

2100-26-510 U10.15



September 27, 2002
Project 06CH.90430.01.0370

Mr. Robert Weimer
Alaska Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501

RECEIVED
OCT 08 2002

Re: **Site Assessment**
Chevron Service Station 9-0430
6470 DeBarr Road
Anchorage, Alaska
ADEC # 12

Dept. of Environmental Conservation
Underground Storage Tanks — FAP

Dear Mr. Weimer:

SECOR International Incorporated (SECOR) has prepared this letter on behalf of Chevron Products Company (Chevron) to document the findings and results of a site assessment performed at the site referenced above. The purpose of this work was to install and incorporate six additional soil vapor extraction (SVE) wells into the existing remediation system at the site.

SITE BACKGROUND

The site is a former service station located at the southwest corner of DeBarr Road and Summit View Street in Anchorage, Alaska (Figure 1). The topography at the site is relatively flat with both commercial and residential land uses located within the immediate vicinity of the site.

A summary of previous investigations is presented in Attachment A.

SITE ASSESSMENT ACTIVITIES AND FINDINGS

On June 12 and 14, 2002, six SVE wells were installed by Discovery Drilling Incorporated (Discovery) of Anchorage, Alaska, at the general locations shown on Figure 2. After installation the SVE wells were connected to the existing remediation system. Field and laboratory procedures are presented as Attachment B. The boring logs, including well construction details are presented as Attachment C. Laboratory analytical reports and chain-of-custody documentation are presented as Attachment D.

The findings of the SVE well installation activities are discussed below:

- **SVE Well Installation.** Six soil borings were advanced at the locations shown on Figure 2 to a depth of approximately 15 feet below ground surface (bgs). Upon completion of drilling, a 2-inch diameter SVE well was installed in each boring. The SVE wells were screened from approximately 5 to 15 feet bgs.

- **Soil Sampling and Analysis.** Soil samples were collected at 5-foot intervals and logged by a SECOR representative using the Unified Soil Classification System. Select soil samples were sent under chain-of custody protocols to an Alaska state-certified laboratory. The soil samples were analyzed for gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl-tertiary butyl ether (MtBE).

GRO was detected in one of the samples, VEW-5 at 16 feet bgs at a concentration of 4.10 milligrams per kilogram (mg/kg). Benzene was detected in one of the samples, VEW-5 at 16 feet bgs at a concentration of 0.155 mg/kg. Soil analytical results are summarized in Table 1.

- **Well Surveying.** A licensed surveyor surveyed the wellhead elevation on the north side of the well casing relative to a known benchmark. The casing was marked and notched and this mark now serves as the reference point for future groundwater gauging.

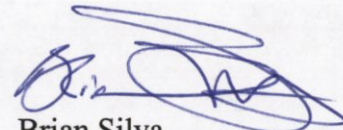
If there are any questions regarding the contents of this site assessment, please contact Brian Silva of SECOR at (916) 861-0400 extension 240 or Bob Cochran of ChevronTexaco Environmental Management Company at (925) 842-9655.

Sincerely,

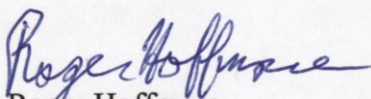
SECOR International Incorporated



Elizabeth Grotenhuis
Staff Scientist



Brian Silva
Project Manager



Roger Hoffmore
Senior Geologist

Attachments: Table 1 – Soil Analytical Data

Figure 1 – Site Location Map

Figure 2 – Site Plan

Attachment A – Summary of Previous Investigation

Attachment B – Field and Laboratory Procedures

Attachment C – Boring Logs and Well Construction Details

**Attachment D – Laboratory Analytical Report and Chain-of-Custody
Documentation**

cc: Bob Cochran, ChevronTexaco Environmental Management Company, San Ramon,
CA

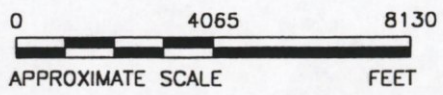
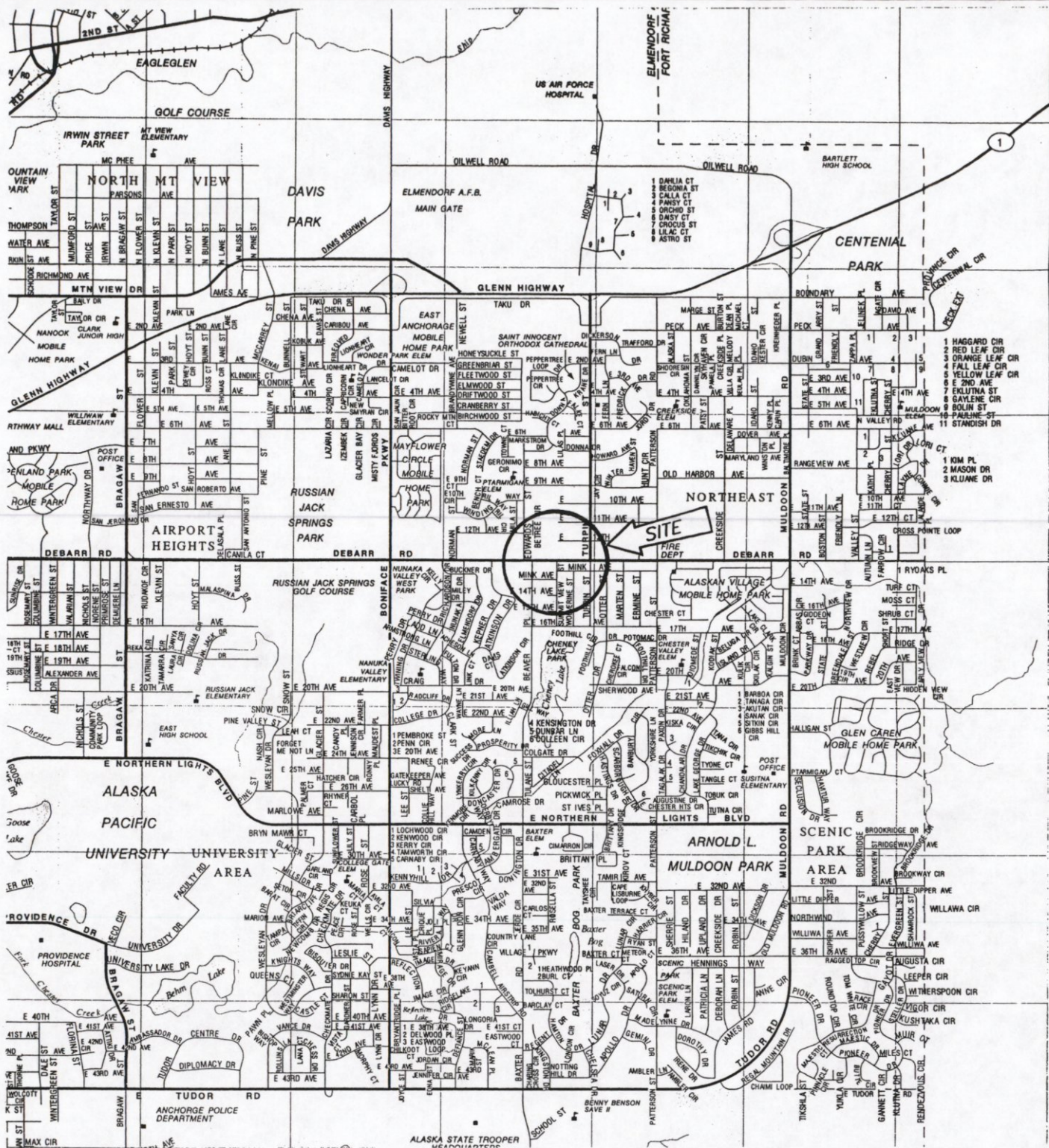
Table 1
Soil Analytical Data
SVE Wells

Chevron Service Station 9-0430
6470 Debarr Road
Anchorage, Alaska

Sample Name	Sample Depth (feet bgs)	Date Sampled	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	m,p-Xylenes (mg/kg)	o-Xylene (mg/kg)	MtBE (mg/kg)
VEW-5, 6'	6	06/12/02	<2.63	<4.00	<0.100	<0.100	<<0.100	<0.200	<0.100	<1.00
VEW-5, 16'	16	06/12/02	4.10	<4.00	0.155	0.225	0.102	0.201	0.135	<1.00
VEW-6, 16'	16	06/12/02	<2.22	<4.00	<0.100	<0.100	<0.100	<0.200	<0.100	<1.00
VEW-7, 16'	16	06/12/02	<2.04	<4.00	<0.100	<0.100	<0.100	<0.200	<0.100	<1.00
VEW-8, 16'	16	06/12/02	<2.32	<4.00	<0.100	<0.100	<0.100	<0.200	<0.100	<1.00
VEW-9, 16'	16	06/12/02	<1.86	<4.00	<0.100	<0.100	<0.100	<0.200	<0.100	<1.00
VEW-10, 16'	16	06/14/02	<2.09	--	<0.100	<0.100	<0.100	<0.200	<0.100	<1.00

bgs = below ground surface
GRO = Gasoline Range Organics

MtBE = methyl-tertiary butyl ether
-- = not analyzed



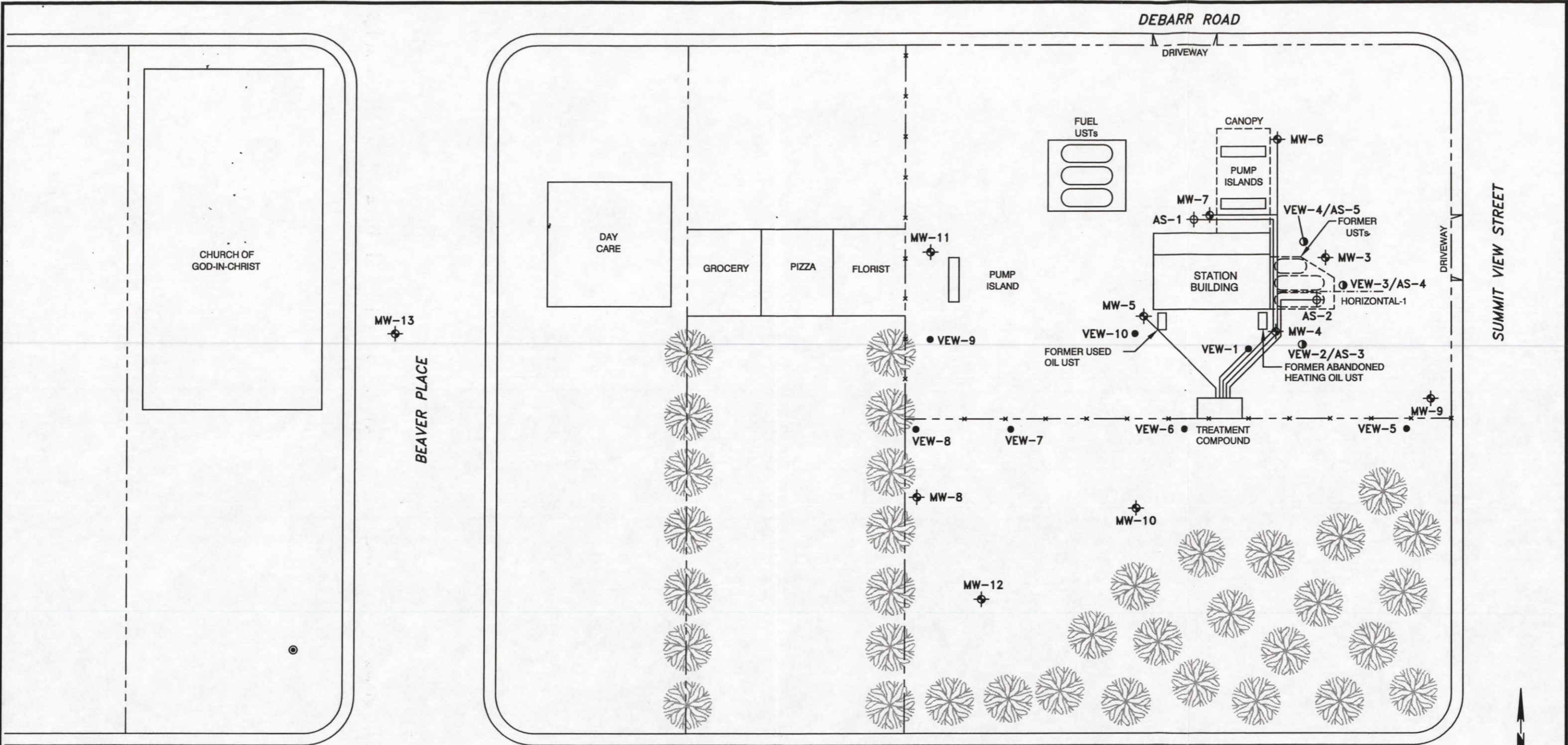
REFERENCE: KING OF THE ROAD MAPS

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FIGURE 1
CHEVRON SERVICE STATION #9-0430
6470 DEBARR ROAD
ANCHORAGE, ALASKA
SITE LOCATION MAP

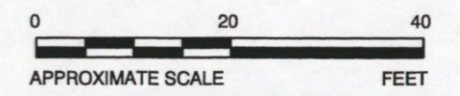
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LEGEND:

- DOMESTIC WELL
- VEW-4/AS-5 SVE/AS WELLS
- ⊕ MW-1 GROUNDWATER MONITORING WELL
- ⊕ AS-1 AIR SPARGING WELL
- VEW-1 VAPOR EXTRACTION WELL
- ⊕ PL-4 SOIL SAMPLE LOCATIONS
- APPROXIMATE PROPERTY BOUNDARY
- - - - HORIZONTAL VAPOR EXTRACTION LINE
- x - EXISTING FENCE LINE

REFERENCE: THIS FIGURE IS BASED ON A "SITE PLAN" PROVIDED BY HARTCROWSER AND RRM ENGINEERING CONTRACTING FIRM AND IS INTENDED FOR ILLUSTRATION ONLY.



SECOR <i>International</i> <i>Incorporated</i>	DRAWN	SES
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FIGURE 2
 FORMER CHEVRON 9-0430
 6470 DEBARR ROAD
 ANCHORAGE, ALASKA
SITE PLAN

ATTACHMENT A
SUMMARY OF PREVIOUS INVESTIGATIONS

ATTACHMENT A SUMMARY OF PREVIOUS INVESTIGATIONS

Chevron 9-0430, 6470 DeBarr Road, Anchorage, Alaska

The site is a former service station located at the southwest corner of DeBarr Road and Summit View Street in Anchorage, Alaska. The topography at the site is relatively flat with both commercial and residential land uses located within the immediate vicinity of the site.

In May 1995, five USTs and the associated product lines were replaced at the site. Additionally, a used oil UST and a heating oil UST were removed. Analytical results from soil samples collected from the UST and product line excavations indicated the presence of petroleum hydrocarbons in soil beneath the site.

Four soil vapor extraction wells and two air sparge wells were installed in 1995.

In October 1999, the drilling and installation of three dual completion SVE/AS wells and three groundwater-monitoring wells (MW-9 through MW-11) was performed. Gasoline range organics (GRO) were reported in soil samples at the capillary fringe in five of the borings at concentrations ranging from 8.53 mg/kg to 1,540 mg/kg. Benzene was reported in soil samples at the capillary fringe in four of the borings at concentrations ranging from 0.146 mg/kg to 58.7 mg/kg. Methyl-tertiary-butyl-ether (MtBE) results were reported less than the method detection limit in all soil samples.

In March 2000, a domestic well belonging to The Greater Friendly Temple Church of God and Christ, was located approximately 450 feet west/southwest of the site during a sensitive receptor survey. On April 27, 2000, a SECOR representative collected samples of drinking water from the domestic well located on the Church property. Samples were collected from the pressure tank and analyzed for gasoline and gasoline byproducts. Water samples were non-detect for diesel range organics (DRO), residual range organics (RRO), GRO, benzene, toluene, ethylbenzene, and xylenes (BTEX), and the fuel oxygenates including MtBE, tertiary-butyl-alcohol (TBA), di-isopropyl ether (DIPE), ethyl-tertiary-butyl-ether (EtBE), and tertiary-amyl methyl ether (TAME).

On August 18 and 23, 2000, SECOR supervised Discovery Drilling Incorporated (Discovery) of Anchorage, Alaska in drilling and installing two groundwater monitoring wells (MW-12 and MW-13) and the advancement of three soil borings (B-1 through B-3).

On December 6 through December 13, 2000, three 15,000 gallon double-walled fiberglass gasoline USTs, associated product lines, and five dispensers were excavated and removed. The station foundation, which contained an oil/water separator and a previously unknown hoist, was removed December 28, 2000.

Between 1992 and 2000, a total of ten groundwater-monitoring wells (MW-3 through MW-12) have been installed at this site. Historical depth to water has ranged from 12 to 23 feet below ground surface (bgs) and the groundwater flow has been to the south / southwest.

ATTACHMENT A (CONTINUED) SUMMARY OF PREVIOUS INVESTIGATIONS

Chevron 9-0430, 6470 DeBarr Road, Anchorage, AK

Semi-annual monitoring and sampling of site monitoring wells began in August of 1992. SPH has historically been present in wells MW-3 and MW-4 up to three feet in thickness. During the September 30, 2001 sampling event, SPH was observed solely in MW-4 at a thickness of 0.26 feet.

GRO has been present in MW-3 through MW-10 with concentrations ranging from 23 parts per billion (ppb) to 522,000 ppb. The September 30, 2001 groundwater monitoring results indicate the presence of GRO solely in MW-5 at a concentration of 1,050 ppb.

With the exception of MW-10, MW-11, and MW-12, benzene has been historically present in all monitoring wells with concentrations ranging from 0.6 to 43,900 ppb. The September 30, 2001 groundwater monitoring results suggest benzene was present in MW-5 and MW-11 at concentrations of 520 ppb, 3.05 ppb respectively.

Historically, MtBE has been present in wells MW-5, MW-7, MW-10 and MW-11 at concentrations ranging from 27.2 to 69,700 ppb. The September 30, 2001 groundwater monitoring results suggested MtBE was present in MW-5, MW-10, and MW-11 at concentrations of 18,500 ppb, 38.6 ppb and 10.4 ppb, respectively.

Two plumes appear to exist on the site. A GRO plume, apparently associated with the former UST complex, is located near the southeast corner of the property, is not well defined to the southeast and is suspected to have moved off site. SPH, suspected to be associated with the GRO plume, has been found in MW-3 and MW-4 adjacent to the former heating oil UST area. An MtBE plume exists on the western portion of the property. This plume appears to be associated with the fuel USTs that were removed during site demolition activities in December 2000. MtBE has been found in MW-5 up to 69,700 ppb, and in the offsite, down gradient well MW-10 at a maximum concentration of 67.5 ppb. MW-11, on the western border of the facility, has reported a maximum concentration of MtBE of 318 ppb.

Operation and maintenance of the soil vapor extraction and air sparge systems were initiated at the site on November 17, 1995. In June of 2000, remedial activities at the site were temporarily suspended when power to the SVE and AS systems was disconnected during station demolition. Remedial system modifications were completed during the third quarter of 2001 and remedial activities resumed on October 12, 2001. To date the remediation system has removed 163.2 pounds of BTEX compounds and 760.6 pounds of GRO.

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

Health and Safety

Prior to fieldwork, a Site Health and Safety Plan (SHSP) was prepared. The SHSP was prepared as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120) and the Alaska Department of Labor's General Safety Code, Section 01.0102 (8 AAC 61.010). The project manager, field staff and contractors reviewed the SHSP prior to beginning field operations.

Exploratory Drilling and Soil Sampling

Soil borings were advanced using 8-inch hollow-stem auger drilling equipment. Borings were logged by a SECOR representative using the Unified Soil Classification System (ASTM D-2487) and accepted geologic practices. Soil samples for logging were collected at five-foot intervals using a split-spoon sampler or equivalent. Soil samples for chemical analysis were prepared as follows, per DEC guidelines: a portion of the soil collected in the sampler was removed and placed in DEC approved glass jars provided by the laboratory, preserved as appropriate, labeled, and placed on ice for transport to the laboratory accompanied by chain-of-custody documentation. Down-hole drilling equipment was steam-cleaned prior to drilling each soil boring. Down-hole sampling equipment was washed in an Alconox, or a similar solution between samples.

SVE Well Installation

The borings were converted into SVE wells by installing one 2-inch diameter, flush-threaded, Schedule 40 PVC casing with 10 feet of 0.020-inch factory-slotted screen to approximately 15 feet bgs in each SVE well. A grade of sand appropriate to the screen size was placed in the annular space across the entire screened intervals for and extends approximately 2 feet above the top of the screened interval. A bentonite seal extends from the top of the sand pack to the well vault. The well casing was temporarily topped with a locking cap until the SVE wells were plumbed into the SVE system. The boring logs show well construction details.

The well casings were surveyed to the nearest 0.01 feet in elevation to a known benchmark.

Organic Vapor Procedures

Soil samples collected at 5-foot depth intervals during drilling were analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID) with a 10.2 eV lamp. The test procedure involved measuring approximately 30 grams from an

ATTACHMENT B (CONTINUED)
FIELD AND LABORATORY PROCEDURES

Chevron 9-0430, 6470 DeBarr Road, Anchorage, Alaska

undisturbed soil sample, placing this sub-sample in a sealed container (either a zip-lock bag or a mason jar). The container was warmed for approximately 20 minutes (in the sun), then the head-space within was tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument was calibrated prior to drilling using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 55, which relates the photo-ionization potential of benzene to that of isobutylene at 100 ppm. The results of the field-testing was noted on the boring logs. PID readings are useful for indicating relative levels of contamination, but cannot be used to evaluate hydrocarbon levels with the confidence of laboratory analyses.

Laboratory Procedures

Selected soil samples collected were analyzed for the presence of gasoline range organics (GRO) by Alaska Method AK 101, diesel range organics (DRO) by Alaska Method AK 102, and benzene, toluene, ethyl benzene, xylenes (BTEX) and MtBE by EPA Method 8260.

Soil Cuttings

Soil cuttings generated during drilling operations were temporarily stored onsite in 55-gallon drums pending characterization and disposal.

ATTACHMENT C
BORING LOGS AND WELL CONSTRUCTION DETAILS

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/12/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-5		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): N/A	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)
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Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected	
2" Sch. 40 PVC Blank	5		24	GRAVELLY SAND (SP): dark grayish brown (2.5Y4/2), subangular to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (30, 70, 0, 0)	1.2
Bentonite Seal					
#8/12 Sand	10		52		1.0
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		56	SAND (SP): dark gray (5Y4/1), fine-grained sand, dense, moist (0, 100, 0, 0)	6.2
	20			Bottom of boring @ 17 ft bgs	

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

Project No.

Date

Log of Well

90430.GPJ
LOG OF BOREHOLE

Approved by _____

Figure (sheet 1 of 1)

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/12/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-6		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): N/A	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)
Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected	
2" Sch. 40 Blank PVC Bentonite Seal	5		13	GRAVELLY SAND (SP): dark grayish brown (2.5Y4/2), subangular to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (30, 70, 0, 0)	1.0
#8/12 Sand	10		34	SANDY GRAVEL (GP): dark grayish brown (2.5Y4/2), subangular to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (60, 40, 0, 0)	0.3
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		68	SAND (SP): olive gray (5Y4/2), fine-grained sand, dense, moist (0, 100, 0, 0)	5.6
	20			Bottom of boring @ 17 ft bgs	

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Project No.
90430.GPJ
LOG OF BOREHOLE

Date

Log of Well

Approved by _____

Figure (sheet 1 of 1)

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/12/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-7		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): N/A	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)
Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected	
2" Sch. 40 Blank PVC Bentonite Seal	5	X	6	SAND (SP): olive brown (2.5Y4/3), with subrounded to rounded fine gravel, fine-grained sand, trace silt, medium dense, damp (15, 80, 5, 0)	1.0
#8/12 Sand	10		31	GRAVELLY SAND (SP): dark grayish brown (2.5Y4/2), subrounded to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (40, 60, 0, 0)	0.2
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		35	SAND (SP): olive gray (5Y4/2), fine-grained sand, medium dense, damp (0, 100, 0, 0)	0.4
	20			Bottom of boring @ 17 ft bgs	

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Project No.

Date

Log of Well

90430.GPJ
LOG OF BOREHOLE

Approved by _____

Figure (sheet 1 of 1)

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/12/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-8		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): N/A	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30

Well Construction	Depth: (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)
Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected	
2" Sch. 40 Blank PVC Bentonite Seal	5		9	GRAVELLY SAND (SP): olive brown (2.5Y4/3), with silt, subrounded to rounded fine gravel, fine-grained sand, medium dense, moist (20, 60, 10, 0)	0.9
#8/12 Sand	10		36	SANDY GRAVEL (GP): olive brown (2.5Y4/4), trace silt, subrounded to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (60, 35, 5, 0)	0.9
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		33	GRAVELLY SAND (SP): olive gray (5Y4/2), trace silt, subrounded to rounded fine gravel, fine-grained sand, medium dense, moist (40, 55, 5, 0)	1.0
	20			Bottom of boring @ 17 ft bgs	

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Project No.

Date

Log of Well

90430.GPJ
LOG OF BOREHOLE

Approved by _____

Figure (sheet 1 of 1)

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/12/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-9		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): ▽ 16 First Water	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30
Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)		
Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected			
2" Sch. 40 PVC Blank	5		11	SANDY SILTY GRAVEL (GM): very dark grayish brown (10YR3/2), subrounded to rounded fine gravel, fine-to coarse-grained sand, firm, damp (50, 25, 25, 0)	1.2		
Bentonite Seal							
#8/12 Sand	10		21	SANDY GRAVEL (GP): dark grayish brown (2.5Y4/2), subrounded to rounded fine to medium gravel, fine-to coarse-grained sand, medium dense, damp (60, 40, 0, 0)	0.8		
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		31	Grades wet	0.4		
	20			Bottom of boring @ 17 ft bgs			

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

Project No.
90430.GPJ
LOG OF BOREHOLE

Date

Log of Well

Approved by _____

Figure (sheet 1 of 1)

SECOR

International Incorporated

Logged By: DW	Date Drilled: 6/14/02	Drilling Contractor Discovery Drilling	Project Name: Chevron 9-0430 6470 Debarr Rd, Anchorage	Method/Equipment: Hollow Stem Auger CME 75	Well Number: VEW-10		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elev.(ft.): N/A	Groundwater Depth (ft.): N/A	Total Depth (ft.): 17.0	Drive wt.(lbs.): 140	Drop Dist.(in.): 30

Well Construction	Depth, (ft.)	Sample Recovery	Blows/12"	Description	PID (ppm)
Traffic Rated Well Vault				Well vault previously cleared to 5 ft below ground surface (bgs) No samples collected	
2" Sch. 40 Blank PVC Bentonite Seal	5	X	5	SILT (ML): light olive brown (2.5Y5/4), firm, damp (0, 0, 100, 0)	0.6
#8/12 Sand	10		23		0.5
2" Sch. 40 0.020 Slotted PVC Screen End Cap	15		33	SANDY GRAVEL (GP): DARK GRAYISH BROWN (2.5Y4/2), subangular to rounded fine gravel, fine-to coarse-grained sand, medium dense, damp (60, 40, 0, 0)	0.6
	20			Bottom of boring @ 17 ft bgs	

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.