable category)		
a Public water system within 1000 feet, or private water system within 500 feet	(15)	
b Public/private water system within 1/2 mile	(12)	
c Public/private water system within one mile	(8)	
d No water system within one mile	(4)	
e Nonpotable groundwater	(1)	
5 Volume of Contaminated Soil		
More than 500 cubic yards	(10)	
More than 100 cubic yards to 500 cubic yards	(8)	
More than 25 cubic yards to 100 cubic yards	(5)	
10 cubic yards to 25 cubic yards	(2)	
Less than 10 cubic yards	(0)	

*The items to be scored are defined in note 1 to this table

Part B: Add scores from Part A to determine matrix score and cleanup level

Matrix Score for Each Category	Cleanup Level in mg/kg		
	Gasoline Range Organics	Diesel Range Organics	Residual Range Organics
Category A More than 40	50	100	2000
Category B More than 26 to 40	100	200	2000
Category C 21-26	500	1000	2000
Category D Less than 21	1000	2000	2000

Notes to Table A1

1 The following definitions for items 1 - 5 in Part A, apply for purposes of using method one

a "depth to groundwater" means the measurement from the lowest point of the zone of soil contamination to the seasonal high groundwater table, a person may not claim a lower matrix score for soils by moving contaminated soils to a higher elevation relative to the groundwater table,

b "mean annual precipitation" means the measurement of the mean annual precipitation, including rain and snow, this measurement may be obtained from the nearest weather station,

c "soil type" means the predominant Unified Soil Classification (USC) soil type between the deepest point of contamination and the seasonal high groundwater table, soil categories using the USC system are suitable for characterizing hydraulic conductivity and adsorption, the owner or operator may propose other methods for determining hydraulic conductivity if the description of soils fits into the given categories, the owner or operator may seek to demonstrate that otherwise coarse-grained soils have an organic carbon content that might enable a lower point classification, soil types using the USC system are further defined as shown in Figure 1

Figure 1

SOIL TYPE	UNIFIED SOILS CLASSIFICATIONS
Clean coarse-grained	GW GP, SW SP
Coarse-grained with fines	GM, GC, SM, SC, GP-GC, SP-SM, GW-GM, SW-SM SW-SC
Fine-grained with low organic carbon	ML, CL, HM CH
Fine-grained with high organic carbon	OL, OH, Pt

d For the "potential receptors" categories,

(i) "public water system" and "private water system" have the meaning given those terms in 18 AAC 80 990, and

(ii) "nonpotable" means an aquifer unusable for drinking water due to water quality conditions not caused by or arising from contamination at the site such as salinity, and

e "volume of contaminated soil" means the total estimated volume of soil that is contaminated above the applicable cleanup level before commencing a removal or cleanup action

2. For the "potential receptors" categories, appropriate documentation must be submitted to support the score assigned, including the results of a water well survey, the most conservative score must be used to determine proximity of potential receptors; for example, if a water system is within 1/4 mile, "public/private water system within 1 mile," which would score 8, would be superseded by "public/private water system within 1/2 mile," which would score 12, the owner or operator may seek to demonstrate that well proximity, in relation to factors such as the groundwater gradient or hydrologic barriers, justifies the next more liberal category

3 The identity of a released refined petroleum product must be assumed to be unknown unless the responsible person demonstrates that the product is only gasoline, or only a refined non-gasoline product The department will, in its discretion, waive the requirement that a product be identified by analysis if the responsible person demonstrates that only one type of product was stored or distributed at the site The soil cleanup standards in Part B are based on gas chromatographic analytical measurements corresponding to a specific measured range of petroleum hydrocarbons as follows

a gasoline range organics light range petroleum products such as gasoline, with petroleum hydrocarbon compounds corresponding to an alkane range from the beginning of C_5 to the beginning of C_{10} and a boiling point range between approximately 60°C and 170°C,

b diesel range organics mid-range petroleum products such as diesel fuel, with petroleum hydrocarbon compounds corresponding to an alkane range from the beginning of C_{10} to the beginning of C_{25} and a boiling point range between approximately 170°C and 400°C, and

c residual range organics heavy range petroleum products such as lubricating oils, with petroleum hydrocarbon compounds corresponding to an alkane range from the beginning of C_{25} to the beginning of C_{36} and a boiling point range between approximately 400°C and 550°C

4 In addition to meeting the soil cleanup standards in Part B, the responsible person shall ensure that the site meets the standards for benzene, toluene, ethylbenzene, and total xylenes in Table B1

TABLE A2. METHOD ONE - PETROLEUM HYDROCARBON SOIL CLEANUP STANDARDS IN ARCTIC ZONES			
PRODUCT	Cleanup Level in mg/kg		
	Diesel Range Petroleum Hydrocarbons	Gasoline Range Petroleum Hydrocarbons	Residual Range Petroleum Hydrocarbons
Gasoline	-	100	-
Diesel	200*	-	-
Unknown/Crude	200	100	-
Residual	-	-	200

* If the responsible party demonstrates that contamination is due to a diesel spill, and that BTEX levels are less than 15 mg/kg, benzene levels are less than 0 5 mg/kg, and other site conditions are favorable the department will in its discretion, allow a cleanup level of 500 mg/kg for diesel range petroleum hydrocarbons

It is intended that the Arctic Zone (North Slope) numeric cleanup levels in this table cover only contamination related to manmade pads and roads They do not apply to areas of undisturbed natural vegetation Natural tundra areas have been demonstrated to often incur more severe and long-term damage from remediation efforts than from hydrocarbons alone (For example thermal erosion with serious ecological and structural consquences can result) For this reason a wide degree of latitude for addressing tundra spills is necessary on a site-specific basis

TABLE B1. METHOD TWO - SOIL CLEANUP STANDARDS (See notes to table for further requirements)

CAS NUMBER [4]	CHEMICAL NAME (Carcinogenics in Bold Type)	Arctic Zone [1] Ingestion [5] (mg/kg)	Arctic Zone [1] Inhalation [6] (mg/kg)	Arctic Zone [1] Migration to Ground water [7] (N/A)	Under 40 inch Zone [2] Ingestion (mg/kg)	Under 40 inch Zone [2] Inhalation (mg/kg)	Under 40 inch Zone [2] Migration to Groundwater (mg/kg)	Over 40 inch Zone [3] Ingestion (mg/kg)	Over 40 inch Zone [3] Inhalation (mg/kg)	Over 40 inch Zone [3] Migration to Groundwater (mg/kg)
	ORGANICS									
83-32-9	Acenaphthene	8200			6100		210	5000		190
67-64-1	Acetone	14000			10000		10	8300		9
309-00-2	**Aldrin**	0 7	35		0 5	24	1 6	0 40	18	1 5
120-12-7	Anthracene	41000			30000		4300	24900		3900
71-43-2	**Benzene**	390	13		290	9	0 02	230	6	0 02
56 55 3	**Benzo(a)anthracene**	15			11		6	9		6
205 99-2	**Benzo(b)fluoranthene**	15			11		20	9		17
207 08-9	**Benzo(k)fluoranthene**	150			110		200	93		170
65-85 0	Benzoic acid	55000			110000		390	332000		350
50 32-8	**Benzo(a)pyrene**	2			1		3	0 9		2
111-44 4	**Bis(2-chlorethyl)ether**	10	5		8	3	0 002	6	2	0 002
117-81-7	**Bis(2-ethylhexyl)phthalate**	800			590		1200	490		1100
75-27-4	**Bromodichloromethane**	180			130		0 4	110		0 3
75-25-2	**Bromoform (Tribromomethane)**	1400	590[12]		1050	500	0 4	860	370	0 3
71-36-3	Butanol	14000			10000		10	8300		9
85-68-7	Butyl benzyl phthalate	27000			20000		5600	16600		5000
86-74-8	Carbazole	560			120		2 0	310		2
75-15 0	Carbon disulfide	14000	170		10000	120	17	8300	87	16
56-23-5	**Carbon tetrachloride**	86	5		64	3	0 03	52	3	0 03
57-74-9	**Chlordane**	9	200		6	140	3	5	100	3
106-47-8	p-Chloroaniline	550			410		0 5	330		0 5
108-90-7	Chlorobenzene	2700	160		2000	110	0 6	1700	81	0 5
124-48-1	**Chlorodibromomethane**	130			100		0 2	80		0 2
67-66-3	**Chloroform**	1800	5		1400	3	0 3	1100	2	0 3
95-57-8	2-Chlorophenol	680			510		1 0	415		1 3
218-01-9	**Chrysene**	1500			1100		620	930		550
72-54-8	**DDD**	47			35		47	28		42

TABLE B1 METHOD TWO - SOIL CLEANUP STANDARDS (See notes to table for further requirements)

CAS NUMBER [4]	CHEMICAL NAME (Carcinogenics in Bold Type)	Arctic Zone [1] Ingestion [5] (mg/kg)	Arctic Zone [1] Inhalation [6] (mg/kg)	Arctic Zone [1] Migration to Ground-water [7] (N/A)	Under 40 inch Zone [2] Ingestion (mg/kg)	Under 40 inch Zone [2] Inhalation (mg/kg)	Under 40 inch Zone [2] Migration to Groundwater (mg/kg)	Over 40 inch Zone [3] Ingestion (mg/kg)	Over 40 inch Zone [3] Inhalation (mg/kg)	Over 40 inch Zone [3] Migration to Groundwa-ter (mg/kg)
72-55-9	**DDE**	33			24		150	20		130
50-29-3	**DDT**	33	7800		24	5300	88	20	3900	80
53-70-3	**Dibenzo(a,h)anthracene**	2			1		6	0.9		5
84-74-2	Di-n-butyl phthalate	14000			10000		1700	8300		1500
95-50-1	1,2-Dichlorobenzene	12000	110[12]		9100	110[12]	7	7500	110[12]	6
106-46-7	**1,4-Dichlorobenzene**	170	12000		350	8000	0.8	280	6000	0.7
91-94-1	**3,3-Dichlorobenzidine**	25			18		0.02	15		0.02
75-34-3	1,1-Dichloroethane	14000	890[12]		10000	890[12]	12	8300	890[12]	11
107-06-2	**1,2-Dichloroethane**	120	7		91	5	0.02	75	1	0.01
75-35-4	**1,1-Dichloroethylene**	19	1.3		14	0.9	0.03	11	0.6	0.03
156-59-2	cis-1-2-Dichloroethylene	1400			1000		0.2	830		0.2
156-60-5	trans 1-2 Dichloroethylene	2700			2000		0.4	1700		0.3
120-83-2	2,4-Dichlorophenol	410			300		0.5	250		0.5
78-87-5	**1,2-Dichloropropane**	160	25		120	17	0.02	100	12	0.02
542-75-6	**1,3-Dichloropropane**	41	2		30	2	0.02	25	1	0.02
60-57-1	**Dieldrin**	0.7	12		0.5	8	0.02	0.4	6	0.01
84-66-2	Diethyl phthalate	110000			81000		90	66000		80
131-11-3	Dimethyl phthalate	> 10^6			> 10^6		1400	830000		1200
105-67-9	2,4-Dimethylphenol	2700			2000		1	1700		1
51-28-5	2,4-Dinitrophenol	270			200		0.2	170		0.2
121-14-2	2,4-Dinitrotoluene	270			200		0.3	170		0.3
606-20-2	2,6-Dinitrotoluene	140			100		0.1	83		0.1
117-84-0	Di-n-octyl phthalate	2700			2000		810000	1600		720,000
174-60-16	***Dioxin*** [8]									
115-29-7	Endosulfan	820			610		7	500		6
72-20-8	Endrin	11			30		0.3	25		0.3
100-41-4	Ethylbenzene	13700	89[12]		10000	89[12]	6	8300	89[12]	5
206-44-0	Fluoranthene	5500			4100		2100	3300		1900
86-73-7	Fluorene	5500			4100		270	3300		240

TABLE B1 METHOD TWO - SOIL CLEANUP STANDARDS (See notes to table for further requirements)

CAS NUMBER [4]	CHEMICAL NAME (Carcinogenics in Bold Type)	Arctic Zone [1] Ingestion [5] (mg/kg)	Arctic Zone [1] Inhalation [6] (mg/kg)	Arctic Zone [1] Migration to Ground-water [7] (N/A)	Under 40 inch Zone [2] Ingestion (mg/kg)	Under 40 inch Zone [2] Inhalation (mg/kg)	Under 40 inch Zone [2] Migration to Groundwater (mg/kg)	Over 40 inch Zone [3] Ingestion (mg/kg)	Over 40 inch Zone [3] Inhalation (mg/kg)	Over 40 inch Zone [3] Migration to Groundwa-ter (mg/kg)
76 44-8	**Heptachlor**	3	1 2		2	0 8	8	1 5	0 6	7
1024-57-3	**Heptachlor epoxide**	1	50		0 9	33	0 2	0 7	25	0 2
118-74-1	**Hexachlorobenzene**	7	10		5	7	1 0	4	5	0 7
87-68-3	**Hexachloro-1,3-butadiene**	140	82		110	55	8	87	41	7
319-84-6	**alpha-Hexachlorocyclohexane**	2	8		1 3	6	0 003	1	4	0 002
319-85-7	**beta-Hexachlorocyclohexane**	6	65		5	43	0 009	4	32	0 009
58-89-9	**gamma-Hexachlorocyclohex-ane (Lindane)**	9			6		0 003	5		0 003
77-47-4	Hexachlorocyclopentadiene	960	11		710	7	130	580	5	120
67-72-1	**Hexachloroethane**	800	580		590	390	2	490	290	1 4
193-39-5	**Indeno(1,2,3-c,d)pyrene**	15			11		54	9		50
78-59-1	**Isophorone**	11800			8700		3	7200		3
72-43-5	Methoxychlor	680			510		52	420		47
74-83-9	Methyl bromide	190	21		140	14	0 2	120	11	0 1
74-87-3	**Methyl chloride**						2 0			2
75-09-2	**Methylene chloride**	1500	270		1100	180	0 02	900	135	0 01
95-48-7	2-Methylphenol (o cresol)	6800			5100		7	4200		6
91-20-3	Naphthalene	5500			4100		43	3300		38
98-95-3	Nitrobenzene	68	130		51	90	0 06	42	67	0 06
86-30-6	***n-Nitrosodiphenylamine***	2300			1700		3	1400		3
621-64-7	**n-Nitrosodi-n-propylamine**	1 6			1 2		0 0004	1 0		0 0003
87-86-5	**Pentachlorophenol**	45[13]			35[13]		0 01	29[13]		0 009
108-95-2	Phenol	82000			60800		67	50000		60
133-63-63	**Polychlorinated Biphenyls (PCBs)** [9]									
129-00-0	Pyrene	4100			3000		1500	2500		1400
100-42-5	Styrene	27400	280[12]		20300	280[12]	1 0	17000	280[12]	1 2
79-34-5	**1,1,2,2-Tetrachloroethane**	56	8		42	5	0 02	34	1	0 01
127-18-4	**Tetrachloroethylene**	220	80[12]		160	80[12]	0 03	130	79	0 03
108-88-3	Toluene	27400	180[12]		20300	180[12]	5	17000	180[12]	5

TABLE B1 METHOD TWO - SOIL CLEANUP STANDARDS (See notes to table for further requirements)

CAS NUMBER [4]	CHEMICAL NAME (Carcinogenics in Bold Type)	Arctic Zone [1] Ingestion [5] (mg/kg)	Arctic Zone [1] Inhalation [6] (mg/kg)	Arctic Zone [1] Migration to Ground-water [7] (N/A)	Under 40 inch Zone [2] Ingestion (mg/kg)	Under 40 inch Zone [2] Inhalation (mg/kg)	Under 40 inch Zone [2] Migration to Groundwater (mg/kg)	Over 40 inch Zone [3] Ingestion (mg/kg)	Over 40 inch Zone [3] Inhalation (mg/kg)	Over 40 inch Zone [3] Migration to Groundwa-ter (mg/kg)
8001-35-2	**Toxaphene**	10	920		8	620	4	6	160	9
120-82-1	1 2 4 Trichlorobenzene	1400	570[12]		1000	570[12]	2	830	570[12]	1 7
71-55-6	1,1,1-Trichloroethane		460[12]			460[12]	1 0		460[12]	0 9
79-00-5	**1,1,2-Trichloroethane**	200	15		150	10	0 02	120	8	0 009
79-01-6	**Trichloroethylene**	1000	64		750	43	0 02	620	32	0 02
95-95 1	2,4,5-Trichlorophenol	13700			10000		90	8300		78
88-06-2	**2,4,6-Trichlorophenol**	1000	2300		750	1500	0 6	620	1100	0 5
108-05-4	Vinyl Acetate	137900	2200[12]		101000	1500	100	83000	1100	90
75-01-4	**Vinyl chloride**	6	0 7		4	0 5	0 009	4	0 3	0 008
1330-20 7	Xylenes (Total)	274000	81[12]		203000	81[12]	78	166,000	81[12]	69
	INORGANICS									
7440-38-2	Arsenic	8			5		0 1	4		0 1
7440-36-0	Antimony	55			41		0 02	33		0 01
7440-41-7	**Beryllium**	3			1 9		0 01	2		0 01
7440-39-3	Barium	9600			7100		5	5800		4
7440-43-9	Cadmium	140			100		0 01	83		0 01
7440-47-3	**Chromium (total)**	680			510		0 3	420		0 2
16065-83-1	Chromium +3	137,000			100000		4400	83000		4000
18540-29-9	**Chromium +6**	680			510		0 5	420		0 4
57-12-5	Cyanide [10]	30			2000		2	1700		2
7439-92-1	Lead [11]									
7439-97-6	Mercury	41	26		30	18	0 006	25	13	0 006
7440-02-0	Nickel	2700			2000		2	1700		2
7782-49-2	Selenium	680			510		0 1	420		0 1
7440-22-4	Silver	680			510		0 5	420		0 4
7440-62-2	Vanadium	960			710		0 7	580		0 6
7440 66 6	Zinc	11000			30000		30	25000		26

TABLE B2. METHOD TWO - PETROLEUM HYDROCARBON SOIL CLEANUP STANDARDS

Petroleum Hydrocarbon Range	Ingestion mg/kg			Inhalation mg/kg			Migration to Groundwater mg/kg			Maximum Allowable Concentrations[1] mg/kg
	Arctic Zone	Under 40" Zone	Over 40" Zone	Arctic Zone	Under 40" Zone	Over 40" Zone	Arctic Zone	Under 40" Zone	Over 40" Zone	
If AK Methods 101, 102, and 103 Are Used										
C_6-C_{10} GRO using AK 101	1400	1400	1400	1400	1400	1400	n/a	300	260	1400
C_{10}-C_{25} DRO using AK 102	12500	10250	8250	7500	5000	3750	n/a	250	230	12500
C_{25}-C_{36} RRO using AK 103	13700	10000	8300	22000	22000	22000	n/a	11000	9700	22000
If Laboratory Analysis of Aliphatic and Aromatic Fractions Are Used										
C_6-C_{10} Aliphatics	1000	1000	1000	1000	1000	1000	n/a	470	420	1000
C_6-C_{10} Aromatics	1000	1000	1000	1000	1000	1000	n/a	150	130	1000
C_{10}-C_{25} Aliphatics	10000	10000	10000	10000	7700	5800	n/a	10000	10000	10000
C_{10}-C_{25} Aromatics	5000	4100	3300	3000	2000	1500	n/a	100	90	5000
C_{25}-C_{36} Aliphatics	20000	20000	20000	20000	20000	20000	n/a	20000	20000	20000
C_{25}-C_{36} Aromatics	4100	3000	2500	10000	10000	10000	n/a	3300	2900	10000

[1] See notes to table for further requirements

Notes to Tables B1 and B2:

If using method two, the petroleum hydrocarbon standards in Table B2 must be met in addition to the chemical-specific standards in Table B1 for benzene, toluene, ethylbenzene, total xylenes and the carcinogenic polynuclear aromatic hydrocarbons For PCB-free mineral oils, the department will, in its discretion, approve alternate standards or pathways Although migration to groundwater is not applicable to the Arctic zone, site-specific standards must be protective of the migration to surface water pathway Concentrations of hazardous substances in soil must be calculated and presented on a per dry weight basis

1 'Arctic zone" means a site within that area of the state that has continuous permafrost
2 "Under 40 inch zone"means a site that receives average annual rainfall of less than 40 inches each year
3 'Over 40 inch zone"means a site that receives average rainfall of 40 or more inches each year
4 "CAS Number 'means the Chemical Abstract Service registry number uniquely assigned to chemicals by the American Chemical Society and recorded in the CAS Registry System
5 'Ingestion"means a potential pathway of exposure to soil contaminants through direct consumption of the soil
6 ' Inhalation"means a potential pathway of exposure to volatile organic contaminants in the soil through volatilization.
7 "Migration to groundwater ' means a potential exposure to soil contaminants through direct ingestion of contaminated groundwater at the levels in Table C at 18 AAC 75 345(b)(1) caused by movement of contaminants through soil to the groundwater, this pathway is not applicable to the Arctic zone, where soil levels protective of migration to surface water must be determined on a site-specific basis.
8 Dioxin cleanup standards must be determined on a site-specific basis
9 PCB cleanup standards must be determined on a site-specific basis based under the EPA *PCB Spill Cleanup Policy*, 40 C.F R 761 120 - 40 C.F R 761 135, revised as of July 1, 1997, adopted by reference, or through a site-specific risk assessment.
10 Cyanide expressed as free, or physiologically available cyanide
11 Lead cleanup standards must be determined on a site-specific basis, based on land use. The residential soil cleanup standard is 400 mg/kg and the commercial or industrial standard is 1,000 mg/kg On a site-specific basis, department approved exposure models may be used to evaluate exposure to a child resident or an adult worker The responsible person may also propose an alternative cleanup standard based on a chemical speciation of the lead present at the site
12 Values based on soil saturation level (Csat) using the equations set out in *Guidance on Cleanup Standards Equations and Input Parameters*, adopted by reference in 18 AAC 75 325(d)
13 Ingestion value adjusted by a factor of 0 5 to account for dermal exposure
14 This level is the concentration of C_6 - C_{10}, C_{10} - C_{25}, or C_{25} - C_{36} petroleum hydrocarbon range in surface and subsurface soil which, if exceeded, indicates an increased potential for contaminant migration or for risk to human health, safety, or welfare or the environment In no case may the level of a petroleum hydrocarbon remain in place at a concentration above the *maximum allowable concentration unless the responsible person demonstrates that the petroleum* hydrocarbon will not migrate nor pose a significant risk to human health, safety, or welfare or the environment Free product must be recovered as required by 18 AAC 75 325(c)

(b) The soil cleanup standards for method one and method two apply at a contaminated site unless the department approves an alternative cleanup standard under method three or method four The cleanup standard from Table A1, A2, B1, or B2 that applies at a site is the most stringent ~~of the applicable pathway-specific~~ cleanup standards based on ingestion, inhalation, or migration to groundwater. For methods one, two, three, and four, the responsible person shall demonstrate that the Arctic zone cleanup standard if applicable, is protective of the migration to surface water pathway To obtain department approval for an alternative cleanup standard, the responsible person may propose alternative cleanup standards under

(1) method three that modify

(A) the migration to groundwater or inhalation standards in Table B1 and B2 based on the use of site-specific soil data approved by the department, if

(i) used in the equations set out in the department's *Guidance on Cleanup Standards Equations and Input Parameters,* adopted by reference in 18 AAC 75 325(d), and

(ii) the alternative cleanup standard that then applies at the site for a contaminant is the most stringent of the Table B1 and B2 ingestion-based standard and the site-specific calculated standards for inhalation or migration to groundwater,

(B) the migration to groundwater standards in Table B1 and B2 based on department-approved site-specific soil data and a fate and transport model that demonstrates that alternative soil concentrations are protective of the applicable groundwater cleanup standards under 18 AAC 75 345 and 18 AAC 75 350 at the point of compliance if the alternative migration to groundwater cleanup standard does not exceed the ingestion-based standard or the inhalation standard in Table B1 and B2 or a site-specific inhalation standard calculated under (A) of this paragraph, the standard that applies at the site is the most stringent standard, or

(C) the ingestion standard or the inhalation standard in Table B1 and B2 based on the *Guidance on Cleanup Standards Equations and Input Parameters* adopted by reference in 18 AAC 75 325(d), if the department finds that the land use for the site is commercial or industrial and if the alternative ingestion standard or inhalation standard does not exceed the migration to groundwater cleanup standard in Table B1 and B2 or a site-specific migration to groundwater standard calculated under (B) of this paragraph, the departments' decision to approve a commercial or industrial land use under this subparagraph will be based on

(i) comments from the public including the local zoning authority,

(ii) a finding that the site does not serve as a current residential area,

(iii) a finding that the site will not be a future residential area based on consideration of the factors in EPA's *Land Use in the CERCLA Remedy Selection Process*, OSWER Dir No 9355 7-04, dated May 25, 1995, adopted by reference, modified by the consideration that land in an undeveloped area for which it would be difficult to determine a future use pattern is capable of being a residential area, unless otherwise determined by the department; and

(iv) concurrence with each landowner that a cleanup level less stringent than residential standards is appropriate for the site; or

(2) method four that require the responsible person to perform a site-specific risk assessment and submit a risk assessment report to the department for its approval, in peforming the risk assessment, the responsible person shall follow the department's *Risk Assessment Procedures Manual*, dated May 4, 1998, adopted by reference

(c) The department will in its discretion, approve less stringent soil cleanup standards than those required by (a) or (b) of this section and will, in its discretion, require institutional controls under 18 AAC 75 375 based on

(1) background concentrations of a hazardous substance in the site area, as determined by the department's *Technical Guidance Document on Determination of Background Concentration*, dated May 4, 1998, adopted by reference, or

(2) practical quantitation limits for the hazardous substance

(d) The department will in its discretion, require the responsible person to modify a cleanup standard under this section if the department finds that

(1) as a result of site conditions or new data, a modification is necessary to protect human health, safety and welfare or the environment, or

(2) a modification is necessary to perform a site-specific analysis of additional site risks due to

(A) accumulation of vapors in buildings or other structures at levels that threaten human health,

(B) human inhalation of fugitive dust if the proposed remedy includes leaving a hazardous substance in place within the upper one foot of the surface soil at the site,

(C) sediment contamination,

(D) impacts to ecological receptors, and

(E) other nonresidential site uses such as recreational, agricultural, or subsistence use

(e) Soil cleanup standards based on

(1) migration of a hazardous substance to groundwater must be attained in the surface soil and the subsurface soil,

(2) human exposure from ingestion or inhalation of volatile contaminants must be attained in the surface soil and the subsurface soil to a depth of at least 15 feet unless an institutional control or site conditions prevent human exposure to the subsurface soil, and

(3) the maximum allowable concentrations for petroleum hydrocarbons described in Table B2 must be attained in the surface soil and the subsurface soil

(f) For a cleanup conducted under methods two and three, a chemical that is detected at one-tenth or more of the Table B1 or B2 value must be included when calculating cumulative risk under 18 AAC 75 325(d). (Eff. ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 08 080
AS 46 03 755 AS 46 09 010
AS 46.03 822 AS 46 09 020

Editor's note: The documents adopted by reference in this section are on file in the Office of the Lieutenant Governor and may be reviewed at, or requested from, the department's offices in Anchorage, Fairbanks, Juneau, and Soldotna

18 AAC 75.345. GROUNDWATER AND SURFACE WATER CLEANUP STANDARDS. (a) Except as otherwise provided in this section, cleanup of a discharge or release of a hazardous substance to groundwater or surface water must meet the requirements of this section

(b) Contaminated groundwater must meet

(1) the cleanup standards in Table C if the current use or the reasonably expected potential future use of the groundwater is a drinking water source,

TABLE C. GROUNDWATER CLEANUP STANDARDS
(Carcinogenics in Bold Type)

Hazardous Substance	CAS Registry Number	Groundwater Cleanup Standard (mg/L)
Acenaphthene	83-32-9	2 2
Acetone	67-64-1	3 7
Aldrin	309-00-2	0 00005
Anthracene	120-12-7	11 0
Antimony	7440360	0 006

TABLE C. GROUNDWATER CLEANUP STANDARDS
(Carcinogenics in Bold Type)

Hazardous Substance	CAS Registry Number	Groundwater Cleanup Standard (mg/L)
Arsenic	7440382	0 05
Barium	7440393	2 0
Benzene	71-43-2	0 005
Benzo(a)anthracene	56-55-3	0 001
Benzo(b)fluoranthene	205992	0 001
Benzo(k)fluoranthene	207-08-9	0 01
Benzoic acid	65-85-0	146 0
Benzo(a)pyrene	7440417	0 0002
Beryllium	50-32-8	0 004
Bis(2-chloroethyl)ether	111-44-4	0 0008
Bis(2-ethylhexyl)phthalate	117-81-7	0 006
Bromodichloromethane	75-27-4	0 1
Bromoform (Tribromomethane)	75-25-2	0 1
Butanol	71-36-3	3 7
Butyl benzyl phthalate	85-68-7	7 3
Cadmium	7440439	0 005
Carbazole	86-74-8	0 04
Carbon disulfide	75-15-0	3 7
Carbon tetrachloride	56-23-5	0 005
Chlordane	57-74-9	0 002
p-Chloroaniline	106-47-8	0 1
Chlorobenzene	108-90-7	0 1
Chlorodibromomethane	124-48-1	0 06
Chloroform	67-663	0 1
2-Chlorophenol	95-57-8	0 2
Chromium (Total)	7440-47-3	0 1
Chromium +3	16065-83-1	36 5
Chromium +6	18546-29-9	0 1
Chrysene	218-01-9	0 1
Copper	7440508	1 3
Cyanide	57-12-5	0 2
DDD	72-54-8	0 004
DDE	72-55-9	0 003
DDT	50-29-3	0 003
Dibenzo(a,h)anthracene	53-70-3	0 0001
Di-n-butyl phthalate	84-74-2	3 7
1 2-Dichlorobenzene	95-50-1	0 6
1,4-Dichlorobenzene	106-46-7	0 075
3 3-Dichlorobenzidine	91-94-1	0 002
1 1-Dichloroethane	75-34-3	3 7
1,2-Dichloroethane	107-06-2	0 005

TABLE C. GROUNDWATER CLEANUP STANDARDS
(Carcinogenics in Bold Type)

Hazardous Substance	CAS Registry Number	Groundwater Cleanup Standard (mg/L)
1,1-Dichloroethylene	75-35-4	0 007
cis-1 2-Dichloroethylene	156-59-2	0 07
trans-1 2-Dichloroethylene	156-60-5	0 1
2,4-Dichlorophenol	120-83-2	0 1
1,2-Dichloropropane	78-87-5	0 005
1,3-Dichloropropene	542-75-6	0 005
Dieldrin	60-57-1	0 00005
Diethyl phthalate	84-66-2	29 0
2,4-Dimethylphenol	105-67-9	0 7
2 4-Dinitrophenol	51-28-5	0 07
2 4-Dinitrotoluene	121-14-2	0 07
2,6-Dinitrotoluene	606-20-2	0 04
Di-n-octyl phthalate	117-84-0	0 7
Dioxin	174-60-16	0 00000003
Endosulfan	115-29-7	0.2
Endrin	72-20-8	0 002
Ethylbenzene	100-41-4	0 7
Fluoranthene	206-44-0	1 5
Fluorene	86-73-7	1 5
Heptachlor	76-44-8	0 0004
Heptachlor Epoxide	1024-57-3	0 0002
Hexachlorobenzene	118-74-1	0 001
1,3-Hexachlorobutadiene	87-68-3	0 01
alpha-Hexachlorocyclohexane	319-84-6	0 0001
beta-Hexachlorocyclohexane	319-85-7	0 0005
gamma-Hexachlorocyclohexane (Lindane)	58-89-9	0 0002
Hexachlorocyclopentadiene	77-47-4	0 05
Hexachloroethane	67-72-1	0 06
Indeno(1,2,3-c,d)pyrene	193-39-5	0 001
Isophorone	78-59-1	0 9
Lead ^	7439921	0 015
Mercury	7439976	0 002
Methoxychlor	72-43-5	0 04
Methyl bromide	74-83-9	0 05
Methylene Chloride	75-09-2	0 005
Methylphenol (o-cresol)	95-48-7	1 8
Naphthalene	91203	1 5
Nickel	7440020	0 7
Nitrobenzene	98-95-3	0 02
n-Nitrosodiphenylamine	86-30-6	0 2
n-Nitrosodi-n-propylamine	621-64-7	0 0001
Pentachlorophenol	87-86-5	0 001

TABLE C. GROUNDWATER CLEANUP STANDARDS
(Carcinogenics in Bold Type)

Hazardous Substance	CAS Registry Number	Groundwater Cleanup Standard (mg/L)
Phenol	108-95-2	22.0
Polychlorinated biphenyls (PCBs)	133-63-63	0 0005
Pyrene	129-00-0	1 1
Selenium	7782492	0 05
Silver	7440-22-4	0 2
Styrene	100-42-5	0 1
1,1,1,2-Tetrachloroethane	630206	0 004
Tetrachloroethylene	127-18-4	0 005
Thallium	7440280	0 002
Toluene	108-88-3	1 0
Toxaphene	8001-35-	0 003
1 2,4-Trichlorobenzene	120-82-1	0 07
1 1 1-Trichloroethane	71-55-6	0 2
1,1,2-Trichloroethane	79-00-5	0 005
Trichloroethylene	79-01-6	0 005
1,2,4 5-Trichlorophenol	95-95-4	3 7
2,4,6-Trichlorophenol	88-06-2	0.08
Vanadium	7440622	0 3
Vinyl Acetate	108-05-4	37 0
Vinyl chloride (Chloroethene)	75-01-4	0 002
Xylenes (Total)	1330-20-7	10.0
Zinc	7440-66-6	11 0
Petroleum Hydrocarbons		
GRO - C_6 - C_{10} (AK 101)		2 2
DRO - C_{10} - C_{25} (AK 102)		1 5
RRO - C_{25} - C_{36}		1 1
C_6 - C_{10} - Aliphatics		2 2
C_6 - C_{10} - Aromatics		7 3
C_{10} - C_{25} - Aliphatics		22
C_{10} - C_{25} - Aromatics		1 5
C_{25} - C_{36} - Aliphatics		N/A
C_{25} - C_{36} - Aromatics		1 1

(2) a concentration equal to 10 times the cleanup standards in the Table C, not to exceed the solubility limit of the contaminant, based on a determination of groundwater use made under 18 AAC 75 350 in consultation with the landowner and with public and appropriate local, state, and federal officials if, based on a land use determination under 18 AAC 75 340(b)(1)(C) and the groundwater use determination,

(A) the department finds that the groundwater is not a current source of drinking water or a reasonably expected future source of drinking water; and

(B) the cleanup standards in Table C are met at the property boundary in an area where groundwater in the neighboring property is determined under 18 AAC 75 350 to be a reasonably expected source of drinking water, or

(3) an alternative cleanup standard approved by the department based on a site-specific risk assessment conducted under the *Risk Assessment Procedures Manual* adopted by reference in 18 AAC 75 340(b)(2)

(c) The department will, in its discretion, require a more stringent cleanup standard than the applicable standard under (b) of this section, based on actual onsite, and actual or likely offsite uses of the groundwater that are likely to be affected by the hazardous substance, based on

(1) the groundwater use classifications other than drinking water under 18 AAC 70.050(2),

(2) compliance with the secondary maximum contaminant levels in 18 AAC 80 070 for actual or likely drinking water supplies, for protection of the groundwater source based on aesthetic qualities of the drinking water; or

(3) the standards in this section for groundwater contaminated with petroleum; the contamination may not exceed, for each petroleum contaminant range applicable, including gasoline range, diesel range, and residual range,

(A) a Threshold Odor Number (TON) of 1 for odor, as measured by Method 2150B *Standard Methods for the Examination of Water and Wastewater*, 18th edition, American Public Health Association (1992), adopted by reference, or

(B) a Flavor Threshold Number (FTN) of 1 for flavor, as measured by Method 2160B *Standard Methods for the Examination of Water and Wastewater*, adopted by reference in (A) of this paragraph

(d) Toxic substances in sediment may not cause, nor reasonably be expected to cause, a toxic or other deleterious effect on aquatic life, except as authorized under 18 AAC 70

(e) Groundwater cleanup standards must be attained throughout the site from each point extending vertically from the uppermost level of the saturated zone to the lowest possible depth that could potentially be affected by the discharge or release of a hazardous substance, unless the department approves an alternative point of compliance as part of the cleanup action and workplan under 18 AAC 75 360 To be approved under this subsection, an alternative point of compliance

(1) must be within the existing groundwater contamination plume, and

(2) may not exceed the property boundary, unless the responsible person

(A) demonstrates that attainment is technically impractical, and

(B) provides an alternative source of water for affected persons.

(f) Groundwater that is closely hydrologically connected to nearby surface water may not cause an exceedance of the water quality standards in 18 AAC 70 The department will, in consultation with local, state, and federal officials and the public, establish points of compliance within this subsection, taking into account the following factors

(1) groundwater travel time and distance from contaminant sources to surface water,

(2) contribution of groundwater to chemical and physical quantity and quality of the surface water;

(3) biota living in or dependant upon the groundwater to surface water ecosystems,

(4) climatic, tidal, or seasonal variations,

(5) feasibility of attaining applicable water quality standards to support the designated uses of the surface water;

(6) presence of sediment contamination, and

(7) if conducted for the site, the conclusions of a site-specific risk assessment conducted under the *Risk Assessment Procedures Manual*, adopted by reference in 18 AAC 75 340(b)(2)

(g) If the groundwater point of compliance is established at, or in close proximity to a property boundary or if groundwater is closely hydrologically connected to a surface waterbody, the department will, in its discretion, require the responsible person to develop sentinel monitoring wells that monitor for contaminant concentrations to determine if contamination is likely to migrate to the applicable point of compliance at levels that exceed the cleanup standards

(h) The department will, in its discretion, require

(1) long-term monitoring if documented evidence shows that groundwater, surface water, soil, or sediment contains residual concentrations of a hazardous substance that exceed the applicable cleanup standards, if long-term monitoring is required, the responsible person shall submit a plan outlining that monitoring for department approval, unless otherwise approved by the department, the responsible person shall conduct monitoring quarterly for at least one year to establish the concentration trend, the department will evaluate the monitoring program yearly, if the monitoring indicates that the concentration trend

(A) is increasing, the department will require additional followup monitoring and assess the need for further cleanup , or

(B) is stable or decreasing, and that no contamination migration is occurring, the department will, in its discretion, decrease or discontinue the monitoring frequency and locations, and

(2) groundwater, surface water, soil, or sediment monitoring to estimate contaminant flux rates and to address potential bioaccumulation of each hazardous substance at the site if monitoring under this paragraph is required, the monitoring schedule must be provided as part of the workplan under 18 AAC 75 360

(i) Groundwater monitoring wells must be installed, developed, and decommissioned in accordance with the department's *Recommended Practices for Monitoring Well Design, Installation, and Decommissioning*, April 1992, adopted by reference, or another method the department, in its discretion, finds will assure that the wells are properly installed, developed, and decommissioned.

(j) For a cleanup conducted under methods two and three, a chemical that is detected at one-tenth or more of the Table C value must be included when calculating cumulative risk under 18 AAC 75.325(d). (Eff ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46 04 020
	AS 46 03 740	AS 46 04 070
	AS 46 03 745	AS 46 08 080
	AS 46 03 755	AS 46 09 010
	AS 46 03 822	AS 46 09 020

Editor's note: *Standard Methods for the Examination of Water and Wastewater*, adopted by reference in this section, may be purchased from the AWWA Bookstore, 6666 West Quincy Avenue Denver, CO 80235, may be viewed at the department's Anchorage, Fairbanks, Juneau, or Soldotna offices, and is on file in the Office of the Lieutenant Governor

Recommended Practices for Monitoring Well Design, Installation, and Decommissioning, adopted by reference in this section, is on file in the Office of the Lieutenant Governor and may be viewed at, or requested from, the department's Anchorage, Fairbanks, Juneau, or Soldotna offices

18 AAC 75.350. GROUNDWATER USE. (a) Groundwater at the site is considered to be a drinking water source unless the responsible person demonstrates that

(1) the groundwater is not

(A) used for a private or public drinking water system,

(B) within the zone of influence of an active private or public drinking water system,

(C) within a designated aquifer recharge area, a wellhead protection area, or a sole source aquifer, and

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(D) used for a use classification other than drinking water under 18 AAC 70.050(2) that requires a more stringent cleanup standard than drinking water use, in which case the department will, in its discretion, require a more stringent standard under 18 AAC 75.345(c),

(2) the groundwater is not a reasonably potential future source of drinking water, based on an evaluation of

(A) availability of the groundwater as a drinking water source, including depth to groundwater, probable yield, and the presence of permafrost,

(B) actual or potential quality of the groundwater, including organic and inorganic substances, from background, saltwater intrusion, and from known or existing areawide contamination,

(C) the existence and enforceability of institutional controls, municipal ordinances, or comprehensive plans that prohibit or limit access to the groundwater for use as drinking water

(D) land use for the site and neighboring property,

(E) an evaluation of the need for a drinking water source and the availability of an alternative source and

(F) whether the groundwater is exempt under 40 C F R 146.4, and

(3) the groundwater impacted by the hazardous substance will not be transported to groundwater that is a current or reasonably potential future source of drinking water or to surface water in concentrations that exceed the groundwater or surface water cleanup standards, in reviewing the demonstration required under this paragraph, the department will consider

(A) the areal extent of the affected groundwater,

(B) the distance to any existing or reasonably anticipated future water supply well or surface waterbody,

(C) the likelihood of an aquifer connection due to well construction practices in the area where the site is located,

(D) the physical and chemical characteristics of the hazardous substance,

(E) the hydrogeological characteristics of the site,

(F) the presence of discontinuities in the affected geologic stratum at the site

(G) the local climate,

(H) the degree of confidence in any predictive modeling performed, and

(I) other relevant information (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 08 080
AS 46 03 755 AS 46 09 010
AS 46 03 822 AS 46 09 020

18 AAC 75.355. SAMPLING AND ANALYSIS (a) Unless the department, in its discretion, finds that final confirmation sampling is not needed to meet the requirements of this chapter, the responsible person shall include sampling and analysis plans in a workplan submitted for department approval under 18 AAC 75 360; and submit the analytical sampling results collected under this chapter to the department Based on the results of the analyses, the responsible person shall submit documentation demonstrating compliance with the site cleanup rules

(b) The responsible person, and the owner or operator of an offsite or portable treatment facility under 18 AAC 75 365 shall ensure that the collection, interpretation, and reporting of data, and the required sampling and analysis is conducted or supervised by a qualified, impartial third party The department will waive the requirement for use of an impartial third party if the responsible person demonstrates that work performed will be conducted or supervised by a qualified and objective person To qualify for a waiver under this subsection, the responsible person shall submit

(1) the resume of the person qualified to conduct or supervise the work to be performed, showing relevant education, vocational training, related work experience, and any special training, license, certificate, or registration held by that person, and

(2) for a company, agency, utility, or municipality with environmental staff, a description of the supervisory and organizational structure related to the person identified in (1) of this subsection

(c) The department recognizes that, in some cases, when using sampling and analytical procedures that comply with this section, a hazardous substance is not detected or is detected at a concentration below the practical quantitation limit If a hazardous substance is suspected at the site because of empirical evidence or prior analysis, and the practical quantitation limit is higher than the cleanup level for that substance,

(1) the cleanup level will be considered to be attained, subject to (3) of this subsection, only if the more stringent of the following conditions is met

(A) the practical quantitation limit is no greater than five times the method detection limit, or

(B) the practical quantitation limit is no greater than the practical quantitation limit established in EPA's *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, including Final Update III, 1997, adopted by reference,

(2) the department will, in its discretion, require one or more of the following

(A) use of a surrogate measure to estimate the concentration of the hazardous substance,

(B) use of a specialized sample collection or analysis technique to improve the accuracy, precision, method detection limit, or practical quantitation limit for the hazardous substances at the site, or

(C) monitoring to assure that the concentration of the hazardous substance does not exceed quantitatable levels, and

(3) the department will, in its discretion before site closure and if the site is in a monitoring stage, periodically consider whether improved analytical techniques should be used at the site and will, when appropriate, require the use of an improved analytical technique or other responsive action

(d) If a hazardous substance is determined to be a chemical of concern for the site and has been detected above the cleanup standards for that substance, analytical values below the method detection limit must be assigned a value equal to one-half of the method detection limit, unless the department approves an alternative statistical procedure Analytical values above the method detection limit, but below the practical quantitation limit, must be assigned a value equal to the method detection limit

(e) If there is more than one approved analytical method with a practical quantitation limit less than the applicable cleanup standard for a chemical of concern any method in the test methods adopted by reference in (c)(1)(B) of this section, may be selected If only one analytical method has a practical quantitation limit less than the cleanup standard, that method must be used Analysis for petroleum contamination must follow the Alaska methods for petroleum compounds adopted by reference in 18 AAC 78

(f) Laboratory analysis under the site cleanup rules must be performed by a laboratory approved by the department under 18 AAC 78 800 (Eff ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46 04 020
	AS 46 03 740	AS 46 04 070
	AS 46 03 745	AS 46 08.080
	AS 46 03 755	AS 46 09 010
	AS 46 03 822	AS 46 09 020

18 AAC 75.360. CLEANUP OPERATION REQUIREMENTS. (a) The responsible person shall ensure that site cleanup is conducted or supervised by a qualified person Except as provided in 18 AAC 75 355(b), a person conducting site cleanup shall submit each of the following project elements needed for that site cleanup for department approval before work on that element begins, and for further approval when modifications to project elements are anticipated

(1) sampling and analysis plan, including a plan for dealing with investigative derived wastes,

(2) plans with detailed specifications for the proposed cleanup technique,

(3) provisions for minimizing contaminant migration to previously unaffected areas, except under a treatment alternative approved by the department,

(4) a schedule for conducting field work, monitoring, cleanup, and submittal of interim and final cleanup reports,

(5) a list of chemical additives and their potential effects on the hazardous substances at the site,

(6) a site control plan, if necessary to protect human health, safety, and welfare and the environment, including the use of fences, signs, or other barriers;

(7) a statement that site work and any remedial action will comply with the air quality standards and requirements of 18 AAC 50,

(8) a plan for ensuring that contaminated soil will not come in contact with clean soil during the cleanup process, including stockpiling plans developed under 18 AAC 75.370, except under a treatment alternative approved by the department,

(9) if required as part of the cleanup, a nondomestic wastewater system plan under 18 AAC 72.600 for the construction, alteration, installation, modification, or operation of a nondomestic wastewater treatment works or disposal system, and

(10) the additional elements required under (d)of this section and 18 AAC 75 365, as applicable

(b) Soil with concentrations of petroleum-only contaminants that do not exceed cleanup levels for Category A for petroleum hydrocarbons in Table A1 or A2 in 18 AAC 75 340 may be placed in a non-wetlands or non-environmentally sensitive area. Soil with concentrations of contaminants that do exceed those levels may not be placed on land or in water, except as part of an approved cleanup plan

(c) For soil contaminated at levels that exceed the levels for Category A in Table A1 or A2, based on and subject to the general provisions of 18 AAC 75 325, the responsible person may propose for department approval a cleanup action plan that includes one or more of the following

(1) active or passive treatment, including landspreading, that eliminates or reduces the toxicity, mobility, or volume of a hazardous substance at the site,

(2) transportation as a covered load to an off-site treatment or disposal facility, including a permitted asphalt plant, permitted landfill, and thermal treatment unit, if the off-site movement complies with the solid waste regulations on 18 AAC 60,

(3) engineered measure, including installation of capping or liners to limit exposure or reduce mobility of the hazardous substance, or

(4) restricted access to or use of the site through approved institutional controls under 18 AAC 75 375

(d) In addition to the requirements of (a) of this section, a person who conducts a site cleanup that uses

(1) ex-situ cleanup alternatives shall

(A) submit information that addresses containment and handling of any leachate produced,

(B) comply with the soil storage and disposal requirements in 18 AAC 75 370,

(C) if using a hot asphalt batch plant, certify that processes incorporating contaminated soils meet current industry standards for asphalt paving,

(D) if using asphalt recycling, in the department's discretion

(i) complete a pavement structure design study, certified by a registered engineer, incorporating the excavated materials, and

(ii) submit results of a contaminant leaching assessment,

(E) if using bioremediation, provide a detailed description of

(i) cultured microbes, unless using an indigenous microbe population,

(ii) electron acceptor and nutrient source for microbes

(iii) the expected rate of biodegradation, and

(iv) type and amount of contamination,

(F) if using solidification, in the department's discretion, provide structural testing to show that the treated material has an unconfined compressive strength of 2,000 psi or more after 28 days, solidification is a permissible cleanup alternative if the responsible person demonstrates that contaminant concentrations in the contaminated media will not migrate. in addition to the requirements of (A) - (E) of this paragraph, the department will, in its discretion, require cleanup plans for solidification projects to address

(i) results of a structural test on the solidified material,

(ii) leachability of the solidified material, and

(iii) the ratio of the mass of contaminated media to the mass of reagent;

(G) if using soil contaminated with petroleum hydrocarbons, or metals if approved on a site-specific basis, as a physical barrier base, in the department's discretion

(i) blend contaminated soil only with clean soils to meet design specifications,

(ii) complete a physical barrier design study, certified by a registered engineer,

(iii) submit results of a department-approved leaching assessment or model that demonstrates that contaminant concentrations in the soil will not migrate,

(iv) prepare the road base using no more than 18 vertical inches of contaminated material,

(v) compact the contaminated zone to 95 percent or more of the maximum density as determined by the modified proctor moisture density relationship, based on data obtained from testing a sample of the contaminated material,

(vi) place the contaminated material in a zone directly beneath the final base course with at least 18 inches of impervious pavement extending beyond the horizontal limit of the contaminated material, the final design must include a ribbon of contaminated material entirely beneath the road prism,

(vii) assure that the seasonal high groundwater point and the lowest point of contaminated soil are separated by at least six feet, and

(viii) submit an as-built drawing, certified by a registered engineer, that shows the final location of contaminated material.

(2) in-situ cleanup alternatives shall

(A) submit a site monitoring plan showing proposed locations of monitoring wells

(B) submit a hydrogeologic description of the site addressing soil and sediments present, stratigraphy, groundwater gradient, confining layers, perched water, aquifer transmissivity, percolation rates from precipitation, and other relevant factors;

(C) if directed by the department, perform hydrogeologic modeling addressing capture zones, effects of hydraulic loading, and plume migration; and

(D) if using bioremediation, comply with (1)(E) of this subsection (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 08 080
AS 46 03 755 AS 46 09 010
AS 46 03 822 AS 46 09 020

18 AAC 75.365. OFFSITE OR PORTABLE TREATMENT FACILITIES. (a) A person who owns or operates an offsite or portable treatment facility shall

(1) obtain department approval of an operations plan before accepting or treating contaminated soil, a plan submitted under this paragraph must include

(A) a facility diagram that shows the location of

(i) each soil treatment, storage, and transportation area,

(ii) major roads within or bordering the site or facility; and

(iii) monitoring wells, surface water, water supply wells, facility boundaries, and public or private buildings within 500 feet of the facility boundary,

(B) a detailed process description including a discussion of

(i) air, water and solid waste process streams,

(ii) startup and shutdown procedures,

(iii) maximum process flow rate,

(iv) air pollution control equipment.

(v) water treatment systems.

(vi) the projected maximum time necessary for the treatment method to fully remediate contaminated soil, and

(vii) a thorough description of any additive used.

(C) provisions for complete containment of the contaminated media before, during, and after treatment until the responsible person demonstrates that the media meets the applicable cleanup requirements, alternatively, if the treatment process, such as landfarming or landspreading, will not contain the media, the responsible person shall demonstrate that there will be no uncontrolled leachate from the treatment area; and

(D) site monitoring procedures that will measure for secondary contamination at the treatment facility,

(2) ensure that soil sampling is performed as required by 18 AAC 75 355 to verify that cleanup levels have been met,

(3) conduct an assessment to check for the presence of background contamination before initial startup of the treatment facility; and

(4) submit to the department, within 90 days after terminating operation of the treatment facility a closure assessment demonstrating that secondary contamination did not occur at the facility if secondary contamination did occur at the facility, the operator shall clean up the contamination by in-situ or ex-situ treatment under the site cleanup rules within two years after terminating operation.

(b) If a person subject to this section fails to process soils in accordance with the approved plan, the department will withdraw its approval to process or receive contaminated soil (Eff. ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46 04 020
	AS 46 03 740	AS 46 04 070
	AS 46 03 745	AS 46 08.080
	AS 46 03 755	AS 46 09 010
	AS 46 03 822	AS 46.09.020

18 AAC 75.370. SOIL STORAGE AND DISPOSAL. (a) Unless otherwise approved by the department, a person subject to this chapter shall ensure that contaminated soil that is stockpiled is not blended with uncontaminated soil and is

(1) segregated into separate stockpiles based on

(A) the intended cleanup alternatives, and

(B) the specific hazardous substance present,

(2) stored

(A) 100 feet or more from surface water, a private water system, a Class C public water system, as defined in 18 AAC 80 990, or any other fresh water supply system using groundwater for a use designated in 18 AAC 70 050(a)(2), and

(B) 200 feet or more from a water source serving a Class A or Class B public water system, as defined in 18 AAC 80 990,

(3) placed on a liner or on or within another impermeable surface that prevents soil and groundwater beneath the liner from becoming contaminated, in addition, the person shall ensure that

(A) for petroleum-contaminated soil, liners meet the minimum specifications for the testing methods set out in Table D, and

TABLE D. BOTTOM LINER SPECIFICATIONS

American Society for Testing and Materials (ASTM) Method*	Coated Fabric	Extruded Fabric
Short-term storage of petroleum-contaminated soils (less than 180 days)		
Cold crack (ASTM D2136)	-60° F	-60° F
Black carbon content (ASTM D1603)	2% or greater	2% or greater
Carbon dispersion (ASTM D3015)	A-2 range	A-2 range
Tensile strength (ASTM D751A)	125 lbs (Warp)	
Mullen burst (ASTM D751A)	250 psi	
One inch tensile strength (ASTM D882)		25 lbs (Warp)
One inch elongation MD (Machine Direction)		550%
Nominal thickness	10 mil	10 mil
Oil resistance (ASTM D471)	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73° F	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73° F
Long-term storage of petroleum-contaminated soils (180 days to two years)		
Cold crack (ASTM D2136)	-60° F	-60° F
Black carbon content (ASTM D1603)	2% or greater	2% or greater
Carbon dispersion (ASTM D3015)	A-2 range	A-2 range
Tensile strength (ASTM D751A)	300 lbs (Warp)	
Mullen burst (ASTM D751A)	500 psi	
One inch tensile strength (ASTM D882)		45 lbs (Warp)
One inch elongation MD (Machine Direction)		625%
Nominal thickness	20 mil	20 mil
Oil resistance (ASTM D471)	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73° F	No signs of deterioration and more than 80% retention of tensile and seam strength after immersion for 30 days at 73° F

*The ASTM methods referred to in this table are adopted by reference

(B) for nonpetroleum contaminated soil, liners are compatible with the type of contaminant and meet the general strength and thickness requirements of Table D,

(4) covered and protected from weather with no less than a six-mil, reinforced polyethylene liner or its equivalent, with the edge of the cover lapped over the bottom liner to prevent water running through the soil, and

(5) inspected and maintained regularly to ensure that the cover remains intact and that the soil and any liquid leachate derived from the soil is contained (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 04 020
AS 46 03 740 AS 46 04 070
AS 46 03 745 AS 46 08 080
AS 46 03 755 AS 46 09 010
AS 46 03 822 AS 46 09 020

18 AAC 75.375. INSTITUTIONAL CONTROLS (a) Institutional controls are measures taken to limit or prohibit activities that could

(1) interfere with the integrity of contaminated site cleanup activities or improvements designed to encapsulate or control residual contamination; or

(2) result in exposure to a hazardous substance

(b) The department will, in its discretion, approve use of an institutional control on a site-specific basis if

(1) concentrations of a hazardous substance exceed the applicable cleanup standards under the site cleanup rules,

(2) an alternative point of compliance has been established for groundwater, or

(3) the department finds that controls are required to assure

(A) compliance with an applicable cleanup standard

(B) continued protection of human health, safety, and welfare and the environment, or

(C) continued integrity of site cleanup activities or improvements

(c) Institutional controls may include

(1) physical measures such as fences and signs to limit an activity that might interfere with cleanup or result in exposure to a hazardous substance at the site,

(2) the requirement for and maintenance of engineered measures such as liners and caps to limit exposure to a hazardous substance,

(3) restrictive covenants, easements, deed restrictions, or other measures that limit site use or site conditions over time,

(4) a deed notice or other instrument that is normally examined during a title search, to notify a future purchaser of the site of any residual contamination or any applicable limitation on the property or its resources, and

(5) a zoning restriction or future land use plan of the local government with land use authority

(d) The use of institutional controls must, to the extent practical, be

(1) appurtenant to and run with the land so that the control is binding on each future owner of the site, and

(2) maintained by each responsible person or owner of the site.

(e) Institutional controls in the form of a restrictive covenant developed under this section must, if needed to assure continued protection of human health, safety and welfare and the environment,

(1) prohibit activities on the site that might interfere with the site cleanup, operation and maintenance, monitoring, or other response actions,

(2) prohibit activities that might result in the release of a hazardous substance that was contained as a part of the site cleanup activities,

(3) require notice to the department of any proposal to use the site in a manner that is inconsistent with the restrictive covenant, and

(4) grant the department and its designated representatives the right to enter the property at reasonable times to evaluate compliance with the institutional control, including the right to take samples, inspect any remedial actions taken at the site, and inspect records relating to the operation and maintenance of the institutional control

(f) The department will, in its discretion, require the responsible person to provide financial assurance sufficient to cover costs of operation and maintenance, including compliance monitoring and corrective measures for any institutional control

(g) If the residual hazardous substance remaining at the site is subsequently determined to be below the applicable cleanup standards, the department will approve, at the owner's request, elimination of the institutional control (Eff. ___/___/98, Register ____)

Authority:	AS 29 35 020	AS 46 04 110	AS 46 09 060
	AS 46 03 020	AS 46 04 210	
		AS 46 08 080	

18 AAC 75.380. FINAL REPORTING REQUIREMENTS AND SITE CLOSURE.
(a) The responsible person shall submit a written final cleanup report to the department for each site undergoing cleanup under the site cleanup rules The report must be prepared by a qualified person If a site has been adequately characterized and has achieved the applicable requirements under the site cleanup rules, the department will issue a written determination that the cleanup is complete, subject to any department finding based on new or incomplete information that the cleanup is not protective of human health, safety, and welfare or the environment. An approved cleanup action that leaves a hazardous substance on a site in excess of the cleanup requirements of this chapter may qualify for closure if the cleanup

(1) protects human health, safety, and welfare and the environment,

(2) meets applicable standards at specified points of compliance, and

(3) incorporates adequate monitoring and institutional controls if required.

(b) The written report required by (a) of this section must contain, as applicable

(1) the date and time of the discharge or release,

(2) the location of the discharge or release, including latitude and longitude coordinates,

(3) the name of the site, facility, or operation;

(4) the name, mailing address and telephone number of the owner or the operator of the site, facility, or operation,

(5) the type and amount of each hazardous substance discharged or released,

(6) a description of any environmental damage caused by the discharge, release, or containment, to the extent the damage can be identified,

(7) a free product report that shows the free product was recovered in compliance with 18 AAC 75 325(c)(1)(B) and that provides at least the following information

(A) the estimated amount, type, and thickness of free product observed or measured in wells, boreholes, and excavations,

(B) the type of free product recovery system used,

(C) whether a discharge or release has occurred or will occur at the site or offsite during the recovery operation and where the discharge or release occurred or will occur,

(D) the type of treatment applied to, and the effluent quality resulting or expected from, any substance that has been discharged or released or will be discharged,

(E) whether any discharge permits were required and if they were obtained,

(F) the disposition of the recovered free product, dissolved phase product, or contaminated soil, and

(G) whether any free product remains at the site, and, if so, the estimated quantity, and

(8) a description of cleanup actions taken, including

(A) sampling reports and a description of the soil and groundwater layout protocol and sampling locations,

(B) a summary of the laboratory reports for the final verification samples collected at the site; these reports must be made available to the department upon request and must be kept by the responsible person or the laboratory for at least 10 years,

(C) a complete explanation of what was done if a sample exceeded the required cleanup level,

(D) written confirmation that contaminated media was stored, treated, or disposed of in a manner approved by the department,

(E) an estimate of any remaining residual contamination, above and below the applicable cleanup levels,

(F) confirmation that any hazardous waste generated was stored, treated or disposed of in compliance with 42 U S C. 6901 - 42 U S C 6992, and

(G) other information requested by the department

(c) Final compliance with the

(1) soil cleanup standards, including final confirmation of both in-ground contamination and stockpiled areas, will be based on the maximum concentrations detected, unless an appropriate statistical method is approved by the department, in which case compliance will be based on the mean soil concentration at the 95th percent confidence interval, compliance with this requirement will be based on

(i) the number of samples taken,

(ii) whether there are large variations in hazardous substance concentrations relative to the mean concentration, and

(iii) whether a large percentage of concentrations are below the method detection limit, and

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(2) groundwater cleanup standards will be determined by analysis of unfiltered groundwater samples unless the responsible person demonstrates that a filtered sample provides a more representative measure of groundwater quality; compliance will be determined based on the maximum concentrations detected in the final confirmation samples, before closure, the dissolved plume must be steady or shrinking and concentrations of the hazardous substance must be decreasing

(d) After reviewing the final cleanup report submitted under this section, the department will approve the cleanup or request the person conducting cleanup to

(1) submit additional information;

(2) perform further investigation,

(3) develop and submit a plan for further cleanup action, or

(4) develop and submit a plan for monitoring or institutional controls under 18 AAC 75 375 (Eff ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46.04 020
	AS 46 03 740	AS 46 04 070
	AS 46 03 745	AS 46 08 080
	AS 46 03.755	AS 46.09 010
	AS 46 03 822	AS 46 09 020

18 AAC 75.385. APPEALS. (a) Any person aggrieved by a department decision under the site cleanup rules may request an adjudicatory hearing under 18 AAC 15 200 - 18 AAC 15 920 (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 35 090(e)

18 AAC 75.390. WAIVER OR MODIFICATION The department will, in its discretion waive or modify the site cleanup rules based on a review of the quantity or concentration of the discharge or release, soil and groundwater conditions, surface water and topography, geology, water and land use, construction methods and materials, and any other human health or environmental factor important to the evaluation A person seeking a waiver or modification under this section shall submit a report to justify the request and to demonstrate that the provision is not needed to protect human health, safety, and welfare and the environment A report submitted under this section must be prepared and signed by a qualified person The department will, in its discretion, consider an agreement that clarifies application of site cleanup rules under this chapter (Eff ___/___/98, Register ____)

Authority:	AS 46 03 020	AS 46 04 020
	AS 46 03 740	AS 46 04 070
	AS 46 03 745	AS 46 08 080
	AS 46 03 755	AS 46 09 010
	AS 46 03 822	AS 46 09 020

18 AAC 75.395. INTERFERENCE WITH CLEANUP PROHIBITED A person may not interfere with, hinder, or obstruct the containment or cleanup of a hazardous substance conducted under this chapter This prohibition does not apply to the United States Coast Guard or EPA (Eff ___/___/98, Register ____)

Authority: AS 46 03 020 AS 46 08 080
AS 46 04 020 AS 46 09 020

18 AAC 75.396. LOCAL CONTROL Subject to AS 29 35 020, AS 46 04 110, and AS 46 09 060, nothing in this chapter preempts local control that is as stringent as, or more stringent than, the requirements of 18 AAC 75 300 - 18 AAC 75 397, and that is consistent with a regional master plan prepared under AS 46 04 210 (Eff ___/___/98, Register ____)

Authority: AS 29 35 020 AS 46 04 210
AS 46 03 020 AS 46 08 080
AS 46 04 110 AS 46 09 060

18 AAC 75.397. USE IMMUNITY. In any criminal action for a discharge or release, information given under 18 AAC 75 300, or information directly obtained through the exploitation of a notification or report regarding the discharge or release will not be used against any natural person who provides the notice or report (Eff ___/___/98, Register ____)

Authority AS 46 03 020 AS 46 03 755 AS 46 08 080

ARTICLE 9. GENERAL PROVISIONS.

18 AAC 75.990 is repealed and readopted to read:

18 AAC 75.990. DEFINITIONS. Unless the context indicates otherwise, in this chapter

(1) "accumulation" means the action or process that causes or results in the gradual increase in the quantity, concentration or type of hazardous substance over time,

(2) "approved" means approved by the department,

(3) "area of public concern" means a geographic area that, in the department's judgment deserves special protection from a discharge or release of a hazardous substance, including

(A) an area of unique cultural value, historical significance, or scenic importance,

(B) an area of substantial residential or public recreational value or opportunity,

(C) an area where fish hatcheries or other facilities primarily dependent upon the use of potentially affected water are located,

(D) an area significantly used for commercial, sport, or subsistence hunting, fishing, and gathering, and

(E) an area where concentrations of terrestrial or marine mammals or bird populations primarily dependent on the marine environment are located,

(4) "background concentration" means the level of a hazardous substance that is consistently present in the environment or in the vicinity of a site and that is naturally present or is the result of human activities unrelated to a discharge or release at the site,

(5) "barge" means oil barge,

(6) "barrel" has the meaning given in AS 46 04 900,

(7) "best available technology" means the best proven technology that satisfies the provisions of 18 AAC 75 425(e)(4) and 18 AAC 75 445(k),

(8) "bioaccumulation potential" means a chemical characteristic of a plant or animal that is exhibited when the rate of intake into the living organism is greater than the rate of excretion or metabolism resulting in an increase in tissue concentration relative to exposure concentration

(9) "capacity" means storage capacity;

(10) "carcinogenic" means a substance that is expected to cause cancer in nonhuman life or, for human health purposes a substance is carcinogenic if it is classified as a Group A or Group B carcinogen according to EPA's *Guidelines for Carcinogen Risk Assessment*, 51 Reg 33992 33999 - 34000 (1986).

(11) "cargo volume" means storage capacity,

(12) "catastrophic oil discharge" has the meaning given in AS 46 04 900,

(13) "catch tank" means the container that collects well fluids, muds, and oil from drilling;

(14) "cleanup" means efforts to mitigate environmental damage or a threat to human health safety, or welfare tresulting from a hazardous substance and may include removal of a hazardous substance from the environment including restoration remediation, and other measures that are necessary to mitigate or avoid further threat to human health, safety, and welfare or the environment,

(15) "cleanup standards" means the standards established under this chapter for the level of a hazardous substance in a medium that is defined as protective of human health, safety, and welfare and the environment under specified exposure conditions,

(16) "commercial or industrial land use" means a use of real property or a portion of a property for other than human habitation or a purpose with a similar potential for human exposure, examples include manufacturing, industrial research and development, utilities, dry cleaning facilities commercial warehouse operations, lumber yards, retail gas stations, auto service stations, auto dealerships, equipment repair and service stations, professional offices such as for lawyers architects, or engineers, real estate or insurance offices, medical or dental offices and clinics (but not including hospitals), financial institutions, publicly-owned office buildings, a retail business where the principal activity is the sale of food or merchandise, personal service establishments such as health clubs barbershops, beauty salons, mortuaries, and photographic studios churches (but not including churches providing day care or school services other than during normal worship services), motels or hotels (but not including those that allow residence), and property restricted to commercial or industrial use by a legally enforceable zoning ordinance or specific deed restriction,

(17) "contain" means to surround a discharge or release of a hazardous substance with booms, berms, dikes or other barriers to prevent the further spread of the discharge or release

(18) "control" means to stop, restrict, or deflect the movement of a discharge or release

(19) "critical endpoint" means the adverse health effect used as the basis for the derivation of the reference dose for a noncarcinogenic hazardous substance, the critical endpoint is selected from the different adverse health effects produced by a given hazardous substance with the lowest dose level that produced toxicity,

(20) 'degradation ' means a process by which a chemical is reduced to a less complex form,

(21) 'de minimis ' means a volume of contaminated soil that, because of the quantity or characteristics of the hazardous substance and the potential for migration and exposure of human or environmental receptors, is determined by the department to pose no significant threat to human health, safety, or welfare or the environment, for soil contaminated with petroleum hydrocarbons, the de minimis volume is 10 cubic yards if the contaminated soil

(A) does not contain free product,

(B) has a separation distance between the contaminated soil and the seasonal high groundwater table of no less than six feet,

(C) does not exceed the total liquid petroleum hydrocarbon equivalent of 1,000 mg/kg total petroleum hydrocarbons (GRO, DRO, and RRO) in 10 cubic yards of soil, for example, one cubic yard may contain up to 10,000 mg/kg for total petroleum hydrocarbons, and

(D) does not involve an unknown product, used oil, glycols, solvents, or a hazardous substance other than one that is normally present in crude oil or refined petroleum hydrocarbons,

(22) "demonstrate means to document a requirement of this chapter to the department's satisfaction,

(23) 'department" means the Department of Environmental Conservation,

(24) 'deposit" or "deposition ' means to lay, place, or throw down any material,

(25) 'discharge" has the meaning given in AS 46 04.900 except that, as used in this chapter, discharge applies only to an unpermitted discharge into the environment,

(26) "dispersant" means a chemical agent used to enhance the breakup of discharged oil into droplets, thereby promoting mixing of oil into the water column and accelerating dilution and degradation rates,

(27) "ecological benchmark level" means the lowest, single, no-observed-adverse-effect-level (NOAEL) or other level that equates to a NOAEL established by studies with a duration commensurate with the expected duration of exposure and with toxicity endpoints that included measures of reproductive success for site-related species or an appropriate surrogate for that species,

(28) "ecological receptors" means

(A) individual species listed as threatened or endangered under 16 U S C. 1532 - 16 U.S.C 1544, and the critical habitat in the locality of the site for any listed species; and

(B) a local population of nondomestic plants or animals in the locality of the site,

(29) "environmentally sensitive area" means a geographic area that, in the department's judgment, is especially sensitive to change or alteration, including

(A) an area of unique, scarce, fragile, or vulnerable natural habitat;

(B) an area of high natural productivity or essential habitat for living resources,

(C) an area of unique geologic or topographic significance that is susceptible to a discharge,

(D) an area needed to protect, maintain, or replenish land or resources, including floodplains, aquifer recharge areas, beaches, and offshore sand deposits,

(E) a state or federal critical habitat, refuge, park, or other designated park refuge, or preserve and

(F) an area that merits special attention as defined at 6 AAC 80.170,

(30) "EPA" means the United States Environmental Protection Agency,

(31) "estuarine" or "estuary" means a semi-enclosed, coastal waterbody with a free connection with the sea and within which seawater is measurably diluted with freshwater derived from land drainage,

(32) "existing installation" means storage and surge tanks, secondary containment, piping, and any other operational appurtenances constructed and installed before May 14, 1992, an existing storage and surge tank that has been reconstructed, as defined in API Standard 653, First Edition, 1991, and Supplement 1, January 1992, is considered a new installation;

(33) "exploration facility" has the meaning given in AS 46 04 900;

(34) "facility" or facility or operation" means an offshore or onshore structure, improvement, vessel, vehicle, land, enterprise endeavor or act, including an oil terminal facility, tank vessel oil barge, pipeline, and an exploration or production facility,

(35) "finding' or finds" means a written determination from the department,

(36) 'free product' means a concentration of a hazardous substance that is present as a nonaqueous phase liquid, for purposes of this paragraph, a "nonaqueous phase liquid is a liquid that is not dissolved in water

(37) "freshwater wetlands" means environments characterized by rooted vegetation that is partially submerged either continuously or periodically by surface freshwater with less than 0 5 parts per thousand salt content and not exceeding three meters in depth;

(38) "groundwater' means

(A) water in a zone of saturation, which is the zone below a water table, where all interstices are filled with water when evaluating whether the groundwater is a drinking water source under 18 AAC 75 350, or

(B) water beneath the surface of the soil, when evaluating whether the groundwater is a source of groundwater that will act as a transport medium for contaminant migration,

(39) "hazard index means the sum of the hazard quotients attributable to non-carcinogenic hazardous substances with similar critical endpoints,

(40) "hazardous substance means

(A) an element or compound that, when it enters into the atmosphere or in or upon the water or surface or subsurface land, presents an imminent and substantial danger to the human health, safety, or welfare, including fish, animals, vegetation, or any part of the natural habitat in which they are found,

(B) a substance defined as a hazardous substance under section 101(14) of CERCLA, 42 U S C 9601(14), as follows

(i) a substance designated under section 311(b)(2)(A) of the Federal Water Pollution Control Act,

(ii) an element compound, mixture, solution, or substance designated under section 102 of CERCLA,

(iii) a hazardous waste with the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (but not including a waste the regulation of which has been suspended by Act of Congress),

(iv) a toxic pollutant listed under section 307(a) of the Federal Water Pollution Control Act,

(v) a hazardous air pollutant listed under section 112 of the Clean Air Act, and

(vi) an imminently hazardous chemical substance or mixture with respect to which EPA has taken action under Section 7 of the Toxic Substances Control Act, 15 USC 2606 and

(C) oil,

(41) "hazard quotient" means the ratio of the exposure point value to the reference dose for the hazardous substance,

(42) "hazardous waste" means waste within the scope of 18 AAC 62.010 - 18 AAC 62 020,

(43) "impermeable" means using a layer of material of sufficient thickness, density and composition to produce a maximum permeability for the substance being contained of 1×10^{-7} centimeters per second at the maximum anticipated hydrostatic pressure, sufficient to contain a discharge or release until it is detected and cleaned up,

(44) "inside waters of Southeast Alaska" includes marine waters lying inside the boundary line established in 42 Federal Register 35791 (July 11, 1977),

(45) "lightering" means the pumping or transferring of oil from the cargo compartment of one vessel, barge, storage tank or container to another vessel, barge, storage tank, or container,

(46) "liquefied petroleum gas" means natural gas converted to a liquid state by pressure and cooling, butane, including propane, and other light ends which at 70 degrees Fahrenheit and atmospheric pressure revert to the gaseous state;

(47) "local government" means a borough, city, town, village, or other political subdivision of the state, an Indian tribe or authorized tribal organization, and includes a rural community or unincorporated town or village,

(48) "local population" means a group of plants, animals, or other organisms of the same species that live together and breed within a given habitat; not including those populations linked primarily through migration,

(49) "major discharge" means a discharge of oil

(A) over 10,000 gallons on inland waters;

(B) over 100,000 gallons on coastal waters, or

(C) in any amount that results in a release that

(i) might require evacuation or sheltering of nearby residents or businesses, or

(ii) causes a serious environmental threat,

(50) "marine waters" means all saltwater environments, including saltwater wetlands, estuaries, and the intertidal zone,

(51) "mechanical response method" means the use of containment booms, skimmers, and other apparatus and equipment required for mechanical containment and removal of a discharge or release,

(52) "mineral oil" means a highly-refined petroleum distillate used as an insulating and cooling media for electrical transformers and other electrical equipment;

(53) "mobility" means freedom of particles to move in random motion or under the influence of fields or forces,

(54) "new installation" means a storage and surge tank, secondary containment, piping, and any other operational appurtenance constructed, installed, or placed into service after May 14, 1992, including a reconstructed storage and surge tank, as defined in API Standard 653, First Edition, 1991, and Supplement 1, January 1992,

(55) "noncarcinogenic" means a hazardous substance with adverse health effects on humans other than cancer;

(56) "noncrude oil" means a petroleum product derived from crude oil,

(57) "oil" has the meaning given in AS 46 08 900,

(58) "oil barge" has the meaning given in AS 46 04 900;

(59) "oil spill primary response action contractor," for the purposes of 18 AAC 75 425 and 18 AAC 75 445, has the meaning given in 18 AAC 75 500(a)

(60) "oil storage tank," for the purposes of 18 AAC 75 065 and 18 AAC 75.075, means a container, including a storage and surge tank, that is used to store bulk quantities of oil and that has a capacity greater than 10,000 gallons. "oil storage tank" does not include process pressure vessels or underground storage tanks,

(61) "oil terminal facility" has the meaning given in AS 46 04 900 and includes vessels classified as oil terminal facilities under 18 AAC 75 280,

(62) "oily waste" means any material, including water, that has been contaminated by or mixed with petroleum in other than a naturally occurring circumstance,

(63) "open burning" means the burning of any material so that the products of combustion are emitted directly into the ambient air without passing through a stack or flare.

(64) "open water" means marine waters below mean low low water and freshwaters of the state, excluding wetlands and the wetland or shoreline perimeter of lakes, rivers, and streams.

(65) "operator" has the meaning given in AS 46 04 900

(66) "owner or operator" means the owner or operator of a facility or operation that is subject to the requirements of AS 46.04 030, 46 04 040, or this chapter.

(67) "permafrost" means soil or other earth material with a temperature that remains below 32 degrees Fahrenheit for two or more years.

(68) "persistence" means the length of time that a compound, once introduced into the environment, remains in the environment in a similar function or structure;

(69) "persistent product" means a refined oil product with a common name such as bunker C, Number 6, Chevron Residual, lube oil, or any other product with similar viscosity, degradability, and dispersibility.

(70) "person" has the meaning given in AS 46.03 900.

(71) "person in charge," in addition to the person causing or permitting a discharge or release, includes

(A) for a vessel the master,

(B) for a vehicle, the operator; and

(C) the person exercising a possessory interest in the facility or operation at the time of the discharge or release, unless the possessory interest is being exercised solely for the purpose of providing a place of residence for the person.

(72) "pipeline" has the meaning given in AS 46 04 900.

(73) "plan" means an oil discharge prevention and contingency plan approved under this chapter, this paragraph does not apply to 18 AAC 75 300 - 18 AAC 75 397,

(74) "plan holder" means an applicant who has received department approval for an oil discharge prevention and contingency plan and who is responsible for compliance with the plan as approved.

(75) "plume" means a visible or measurable discharge or release of a contaminant from a given point of origin,

(76) "ppm" means parts per million,

(77) "practical" means capable of being designed, constructed, and implemented in a reliable and cost-effective manner, taking into consideration existing technology, site location, and logistics in light of overall project purposes, when considering cost, an alternative is not considered practical if the incremental cost of the alternative is substantial and disproportionate to the incremental degree of protection provided by the alternative as compared to another lower cost alternative;

(78) "practical quantitation limit" means the lowest concentration that can be reliably measured within specified limits of precision, accuracy, representativeness, completeness, and comparability when testing field samples under routine laboratory operating conditions using methods approved by the department,

(79) "Prince William Sound" includes marine waters lying inside the boundary line established in 42 Federal Register 35791 (July 11, 1977);

(80) "Prince William Sound towing package" means a towing gear assembly that consists of

(A) 400 feet of 2-1/4 inch tow reaching wire,

(B) 720 feet of six-inch polypropylene floating pickup line;

(C) one floating pickup buoy; and

(D) a "D" shackle, 2-1/4 inches in diameter, with a 4-1/8 inch jaw opening, and a breaking strain of 55 tons, to connect the floating line to the tow reaching wire,

(81) "private drinking water system" has the meaning given "private water system" in 18 AAC 80.990,

(82) "production facility" has the meaning given in AS 46 04 900;

(83) "public drinking water system" has the meaning given "public water system" in 18 AAC 80 990,

(84) "qualified" means a person who actively practices environmental science or engineering, geology, physical science, hydrology, or a related field and who meets the following minimum requirements

(A) has a bachelor's degree or equivalent from an accredited post-secondary institution in environmental science or engineering, geology, hydrology, physical science, or a related field; and

(B) has at least one year of supervised sampling and analysis field work experience completed after the degree in (A) was obtained.

(85) "realistic maximum operating limitation" means the upper limit of a combination of environmental factors that might occur at a facility or operation beyond which an operator would be unable to mount a mechanical response to a discharge event.

(86) 'release' has the meaning given in AS 46 03 826

(87) "residential land use" means the use of property for dwellings such as single-family homes and multi-family apartments, children's homes and nursing homes, because of the similarity of exposure potential and the sensitive nature of the potentially exposed population, day care facilities, educational facilities, hospitals, playgrounds, and similar facilities are considered residential, "residential land use" includes property restricted to residential use by legally enforceable zoning ordinance or specific deed restriction, vacant land that is not zoned or deed restricted for commercial or industrial land use will generally be considered residential.

(88) "resource agencies' means the Alaska Department of Environmental Conservation, the Alaska Department of Natural Resources and the Alaska Department of Fish and Game,

(89) "response planning standard" means a planning standard against which the adequacy of an oil discharge prevention and contingency plan will be judged by the department and does not constitute a cleanup standard that must be met by the plan holder,

(90) 'responsible person' means a person who caused or permitted a discharge or release of a hazardous substance subject to this chapter or AS 46 03 822,

(91) "risk assessment' has the meaning given in AS 46 03 450.

(92) "saltwater wetlands" means coastal areas along sheltered shorelines characterized by halophytic hydrophytes and macroalgae extending from extreme low tide to an area above extreme high tide that is influenced by sea spray or tidally induced water table changes.

(93) "saturated zone" means the zone below the water table where, permanently or seasonally, all interstices are filled with water.

(94) "sensitive gauging system' means the best demonstrated available gauging technology at the time of tank construction or substantial reconstruction, or initial gauging system installation,

(95) "sensitive receiving environment," for the purposes of 18 AAC 75 075(d), means fresh or marine waters supporting anadromous fish or used for drinking or food processing, waters susceptible to eutrophication a stream with low or intermittent flow, tundra, or lands that permit exposure of wastewater to the public,

(96) "significant change" means

(A) a change in operational readiness or removal from designated storage of significant equipment or materials,

(B) a management or ownership change resulting in new chain-of-command or lead response personnel,

(C) a change in response contractors,

(D) a change in spill control or cleanup strategies; or

(E) any factor that significantly alters or reduces the ability of the plan holder to respond according to the provisions of the approved contingency plan,

(97) "site" means an area, defined by a site characterization or a discharge or release investigation, that is contaminated or based on surface or subsurface movement of the contaminants, is likely to be affected by contamination,

(98) "site cleanup rules" means the site cleanup requirements of 18 AAC 75.325 - 18 AAC 75.380;

(99) "sole source aquifer" means an aquifer, petitioned by local communities and designated by EPA or the department, that is needed to supply 50 percent or more of the drinking water for that area for which there are no reasonably available alternative sources should the aquifer become contaminated,

(100) "state waters" means waters of the state,

(101) "storage capacity" means,

(A) for a vessel,

(i) the maximum amount of oil that the vessel can legally carry as cargo while in state waters,

(ii) the amount certified by the American Bureau of Shipping, the United States Coast Guard under a Certificate of Inspection, or a society or agency in a foreign country under an equivalent classification, or

(iii) an amount less than that under (i) or (ii) of this subparagraph upon proof and verification to the department's satisfaction that the lesser amount is the vessel's storage capacity,

(B) for a tank, the full physical volume of the tank, and

(C) at a facility, includes the storage capacity of pipes as part of the storage capacity of that facility,

(102) "subsurface soil" means soil that is more than two feet below the surface,

(103) "sufficiently impermeable" means for a secondary containment system, that its design and construction has the impermeability necessary to protect groundwater from contamination and to contain a discharge or release until it can be detected and cleaned up, for design purposes for a new installation, this means using a layer of natural or manufactured material of sufficient thickness, density, and composition to produce a maximum permeability for the substance being contained of 1×10^{-6} cm per second at a maximum anticipated hydrostatic pressure, unless an alternate design standard is approved by the department,

(104) "supervised" means

(A) direct responsibility for preparing reports or making interpretations regarding field data,

(B) onsite control by a qualified person who is responsible for all work that requires assessment, investigation, characterization, reporting, or interpretation, including

(i) selection of the number, location, or depth of sample points in soil, groundwater surface water, or stockpiles,

(ii) location, placement, or supervision of construction or completion of monitoring or remediation wells,

(iii) description of site characteristics soil characteristics, or geological characteristics in field notes that will be used in the report submitted by the responsible person,

(iv) duties required to be performed under the work plan other than those strictly limited to the physical act of sample collection and transport, or

(v) collection of final verification samples, or

(C) onsite or offsite control by a qualified person who is responsible for routine tasks associated with the physical act of sample collection and transportation,

(105) "surety" includes a surety bond,

(106) "surface soil" means soil that extends two feet below the surface,

(107) "surface water" means waters of the state naturally open to the atmosphere including rivers, lakes, reservoirs, streams, impoundments, and seas,

(108) "tank vessel" has the meaning given in AS 46 04 900,

(109) "technology' means equipment, supplies, other resources, and related practices

(110) "toxicity index" means the number equal to the sum of the toxicity quotient numbers attributable to systemic toxic effects with similar critical endpoints for similarly responding ecological species,

(111) "toxicity quotient" means the ratio of the exposure point value to the ecological benchmark value,

(112) "transmission pipeline" means a pipeline through which crude oil moves in transportation, including line pipe, valves, and other appurtenances connected to line pipe, pumping units, and fabricated assemblies associated with pumping units, "transmission pipeline" does not include gathering lines, flow lines, or facility piping,

(113) "ultimate disposal" means disposal into or upon the waters or the surface or subsurface land of the state;

(114) "used oil" means oil that has been refined from crude oil or synthetic oil and that has been used, and as a result of that use, is contaminated by physical or chemical impurities.

(115) "vessel" has the meaning given in AS 46 04 900,

(116) "volatile organic" means a carbon-based compound listed in EPA SW-846 methods 601, 602, 603, 624, 8010, 8015, 8020, 8030, 8240, 502.1, 502.2, 503 1, 524 1, 524 2, and any other compound with a Henry's Law constant (unitless) greater than 0 0001 and a molecular weight of less than 200

(117) "waters of the state" has the meaning given in AS 46 04 900,

(118) "wellhead protection area' means a three dimensional land surface and subsurface zone surrounding a water supply well or wellfield that encompasses the volume of materials through which water will move to the well (Eff. 5/14/92, Register 122, am 9/25/93, Register 127, am 4/4/97, Register 142, am 4/11/97, Register 142, am ___/___/98, Register _____)

Authority

AS 46 03 020	AS 46 04 030
AS 46 03 050	AS 46 04 035
AS 46 03 710	AS 46.04 070
AS 46 03 740	AS 46 08 080
AS 46.03 745	AS 46 08 130
AS 46 03 755	AS 46 08 140
AS 46 03.822	AS 46 09 020
AS 46 04 020	

APPENDIX D

GPS DATA

GPS DATA POINTS
CANOL PUMP STATION J

EPA Sample Number	CLP Sample # inorganic	START Sample	Latitude Deg°	Min'	Sec"		Longitude Deg°	Min'	Sec"	
98314000	MJS346	PC01SS	63°	12'	32 35"	N	142°	11'	47 02"	W
98314001	MJS347	PC02SS	63	12	32 35	N	142	11	47 02	W
98314002	MJS348	PC03SS	63	12	34 11	N	142	11	46 76	W
98314003	MJS349	PC04SS	63	12	34 11	N	142	11	46 76	W
98314004	MJS350	PC05SS	63	12	34 08	N	142	11	44 8	W
98314005	MJS351	PC06SS	63	12	34 08	N	142	11	44 8	W
98314006	MJS352	PC07SS	63	12	33 72	N	142	11	49 88	W
98314007	MJS353	PC08SS	63	12	33 72	N	142	11	49 88	W
98314008	MJS354	PC09SS	63	12	33 98	N	142	11	51 78	W
98314009	MJS355	PC010SS	63	12	33 98	N	142	11	51 78	W
98314010	MJS356	PC11SS	63	12	35 84	N	142	11	47 72	W
98314011	MJS357	PC12SS	63	12	35 85	N	142	11	56 09	W
98314012	MJS358	DS01SS	63	12	32 59	N	142	11	57 25	W
98314013	MJS359	DS02SS	63	12	32 59	N	142	11	57 25	W
98314014	MJS360	DS03SS	63	12	32 97	N	142	11	59 52	W
98314015	MJS361	DS04SS	63	12	32 97	N	142	11	59 52	W
98314016	MJS362	AP01SS	63	12	36 63	N	142	11	50 93	W
98314017	MJS363	AP02SS	63	12	36 63	N	142	11	50 93	W
98314018	MJS364	AP03SS	63	12	37 14	N	142	11	52 58	W
98314019	MJS365	AP04SS	63	12	37 14	N	142	11	52 58	W
98314021	MJS367	WL01SD	63	12	33 24	N	142	11	43 8	W
98314022	MJS368	WL02SW	63	12	33 24	N	142	11	43 8	W
98314023	MJS369	WL03SD	63	12	29 05	N	142	11	45 31	W
98314024	MJS370	WL04SW	63	12	29 05	N	142	11	45 31	W
98314025	MJS371	WL05SD	63	12	30 69	N	142	11	56 13	W
98314027	MJS373	WL07SD	63	12	25 69	N	142	11	51 95	W
98314028	MJS374	WL08SW	63	12	25 69	N	142	11	51 95	W
98314029	MJS375	BG01SS	63	12	43 37	N	142	11	51 67	W
98314030	MJS376	BG02SS	63	12	43 37	N	142	11	51 67	W
98314031	MJS377	BG03SD	63	12	33 09	N	142	11	38 34	W
98314032	MJS378	BG04SW	63	12	33 09	N	142	11	38 34	W