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December 21, 1998
Project No. 7G007-033-01

DEC 28 1998

DEPT. OF ENVIRONMENTAL CONSERVATION

Ms. Eileen Olson
State of Alaska
Department of Environmental Conservation
555 Cordova Street
Anchorage, Alaska 99501

Re: **Installation of Groundwater Monitoring Wells**
Former Chevron Service Station 9-2609
Seward Highway, Mile 79
Portage, Alaska

Dear Ms. Olson:

SECOR International Incorporated (SECOR) has prepared this report on behalf of Chevron Products Company (Chevron) to present the results of a soil and groundwater investigation at the above referenced site. The objective of this investigation was to further assess the lateral extent of petroleum hydrocarbon impacted soil and groundwater at the site. The scope of work included the drilling eleven soil borings and the installation of groundwater monitoring wells into five of those borings at the site (Figure 1). The work was performed as described in the *Work Plan for Assessment* dated June 15, 1998. The work plan was conditionally approved by the agency in a letter to Mr. Bob Cochran of Chevron, dated July 2, 1998.

The tidal influence study proposed in the work plan is in progress. The results of the study will be reported after completion of the field work in the Spring of 1999.

SITE BACKGROUND AND PREVIOUS INVESTIGATIONS

Chevron leased the property and operated a retail service station on the site from 1971 to 1979. Chevron ceased operations and removed all improvements in 1980, but continued to lease the property until 1984. Prior to Chevron's leasing of the site in 1971, a retail service station was owned and operated on the property by someone other than Chevron. Chevron stored and dispensed gasoline from two 10,000-gallon underground storage tanks (USTs) and diesel fuel from one 3,000-gallon UST. No fuel inventory records, records of contamination, or records of discharges or other fuel loss have been located in Chevron's files.

In August 1993, a total of eight borings, five onsite (TB-4 through TB-8) and three offsite across Seward Highway (TB-1 through TB-3) were drilled and sampled in an

investigation completed for the Alaska Department of Transportation (ADOT). Hydrocarbon impact was reported in all eight borings (R&M Consultants, November 1993).

In September 1995, three groundwater monitoring wells (MW-1 through MW-3) were installed (MW-2 and MW-3 onsite and MW-1 offsite across Seward Highway) by Groundwater Technology Inc. (GTI). Initial sampling reported groundwater was impacted primarily by diesel range organics in the three monitoring wells (GTI, November 1995).

QUARTERLY MONITORING

Quarterly monitoring has been ongoing at the site since 1995. Historical groundwater flow direction has varied from south to north. Depth to water at the site has ranged from approximately 3-1/2 to 11 feet below ground surface (bgs). Other than a single trace detection of toluene in Well MW-3 during the initial sampling in September 1995, no gasoline range organics (GRO) or benzene, toluene, ethylbenzene, or xylenes (BTEX) have been reported in Wells MW-1 or MW-3. During the September 1995 event, diesel range organics (DRO) were detected in all three wells at concentrations of 3,800 to 8,400 parts per billion (ppb). Reported concentrations of GRO and benzene in Well MW-2 have ranged from 50,800 and 290 ppb, respectively, to 25,800 and <50 ppb (nondetectable), respectively, and have generally declined over time (Blaine Tech Services, undated draft of Third Quarter 1998 Quarterly Groundwater Monitoring Report).

SOIL BORING AND WELL INSTALLATION ACTIVITIES

On September 9, 1998, an initial mobilization was made to advance soil borings at the site using a Geoprobe® rig equipped with direct-push technology by Discovery Drilling Incorporated (Discovery) of Anchorage, Alaska. However, refusal was encountered in the first boring at 7 feet bgs due to very dense cobbly and gravelly conditions. Additionally, extreme difficulty was encountered in removing the geoprobe equipment from the boring. As a result of the refusal, no soil and groundwater samples were collected from this soil boring and the boring was backfilled to ground surface with hydrated bentonite pellets and matched to existing surface conditions.

On September 14 and 17, 1998, Discovery remobilized to the site utilizing a CME 75, truck-mounted drill rig and drilled 11 soil borings and installed groundwater monitoring wells (MW-4 through MW-8) in five of the 11 borings. The remaining borings were backfilled with hydrated bentonite pellets from total boring depth to surface grade. Boring logs and the well surveyor's report are included as Attachment A.

Subsurface Conditions

The site is underlain with gravelly sands from near surface to depths varying from 5 to 8 feet bgs. Borings B-2, B-3, B-4, B-6, B-7, and B-10 consist of gravelly sand to

approximately 8 feet bgs, underlain with clayey silt and sandy silt to the total depth of each boring. Gravelly sand was encountered in boring B-1, B-5, B-8, and B-9 to the total depth explored. Sandy silt was encountered to the total depth of the boring in B-11. Boring logs and well completion details are presented as Attachment A and field and laboratory procedures are described in Attachment B.

Groundwater was initially encountered between approximately 4 to 9 feet bgs at the site. On September 27, 1998, groundwater levels were measured in the newly installed groundwater monitoring wells at depths ranging between 2.28 to 6.52 feet bgs.

Soil Sampling and Analytical Results

Soil samples were collected from each boring at 5-foot intervals. Selected soil samples were submitted for laboratory analysis of GRO, DRO, and BTEX. Additionally, selected soil samples were analyzed for polynuclear aromatic compounds (PAHs), and the following physical parameters: pH, total organic carbon, porosity, moisture content, and unit weight.

GRO concentrations were reported in borings B-6 and B-7 at concentrations ranging from 10.5 to 5,970 milligrams per kilogram (mg/kg). All other soil samples were reported nondetect for GRO. The proposed ADEC cleanup level of 250 mg/kg for GRO in soil was not exceeded in any of the samples analyzed, with the exception of the 3-foot sample in boring B-7.

DRO concentrations were reported in borings B-1 through B-4, B-6, B-7, and B-10, with a maximum concentration from boring B-6 at 2,490 mg/kg. The proposed ADEC cleanup level of 300 mg/kg for DRO in soil was not exceeded in any of the samples analyzed, with the exception of the 3- and 8-foot samples from boring B-6 and the 3-foot sample from boring B-7.

Benzene was reported in soil samples collected from B-6 at 8 feet bgs and from B-7 at 3 feet bgs, at concentrations of 8.09 and 2.89 mg/kg, respectively. The proposed ADEC cleanup level of 0.02 mg/kg for benzene in soil was not exceeded in any of the samples analyzed, with the exception of the 8-foot sample from boring B-6 and the 3-foot sample from boring B-7. Proposed ADEC cleanup levels for toluene, ethylbenzene, and xylenes in soil were also not exceeded in any borings other than in B-6 and B-7.

Concentrations of acenaphthene, acenaphthylene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene were reported in concentrations of 0.0282, 0.0173, 0.0219, 0.0901, 4.83, 0.137, and 0.0191 mg/kg, respectively, in the 8-foot sample from boring B-6. Naphthalene was also reported at concentrations of 2.74 and 8.43 mg/kg in the 3-foot sample from boring B-6 and the 3-foot sample from boring B-7, respectively. No other detections of PAHs were reported. Reported concentrations of acenaphthene, fluoranthene, fluorene, naphthalene, and pyrene were well below the respective proposed ADEC cleanup levels of 210, 2,100, 270, 43 and 1,500 mg/kg. There are no proposed ADEC cleanup levels for acenaphthylene or phenanthrene.

Soil analytical data is summarized in Table 1, and physical soil analytical data is summarized in Table 2. Field and laboratory procedures are presented as Attachment B. Certified analytical reports and chain-of-custody documentation are presented as Attachment C.

Grab Groundwater Sample Collection and Analysis

Groundwater "grab" samples were collected from borings B-1 through B-11 and analyzed for GRO, DRO, and BTEX. Analytical results reported concentrations of GRO ranging from nondetect [<50 micrograms per liter ($\mu\text{g/l}$)] in B-1, B-3 through B-5, B-8, B-9, and B-11, to $80,500 \mu\text{g/l}$ in B-7. The proposed ADEC cleanup level of $1,500 \mu\text{g/l}$ for GRO in water was not exceeded in any of the samples analyzed with the exceptions of water samples from B-6 and B-7.

DRO concentrations ranged from $0.102 \mu\text{g/l}$ to $16.5 \mu\text{g/l}$. Benzene was reported below the method detection limits in all groundwater "grab" samples submitted for analysis. The proposed ADEC cleanup levels of $2,200 \mu\text{g/l}$ for DRO and $5 \mu\text{g/l}$ for benzene in water were not exceeded in any of the samples analyzed. Proposed ADEC cleanup levels for toluene, ethylbenzene, and xylenes in water were also not exceeded in any borings other than in B-6 and B-7.

Groundwater "grab" sample analytical data is presented in Table 3. Field and laboratory procedures are presented as Attachment B. Copies of certified analytical reports and chain-of-custody documentation are presented as Attachment C.

Groundwater Monitoring Well Sampling, Development, and Analysis

The five newly installed wells were developed and sampled on September 17, 1998. Groundwater samples were submitted for analysis of GRO, DRO, and BTEX.

Laboratory analytical results reported GRO concentrations in groundwater samples ranging from below method detection limits in MW-4 and MW-8, to $49,400 \mu\text{g/l}$ in MW-5. The proposed ADEC cleanup level of $1,500 \mu\text{g/l}$ for GRO in groundwater was not exceeded in any of the groundwater samples analyzed with the exception of samples from wells MW-5 (B-6/MW-5) and MW-7 (B-4/MW-7).

Concentrations of DRO ranged from nondetect in MW-4 to $7.5 \mu\text{g/l}$ in MW-7. Benzene was reported below method detection limits in all groundwater samples submitted for analysis. The proposed ADEC cleanup levels of $2,200 \mu\text{g/l}$ for DRO and $5 \mu\text{g/l}$ for benzene in water were not exceeded in any of the groundwater samples analyzed.

Proposed ADEC cleanup levels of $1,000 \mu\text{g/l}$ toluene, $700 \mu\text{g/l}$ ethylbenzene, and $10,000 \mu\text{g/l}$ xylenes in groundwater were not exceeded in any of the wells other than in MW-5. Reported concentrations of toluene, ethylbenzene, and xylenes in well MW-5 were $5,650$, $2,030$, and $10,300 \mu\text{g/l}$, respectively.

GRAB
NO...
SD VO...
1054

July 2 98
1998
2-3 15
1.5

Analytical groundwater sample data is presented in Table 4. Field and laboratory procedures are presented as Attachment B. Certified analytical reports and chain-of-custody documentation are presented as Attachment C.

Stockpiled Soil

Approximately 1 cubic yard of soil generated during the installation of the eleven soil borings was stockpiled onsite. Two grab samples were collected from the stockpiled soil and analyzed for GRO, BTEX, and PAHs. Stockpiled soil analytical data is presented in Table 5. Certified analytical reports and chain-of-custody documentation are presented as Attachment C.

CONCLUSIONS


Based on the data collected during this investigation, SECOR observes the following:


- Elevated concentrations of petroleum hydrocarbons are primarily limited to the subsurface area in the vicinity of borings B-6/MW-5 and B-7 as well as the location of MW-2, previously investigated. These locations roughly coincide with the former locations of the service station product islands and associated underground facilities.
- The lateral extent of hydrocarbons in both soil and groundwater appears defined onsite with the possible exception of the area of well B-4/MW-7. A concentration (7,100 µg/l) of GRO in groundwater greater than the proposed ADEC cleanup level was reported in well MW-7. Concentrations of DRO and BTEX in this location were either reported as nondetectable or were reported at levels lower than the proposed ADEC cleanup levels for each constituent. GRO was reported as nondetectable in the groundwater "grab" sample collected from the same location.
- Soil, groundwater "grab", and monitoring well groundwater samples collected in all other soil borings installed during this investigation were below recommended ADEC cleanup levels and do not pose a risk to soil and groundwater at this time.

Based on the above reported findings, SECOR concludes that, with the possible exception of GRO in groundwater west of the former service station facilities (in the vicinity of MW-7), the petroleum hydrocarbon plume underlying the site has been defined. The presence of GRO in this location will be confirmed during further groundwater sampling conducted during the periodic groundwater monitoring events.

If you have any questions or comments regarding this letter, please feel free to call us at (916) 364-1880.

Sincerely,
SECOR International Incorporated


Roger Hoffmore
Project Geologist


Greg Barclay
Senior Geologist

Attachments: Table 1 - Soil Boring Analytical Data
Table 2 - Risk Assessment Parameters
Table 3 - Groundwater "Grab" Analytical Results
Table 4 - Monitoring Well Groundwater Analytical Results
Table 5 - Stockpiled Soil Analytical Data
Figure 1 - Site Location Map
Figure 2 - Site Plan With Well Locations
Attachment A - Boring Logs and Surveyor's Report
Attachment B - Field and Laboratory Procedures
Attachment C - Certified Analytical Reports and Chain-of-Custody Documentation

cc: Mr. Bob Cochran, Chevron Products Company

Table 1
Soil Boring Analytical Data
Former Chevron Service Station #9-2609
Seward Highway, Mile 79
Portage, Alaska

Sample Name	Sample Depth	Date Sampled	Diesel Range Organics (mg/kg)	Gasoline Range Organics (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)
B-1	3	9/14/98	10.7	<5.0	<0.05	0.0671	<0.05	0.135	0.2021
B-2	MW 6	9/14/98	26.4	<5.0	<0.05	<0.05	<0.05	<0.1	0
B-3	3	9/14/98	4.95	<5.0	<0.05	<0.05	<0.05	<0.1	0
B-4	3	9/14/98	50.6	<5.0	<0.05	0.0561	<0.05	<0.1	0.0561
B-5	3	9/14/98	<4.0	<5.0	<0.05	0.0541	<0.05	0.132	0.1861
B-6	25 300	1* 9/17/98	10.5	10.7	<0.05	0.982	0.133	0.891	2.006
		3 9/14/98	625	1,550	<2.5	<2.5	3.94	19.3	23.24
		3* 9/17/98	NA	NA	NA	NA	NA	NA	NA
		8 9/17/98	2,490	2,190	8.09	264	42.6	223	537.69
		14* 9/17/98	11.6	21.9	<0.05	6.08	0.541	3.04	9.661
B-7	3	9/14/98	735	5,970	2.89	92.9	40.6	210	346.39
B-8	3	9/14/98	<4.0	<5.0	<0.05	<0.05	<0.05	<0.1	0
B-9	7	9/17/98	<4.0	<5.0	<0.05	<0.05	<0.05	<0.1	0
B-10	8	9/17/98	31.1	<5.0	<0.05	<0.05	<0.05	<0.1	0
B-11	8	9/17/98	<4.0	<5.0	<0.05	<0.05	<0.05	<0.1	0
Proposed Method Two Cleanup Standards**			300	250	0.02	5	6	69	-

TPH = Total petroleum hydrocarbons

mg/kg = milligrams per kilogram

Note: Additionally, samples B-6@3', B-6 @ 8', and B-7@3' was analyzed for Polynuclear Aromatic Compounds. Please refer to certified analytical reports for results.

* = Samples collected from second B-6 soil boring drilled on 9/17/98.

NA = Not Analyzed

** = Strictest Levels (Migration to Groundwater) in Under 40" Zone

Table 2
Risk Assessment Parameters
(pH, Total Organic Carbon, Porosity, Moisture Content, Unit Weight)

Former Chevron Service Station #9-2609
 Seward Highway, Mile 79
 Portage, Alaska

Sample ID	Sample Depth (feet)	Date Sampled	Porosity (%)	Moisture Content (%)	Unit Weight (pcf)	pH (pH units)	Total Organic Carbon (mg/kg)
B-1	3	9/14/98	NA	NA	NA	NA	3,500
B-6	3	9/17/98	24	6.9	131.6	6.67	2,720
	8	9/17/98	50	40.5	79.3	6.95	13,300

mg/kg = milligrams per kilogram

Note: Samples B-6 @ 3' (9/17/98) and B-6 @ 8' were analyzed for grain size by PSEP Recommended Guidelines. Please refer to certified analytical reports for results.

NA = not analyzed

pcf = pounds per cubic foot

Table 3
Groundwater "Grab" Analytical Results
 Former Chevron Service Station #9-2609
 Seward Highway, Mile 79
 Portage, Alaska

Sample Name	Date Sampled	Diesel Range Organics (ug/l)	Gasoline Range Organics (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	Total BTEX (ug/l)
B-1	9/14/98	0.335	<50	<0.5	<0.5	<0.5	<1.0	0
B-2	9/14/98	0.532	292	<0.5	1.18	1.87	18.8	21.85 = MW6
B-3	9/14/98	0.309	<50	<0.5	<0.5	<0.5	<1.0	0
B-4	9/14/98	0.356	<50	<0.5	<0.5	<0.5	<1.0	0 = MW7
B-5	9/14/98	0.142	<50	<0.5	<0.5	<0.5	1.22	1.22 = MW8
B-6	9/14/98	16.5	18,900	<50	204	450	2,110	2,764 = MW5
B-7	9/14/98	13.9	80,500	<250	18,800	2,800	18,000	39,600
B-8	9/14/98	0.212	<50	<0.5	<0.5	<0.5	<1.0	0
B-9	9/17/98	NA	<50	<0.5	1.3	<0.5	<1.0	1.3
B-10	NA	NA	NA	NA	NA	NA	NA	NA = MW4
B-11	9/17/98	0.102	<50	<0.5	<0.5	<0.5	<1.0	0
Proposed Groundwater Cleanup Standards		2,200	1,500	5	1,000	700	10,000	-
ug/l = micrograms per liter NA = Not Analyzed								

7.1 B...
 49 ppm
 GR3 X

Table 4
Monitoring Well Groundwater Analytical Results

Former Chevron Service Station #9-2609
 Seward Highway, Mile 79
 Portage, Alaska

Sample Name	Top of Casing Elevation (in feet*)	Date Measured	Depth to Water (feet)	Date Sampled	Diesel		Gasoline		Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	Total BTEX (ug/l)
					Range Organics (ug/l)	Range Organics (ug/l)							
MW-4	96.25	9/27/98	6.52	9/17/98	<0.1	<50	<0.5	<0.5	<0.5	<0.5	<1.0	0	
MW-5	92.92	9/27/98	3.54	9/17/98	4.73	49,400	<100	5,650	2,030	10,300	17,980		
MW-6		9/27/98	5.64	9/17/98	0.445	222	<0.5	<0.5	2.77	6.64	9.41		
MW-7	91.76	9/27/98	2.28	9/17/98	7.50	7,100	<27.0	<12.0	21.2	52.0	73.2		
MW-8	93.22	9/27/98	3.72	9/17/98	0.134	<50	<0.5	<0.5	<0.5	<1.0	0		
Proposed Groundwater Cleanup Standards					2,200	1,500	5	1,000	700	10,000	--		

ug/l = micrograms per liter

NA = Not Analyzed

* = measured relative to an arbitrary datum of 100.00' assumed for benchmark "C.P.2" located along highway approx. 950' north of site (see Surveyor Site Plan in Attachment)

B10
 -- B6
 B2
 --- B4
 B5

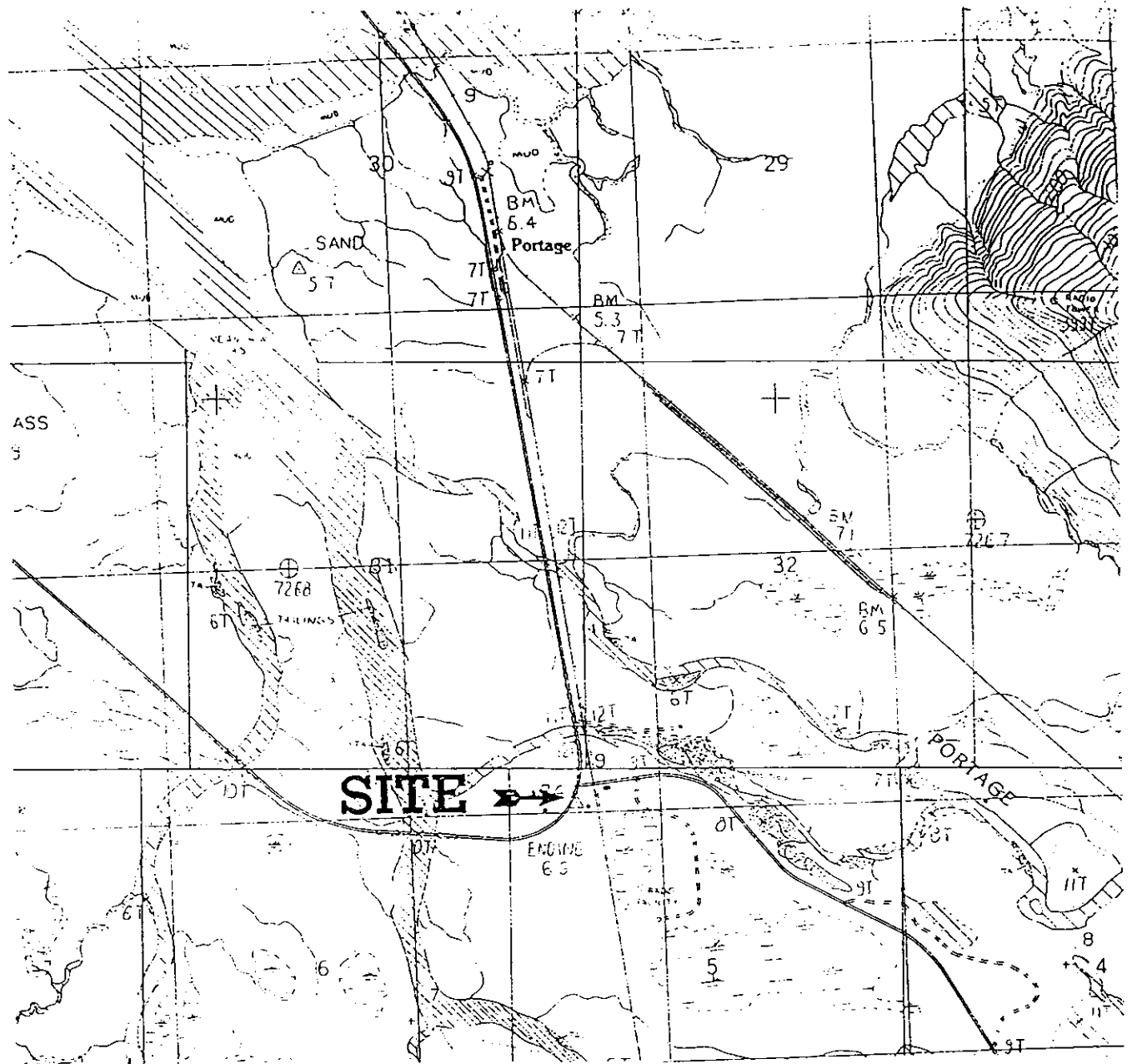
**Table 5
Soil Analytical Data
Stockpiled Soil**

Former Chevron Service Station #9-2609
Seward Highway, Mile 79
Portage, Alaska

Sample Name	Date Sampled	Gasoline Range Hydrocarbons (mg/kg)	Diesel Range Hydrocarbons (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)
SP-1	9/28/98	<5.0	13.3	<0.5	<0.05	<0.05	<0.1	0
SP-2	9/28/98	84.3	85.8	0.0582	0.341	0.363	2.32	3.0822

mg/kg = milligrams per kilograms

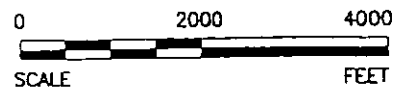
Note: Additionally both samples were analyzed for Polynuclear Aromatic Compounds. Please refer to certified analytical report for results.



REFERENCE: U.S. GEOLOGICAL SURVEY, 7.5 MINUTE SERIES
SEWARD SE, ALASKA QUADRANGLE.
PHOTOREVISED 1984.



NORTH



SCALE

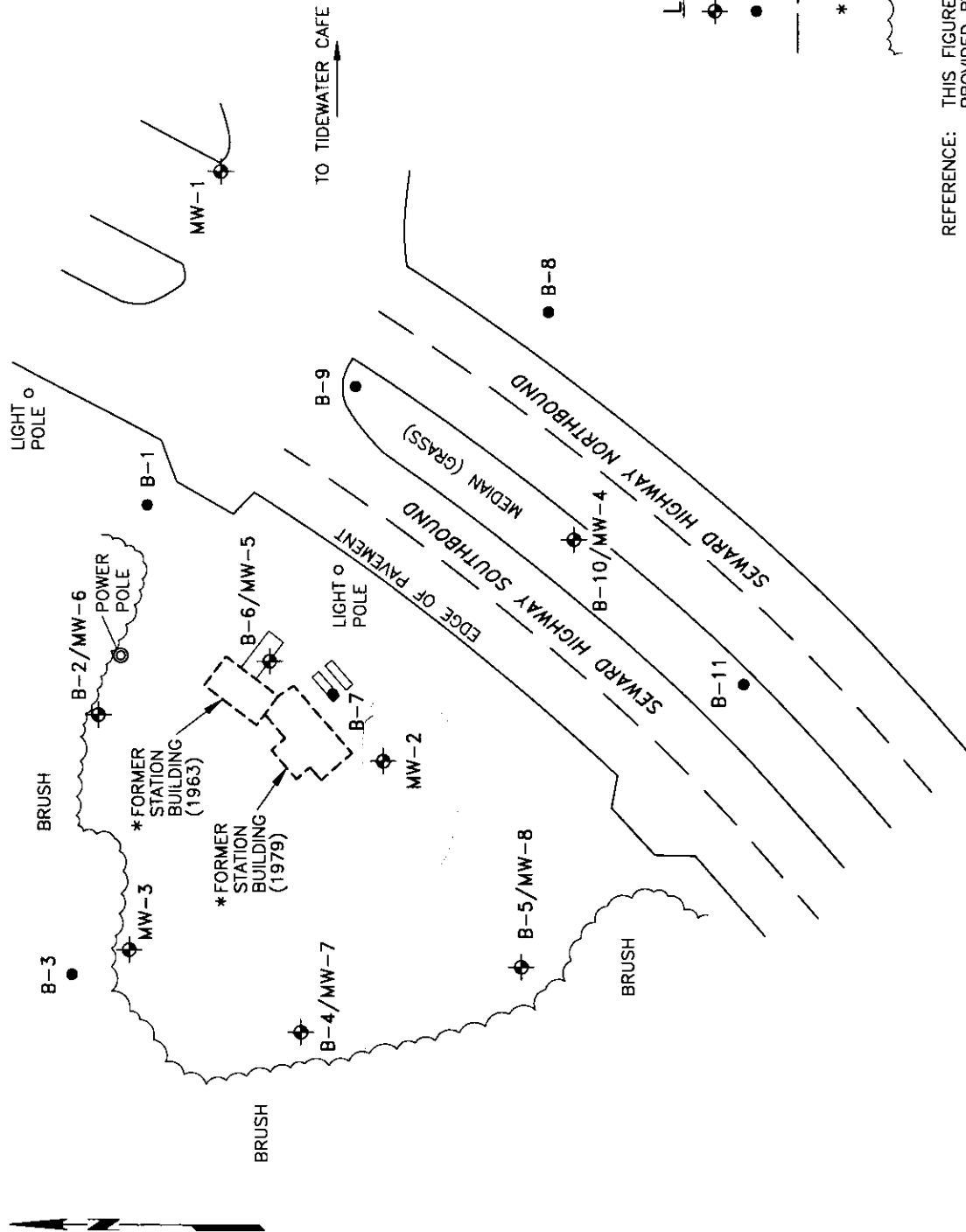
FEET

SECOR
INTERNATIONAL
INCORPORATED

DRAWN	CCR
APPR	RH
DATE	15JUN98
JOB NO.	7G007-033-01

FIGURE 1
FORMER CHEVRON STATION 9-2609
SEWARD HIGHWAY, MILE 79
PORTAGE, ALASKA

SITE LOCATION MAP



LEGEND:

- ⊕ MW-1 GROUNDWATER MONITORING WELL
- B-1 GEOPROBE LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- * FORMER BUILDING SHOWN APPROXIMATE FROM RRM
- ~ BRUSH AREA

REFERENCE: THIS FIGURE IS BASED ON SURVEY OF EXISTING FEATURES PROVIDED BY R&M CONSULTANTS, DATED NOVEMBER 3, 1998.

DRAWN CCR

APPR RH

DATE 14DEC98

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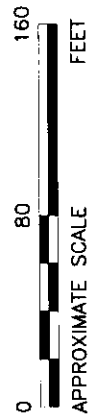

















FIGURE 2
FORMER CHEVRON STATION 9--2609
SEWARD HIGHWAY, MILE 79
PORTAGE, ALASKA
**SITE PLAN WITH
MONITORING WELL LOCATIONS**

ATTACHMENT A
BORING LOGS AND SURVEYOR'S REPORT





Unified Soil Classification System

Major Divisions		Symbols	Typical Names
Coarse Grained Soils (MORE THAN HALF OF SOIL > NO. 200 SIEVE SIZE)	Gravels (MORE THAN HALF OF COARSE FRACTION > NO. 4 SIEVE SIZE)		GW WELL GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GM SANDY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	Sands (MORE THAN HALF OF COARSE FRACTION < NO. 4 SIEVE SIZE)		SW WELL GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
			SP POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
			SM SILTY SANDS, SAND-SILT MIXTURES
			SC INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
Fine Grained Soils (MORE THAN HALF OF SOIL > NO. 200 SIEVE SIZE)	Silts and Clays LL = < 50		ML INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR SILTY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, LEAN CLAYS
			OL ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	Silts and Clays LL = > 50		MH INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH INORGANIC SILTS OF HIGH PLASTICITY, FAT CLAYS
			OH ORGANIC CLAYS OF HIGH PLASTICITY, ORGANIC SILTY CLAYS, ORGANIC SILTS
Highly Organic Soils			Pt PEAT AND OTHER HIGHLY ORGANIC SOILS

Grain Size Chart

Classification	Range of Grain Sizes	
	U.S. STANDARD SIEVE SIZE	GRAIN SIZE IN MILLIMETERS
BOULDERS	ABOVE 12"	ABOVE 305
COBBLES	12" TO 3"	305 TO 76.2
GRAVEL coarse fine	3" TO NO.4	76.2 TO 7.76
	3" TO 3/4"	76.2 TO 4.76
	3/4" TO NO.4	19.1 TO 4.76
SAND coarse medium fine	NO.4 TO NO.200	4.76 TO 0.074
	NO.4 TO NO.10	4.76 TO 2.00
	NO.10 TO NO.40	2.00 TO 0.420
	NO.40 TO NO.200	0.420 TO 0.074
SILT & CLAY	BELOW NO.200	BELOW 0.074

Sample Designation


RECOVERY		DRIVE SAMPLE INTERVAL
		CONTINUOUS CORE SAMPLE INTERVAL
	NR	NO RECOVERY
	ND	NOT DETECTED
		FIRST WATER (bgs)
		STABILIZED WATER LEVEL (bgs)

SECOR
INTERNATIONAL
INCORPORATED

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE /9, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/14/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): ~4.0 FEET	

B-1

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0						 <p>Backfilled with Bentonite</p>
			1						
			2						
			3						
	9	0	4						
			5						
			6						
			7						
			8						
			9						
	12	0	10						
			11						
			12						
			13						
			14						
	6	0	15						
			16						
			17						
			18						
			19						
			20						

199803.201133 X:\LOGS\CHEVRON\92609\B-1

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): ~6.15 FEET	

B-2/MW-6

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0						
			1				GRAVELLY SAND (SW) GRAYISH BROWN, moist to wet, medium dense, 20-30% angular to subrounded gravel, trace silt, fine to coarse sand (FILL) no product odor		
			2						
	20	0	3				GRAVELLY SAND (SW) GRAYISH BROWN, moist to wet, medium dense, 20-30% angular to subrounded gravel, trace silt, fine to coarse sand (FILL) no product odor		
			4			▽	@ 4.0 feet 20% silt, trace clay, wood debris, organics		
			5						
			6			▽			
			7						
	5		8						
			9				CLAYEY SILT (ML) GRAYISH BROWN, 10% very fine sand, 15% clay, low plasticity, saturated, soft, trace roots, no product odor (native)		
			10						
			11						
			12						
			13						
	9	0	14				CLAYEY SILT (ML) GRAYISH BROWN, 10% very fine sand, 15% clay, low plasticity, saturated, soft, trace roots, no product odor		
			15						
			16						
			17						
			18						
			19						
			20						

199803.2011.33 X:\LOGS\CHEVRON\92609\B-1

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/14/98//	
First Water (bgs): ~3.5 FEET		Stabilized Water Level (bgs): NA	

B-3

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0				SILTY SAND (SM) GRAYISH BROWN TO BROWN, 30% SILT, fine to very fine sand, trace gravel and trace wood, organics, odor of decomposing vegetation, moderate, moist to wet, no product odor		
	13	0	3			▽	SILTY SAND (SM) GRAYISH BROWN TO BROWN, 30% silt, fine to very fine sand, trace gravel and trace wood, organics, odor of decomposing vegetation, moderate, moist to wet, no product odor saturated @ 3.5 feet		
	11	0	9				SANDY SILT (ML) BROWNISH GRAY, 10-15% very fine sand, saturated, no product odor		
	12	0	14						
			15						
			16						
			17						
			18						
			19						
			20						



Backfilled with Bentonite

199803.201133 X:\LOGS\CHEVRON\92609\B-3

SECOR

Reviewed By: _____ Date: _____
 Revised By: _____ Date: _____

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 7.9, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): NA	

B-4/MW-7

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
			0					
			1				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 25% gravelly fine to coarse, sand, medium dense, moist to wet, no product odor	
			2					
	15	0	3				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 25% gravelly fine to coarse, sand, medium dense, moist to wet, no product odor (poor sample recovery—rock in shoe of sampler)	
			4			▽	© 4.0 feet saturated	
			5					
			6					
			7					
			8					
	8	0	9				SANDY SILT (ML) GRAYISH BROWN TO BROWNISH GRAY, 20% very fine sand, trace clay, firm, saturated, no product odor	
			10					
			11					
			12					
			13					
	16		14				SANDY SILT (ML) GRAYISH BROWN TO BROWNISH GRAY, 20% very fine sand, trace clay, firm, saturated, no product odor	
			15					
			16					
			17					
			18					
			19					
			20					

199803.201133 X:\LOGS\CHEVRON\92609\B-4

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 7.9, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): NA	

B-5/MW-8

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)	Boring Abandonment/ Well Construction Details
			0						GRAVELLY SAND (SW) GRAYISH BROWN, 15% silt, 20% fine to coarse sand, medium dense, moist to wet, no product odor (FILL)	
			1							
			2							
	12	0	3						GRAVELLY SAND (SW) GRAYISH BROWN, 15% silt, 20% fine to coarse sand, medium dense, moist to wet, no product odor (FILL) saturated @ 4.0 feet	
			4							
			5							
			6							
			7							
			8							
			9						SILT (ML) BROWNISH GRAY, 10% very fine sand, 5% clay, saturated, firm, no product odor (native)	
	11	0	10							
			11							
			12							
			13							
			14						SILT (ML) BROWNISH GRAY, 10% very fine sand, 5% clay, saturated, firm, no product odor	
	13	0	15							
			16							
			17							
			18							
			19							
			20							

199803201133 X:\LOGS\CHEVRON\92609\B-5

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-U1	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): NA	
Comments:			

B-6/MW-5


Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
	54		0				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 20% gravel, medium dense, moist to wet, no product odor		
			1				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 20% gravel, medium dense, moist to wet, slight product odor		
			2				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 20% gravel, medium dense, moist to wet, slight product odor		
			3				GRAVELLY SAND (SW) GRAYISH BROWN, 10% silt, 20% gravel, medium dense, moist to wet, slight product odor		
	17	169	4				@ 3.5 to 4.0 feet SANDY SILT (ML) GRAYISH BROWN, 15% very fine sand, wet, slight product odor		
			5				GRAVELLY SAND (SW) GRAYISH BROWN TO BROWNISH GRAY, 5% silt, 15% gravel, medium dense to dense, saturated, slight product odor		
			6				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			7				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			8				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
	2	10	9				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			10				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			11				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			12				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			13				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
	12		14				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			15				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			16				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			17				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			18				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			19				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		
			20				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, moderate product odor		

199803.201133 X:\LOGS\CHEVRON\92609\B-6

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/14/98//	
First Water (bgs): ~4.0 FEET		Stabilized Water Level (bgs): NA	

B-7

Comments:


Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0						
			1						
			2						
	25	9	3				GRAVELLY SAND (SW) GRAYISH BROWN TO BROWNISH GRAY, 5-6% silt, 20% gravel, moist to wet, no product odor @ 2.0 feet moderate product odor		 <p>Backfilled with Bentonite</p>
			4				GRAVELLY SAND (SW) GRAYISH BROWN TO BROWNISH GRAY, 5-6% silt, 20% gravel, moist to wet, moderate product odor		
			5						
			6						
			7						
			8						
	8	8	9				SANDY SILT (ML) BROWNISH GRAY, 15% very fine sand, saturated, faint product odor		
			10						
			11						
			12						
			13						
			14						
			15						
			16						
			17						
			18						
			19						
			20						

199803.201133 X:\LOGS\CHEVRON\92609\B-7

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/14/98//		Finish Date/Time: 9/14/98//	
First Water (bgs): NA		Stabilized Water Level (bgs): ~1.0 FEET	

B-8

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
	12	0	0			▲	GRAVELLY SAND (SW) GRAYISH BROWN, moist to wet, medium dense, 5% silt, no product odor (FILL)		 Backfilled with Bentonite
	11	0	3				GRAVELLY SAND (SW) GRAYISH BROWN, moist to wet, medium dense, 5% silt, no product odor		
			4						
			5						
			6						
			7						
			8						
			9						
			10						
			11						
			12						
			13						
			14						
			15						
			16						
			17						
			18						
			19						
			20						

199803.201133 X:\LOGS\CHEVRON\92609\B-8

SECOR

Reviewed By: _____ Date: _____
 Revised By: _____ Date: _____

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 7.9, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/17/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): 9.0 FEET		Stabilized Water Level (bgs): NA	

B-9

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)	
			0					
			1					
			2					
			3					
			4					
			5					
	20	0	6					
			7					
			8				wet @ 8.0 feet	
	19	0	9				saturated @ 9.0 feet, very slow recovery	
			10					
			11				(hydropunch to 12.0 feet, retracted to 8.0 feet to expose 4.0 feet of screen)	
			12					
			13					
			14					
			15					
			16					
			17					
			18					
			19					
			20					



Backfilled with Bentonite

199803.2011.33 X:\LOGS\CHEVRON\92609\B-9

Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: SEWARD HWY, MILE 7.9, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/17/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): ~9.0 FEET		Stabilized Water Level (bgs): 8.0 FEET	

B-10/MW-4

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (Feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0						Traffic-rated Christy Box
			1						Sand
			2						Bentonite Chips
			3						
			4						
	52	0	5						2" Sch. 40 PVC Blank Casing
			6						
			7						
			8						2" Sch. 40 PVC 0.020" Slot Screen
	18	0	9						
			10						
			11						#3 Lonestar Sand Pack
			12						
			13						
			14						
	8		15						
			16						End Cap
			17						
			18						
			19						
			20						

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Project: FORMER CHEVRON 2609		Log of Boring/Monitoring Well:	
Boring Location: PORTAGE HWY, MILE 79, PORTAGE, AK		Project No.: 7G007-033-01	
Subcontractor and Equipment: DISCOVERY/CME 75		Logged By: R.H.	Drawn By: R.P.
Sampling Method: 2.5" ID S.S./HYDROPUNCH		Monitoring Device: PID	
Start Date/Time: 9/17/98//		Finish Date/Time: 9/17/98//	
First Water (bgs): 9.0 FEET		Stabilized Water Level (bgs): NA	

B-11

Comments:

Sample Number	Blows/foot	PID (ppm)	Depth (feet)	Recovery	USCS Symbol	Water Level	Surface Elevation: NA	Casing Top Elevation: NA	Boring Abandonment/ Well Construction Details
							LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other)		
			0						
			1						
			2						
			3						
			4						
	55	0	5						
			6						
			7						
			8						
	18	0	9						
			10						
			11						
			12						
			13						
			14						
			15						
			16						
			17						
			18						
			19						
			20						

SILTY SAND WITH GRAVEL, GRAYISH BROWN, moist to wet, very dense, 10-15% silt, no product odor (FILL)

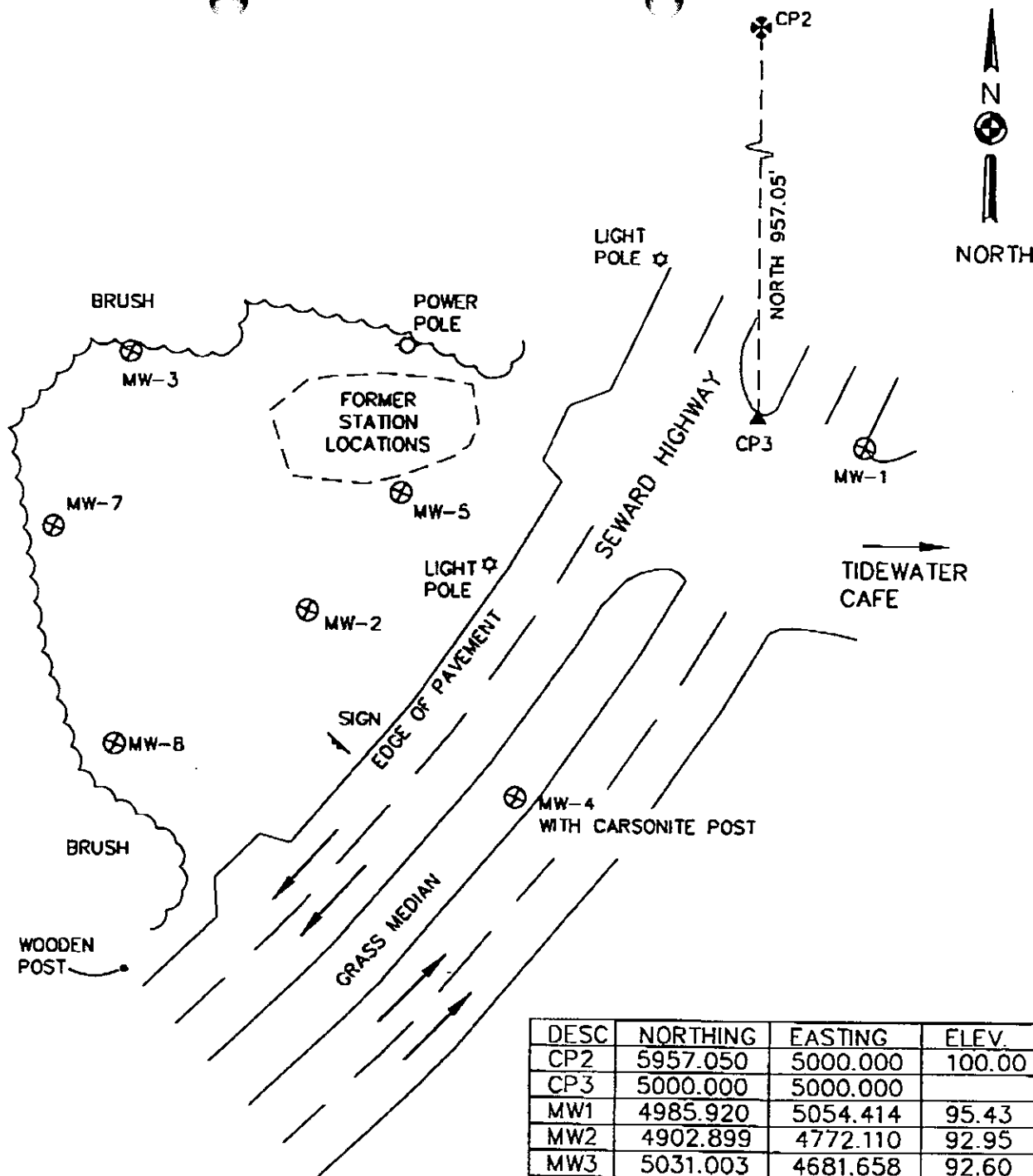
SILTY SAND WITH GRAVEL, GRAYISH BROWN, moist to wet, very dense, 10-15% silt, no product odor

SILTY SAND WITH GRAVEL, GRAYISH BROWN, wet, very dense, 10-15% silt, no product odor



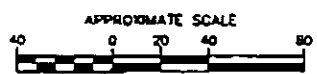
Backfilled with Bentonite

199803.201133 X:\LOGS\CHEVRON\92609\B-11



DESC	NORTHING	EASTING	ELEV.
CP2	5957.050	5000.000	100.00
CP3	5000.000	5000.000	
MW1	4985.920	5054.414	95.43
MW2	4902.899	4772.110	92.95
MW3	5031.003	4681.658	92.60
MW4	4809.973	4877.674	96.25
MW5	4961.640	4818.446	92.92
MW7	4944.301	4642.912	91.76
MW8	4835.491	4674.989	93.22

- NOTES:**
1. ELEVATIONS AND NORTH ORIENTATION ARE ASSUMED.
 2. UNABLE TO LOCATE MW-6.



PROJECT: 851119\PORTAGE_1.dwg, 11/09/98 at 09:24 by nfd

DWN: NFD
CKD: RHB
DATE: 3 NOV 98
SCALE: 1"=80'

R&M
R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS SURVEYORS TESTLAB
PLANNERS COMPUTER SERVICES
8101 Vanguard Drive, Anchorage, Alaska 99507 (907) 522-1707

FORMER CHEVRON SERVICE STATION
No. 9-2609 SEWARD HIGHWAY, MILE 79
PORTAGE, ALASKA
**SITE PLAN WITH
MONITOR WELL LOCATIONS**

F.B. 5-361-1
GRID NO. PORTAGE
R&M NO. 851119
DWG. NO. 1

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

Soil Borings

The soil borings for well installation were drilled using 8-inch hollow-stem auger drilling equipment to the above referenced depths. Borings were logged by a SECOR International Incorporated geologist using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging were collected at 5-foot depth intervals using a split-spoon sampler. The sampler was driven a maximum of 18 inches using a 140-pound hammer with a 30-inch drop. All soil samples for chemical analysis were retained in brass liners, capped with Teflon squares and plastic end caps, and sealed in clean zip-lock bags. The samples were placed on ice for transport to the laboratory accompanied by chain-of-custody documentation. All down-hole drilling and sampling equipment was steam-cleaned following the completion of the soil boring. Down-hole sampling equipment was washed in a tri-sodium phosphate oralconox solution between samples.

Groundwater Monitoring Well Installation and Development

Five borings were converted to groundwater monitoring wells by installing 2-inch diameter, flush-threaded, Schedule 40 PVC casing with 0.020-inch factory-slotted screen. The screen intervals for each well are referenced above. An RMC 2/12 sand pack, or equivalent, was placed in the annular space across the entire screened interval, and extends approximately 2 feet above the top of the screen interval. A bentonite transition seal was placed atop the sand pack, and extends to the ground surface. The boring logs show well construction details. The groundwater monitoring wells were developed after completion. The development procedure for the wells consisted of pumping or bailing water from the wells until the water was visibly clear or until a maximum of ten casing volumes were removed.

Groundwater Sampling Procedures

The sampling procedure for each well consisted collecting the necessary volume of groundwater using a disposable bailer. The groundwater was then placed into appropriate EPA-approved containers, labeled, logged onto chain-of-custody document, and transported on ice to a Washington State-certified laboratory.

Laboratory Procedures

The soil and groundwater samples 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, ethylbenzene, and xylenes (BTEX) by EPA Method 8020. In addition, selected soil samples and the soil samples collected from stockpiled soil were analyzed for Polynuclear Aromatic Compounds (PAHs) by GC/MS with Selected Ion Monitoring.

Hydropunch Groundwater Sampling

Subsurface groundwater samples were collected using hydropunch technology during initial drilling procedures. After borings are drilled to the desired depth using 8-inch diameter hollow-stem augers, a Schedule 40 PVC casing with 0.020 inch slotted screen enclosed in a steel drive casing is advanced below the total depth of the boring. The steel casing is retracted and the PVC casing is exposed to allow undisturbed groundwater to infiltrate the casing. Once an adequate supply of water has collected in the casing, a clean bailer is lowered into the casing. The bailer is retrieved and groundwater is then decanted into appropriate EPA approved sample containers, and submitted for analysis to a Washington State approved analytical laboratory.

Organic Vapor Procedures

Soil samples collected at approximate 5-foot depth intervals during drilling were analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID). The test procedure involved measuring approximately 30 grams from a soil sample, placing this subsample in a clean clear ziplock plastic quart bag, and sealing the bag. The head-space within the bag was tested for total organic vapor, measured in ppm 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 related the ionization potential of benzene to that of isobutylene at 100 ppm. The results of the field testing were noted on the boring logs. PID readings were useful for indicating relative levels of contamination, but were not used to evaluate hydrocarbon levels with the confidence of laboratory analyses.

ATTACHMENT C

**CERTIFIED ANALYTICAL REPORTS AND
CHAIN-OF-CUSTODY DOCUMENTATION**



**NORTH
CREEK
ANALYTICAL**

Environmental Laboratory Services

BOTHELL ▪ (425) 420-9200 ▪ FAX 420-9210
 SPOKANE ▪ (509) 924-9200 ▪ FAX 924-9290
 PORTLAND ▪ (503) 906-9200 ▪ FAX 906-9210

Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
--	---	---

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B-1@3'	B809356-09	Soil	9/14/98
B-6@3'	B809356-14	Soil	9/14/98
B-7@3'	B809356-15	Soil	9/14/98

North Creek Analytical - Bothell

*The results in this report apply to the samples analyzed in accordance with the chain of custody document.
 This analytical report must be reproduced in its entirety.*

Matthew Essig, Project Manager

18939 120th Avenue N.E., Suite 101, Bothell, WA 98011-9508
 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
 9405 S W Nimbus Avenue Beaverton, OR 97008-7132



NORTH CREEK ANALYTICAL

Environmental Laboratory Services

BOTHELL ■ (425) 420-9200 ■ FAX 420-9210
 SPOKANE ■ (509) 924-9200 ■ FAX 924-9290
 PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-6@3'				B809356-14			Soil	
Acenaphthene	1080466	10/13/98	10/17/98		0.200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.200	ND	"	
Anthracene	"	"	"		0.200	ND	"	
Benzo (a) anthracene	"	"	"		0.200	ND	"	
Benzo (a) pyrene	"	"	"		0.200	ND	"	
Benzo (b) fluoranthene	"	"	"		0.200	ND	"	
Benzo (ghi) perylene	"	"	"		0.200	ND	"	
Benzo (k) fluoranthene	"	"	"		0.200	ND	"	
Chrysene	"	"	"		0.200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.200	ND	"	
Fluoranthene	"	"	"		0.200	ND	"	
Fluorene	"	"	"		0.200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.200	ND	"	
Naphthalene	"	"	"		0.200	2.74	"	
Phenanthrene	"	"	"		0.200	ND	"	
Pyrene	"	"	"		0.200	ND	"	
Surrogate: 2-FBP	"	"	"	30.0-150		91.2	%	
Surrogate: Nitrobenzene-d5	"	"	"	30.0-150		127	"	
Surrogate: p-Terphenyl-d14	"	"	"	30.0-150		132	"	
B-7@3'				B809356-15			Soil	
Acenaphthene	1080466	10/13/98	10/17/98		0.200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.200	ND	"	
Anthracene	"	"	"		0.200	ND	"	
Benzo (a) anthracene	"	"	"		0.200	ND	"	
Benzo (a) pyrene	"	"	"		0.200	ND	"	
Benzo (b) fluoranthene	"	"	"		0.200	ND	"	
Benzo (ghi) perylene	"	"	"		0.200	ND	"	
Benzo (k) fluoranthene	"	"	"		0.200	ND	"	
Chrysene	"	"	"		0.200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.200	ND	"	
Fluoranthene	"	"	"		0.200	ND	"	
Fluorene	"	"	"		0.200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.200	ND	"	
Naphthalene	"	"	"		0.200	8.43	"	
Phenanthrene	"	"	"		0.200	ND	"	
Pyrene	"	"	"		0.200	ND	"	
Surrogate: 2-FBP	"	"	"	30.0-150		93.7	%	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
 North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-7@3' (continued)				B809356-15			Soil	
Surrogate: Nitrobenzene-d5	1080466	10/13/98	10/17/98	30.0-150		112	%	
Surrogate: p-Terphenyl-d14	"	"	"	30.0-150		126	"	

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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**Conventional Chemistry Parameters by APHA/EPA Methods
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
<u>B-1@3'</u> Total Organic Carbon	1080471	10/13/98	10/13/98	<u>B809356-09</u> EPA 9060 mod.	50.0	3500	Soil mg/kg dry	



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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**Dry Weight Determination
North Creek Analytical - Bothell**

Sample Name	Lab ID	Matrix	Result	Units
B-1@3'	B809356-09	Soil	86.8	%
B-6@3'	B809356-14	Soil	92.0	%
B-7@3'	B809356-15	Soil	95.2	%

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recev. %	RPD Limit	RPD %	Notes*
Batch: 1080466		Date Prepared: 10/13/98		Extraction Method: EPA 3550B					
Blank		1080466-BLK1							
Acenaphthene	10/15/98			ND	mg/kg dry	0.0100			
Acenaphthylene	"			ND	"	0.0100			
Anthracene	"			ND	"	0.0100			
Benzo (a) anthracene	"			ND	"	0.0100			
Benzo (a) pyrene	"			ND	"	0.0100			
Benzo (b) fluoranthene	"			ND	"	0.0100			
Benzo (ghi) perylene	"			ND	"	0.0100			
Benzo (k) fluoranthene	"			ND	"	0.0100			
Chrysene	"			ND	"	0.0100			
Dibenz (a,h) anthracene	"			ND	"	0.0100			
Fluoranthene	"			ND	"	0.0100			
Fluorene	"			ND	"	0.0100			
Indeno (1,2,3-cd) pyrene	"			ND	"	0.0100			
Naphthalene	"			ND	"	0.0100			
Phenanthrene	"			ND	"	0.0100			
Pyrene	"			ND	"	0.0100			
Surrogate: 2-FBP	"	1.67		1.45	"	30.0-150	86.8		
Surrogate: Nitrobenzene-d5	"	1.67		2.11	"	30.0-150	126		
Surrogate: p-Terphenyl-d14	"	1.67		2.09	"	30.0-150	125		
LCS		1080466-BS1							
Chrysene	10/15/98	0.333		0.280	mg/kg dry	10.0-125	84.1		
Fluorene	"	0.333		0.319	"	11.0-116	95.8		
Indeno (1,2,3-cd) pyrene	"	0.333		0.231	"	10.0-147	69.4		
Surrogate: 2-FBP	"	1.67		1.52	"	30.0-150	91.0		
Surrogate: Nitrobenzene-d5	"	1.67		2.07	"	30.0-150	124		
Surrogate: p-Terphenyl-d14	"	1.67		1.98	"	30.0-150	119		
Matrix Spike		1080466-MS1		B810107-01					
Chrysene	10/15/98	0.449	0.494	0.827	mg/kg dry	10.0-125	74.2		
Fluorene	"	0.449	2.15	2.23	"	10.0-154	17.8		
Indeno (1,2,3-cd) pyrene	"	0.449	ND	0.288	"	10.0-144	64.1		
Surrogate: 2-FBP	"	2.25		2.05	"	30.0-150	91.1		
Surrogate: Nitrobenzene-d5	"	2.25		3.06	"	30.0-150	136		
Surrogate: p-Terphenyl-d14	"	2.25		2.71	"	30.0-150	120		

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit	Recov.	RPD	RPD	Notes*
						Recov. Limits	%	Limit	%	
Matrix Spike Dup										
		1080466-MSD1	B810107-01							
Chrysene	10/16/98	0.449	0.494	0.818	mg/kg dry	10.0-125	72.2	28.0	2.73	
Fluorene	"	0.449	2.15	2.31	"	10.0-154	35.6	32.0	66.7	1
Indeno (1,2,3-cd) pyrene	"	0.449	ND	0.306	"	10.0-144	68.2	47.0	6.20	
Surrogate: 2-FBP	"	2.25		1.96	"	30.0-150	87.1			
Surrogate: Nitrobenzene-d5	"	2.25		2.82	"	30.0-150	125			
Surrogate: p-Terphenyl-d14	"	2.25		2.87	"	30.0-150	128			



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**Conventional Chemistry Parameters by APHA/EPA Methods/Quality Control
 North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1080471	Date Prepared: 10/13/98			Extraction Method: General Preparation						
Blank	1080471-BLK1									
Total Organic Carbon	10/13/98			ND	mg/kg dry	50.0				
LCS	1080471-BS1									
Total Organic Carbon	10/13/98	2500		2440	mg/kg dry	91.0-112	97.6			
Duplicate	1080471-DUP1		B810232-01							
Total Organic Carbon	10/13/98		528	532	mg/kg dry			24.0	0.755	

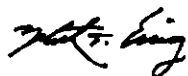

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 10/19/98 11:42
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Notes and Definitions

#	Note
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- 1 The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference





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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B-9 @ 7'	B809519-01	Soil	9/17/98
B-10 @ 8'	B809519-02	Soil	9/17/98
B-11 @ 8'	B809519-03	Soil	9/17/98
B-6 @ 1'	B809519-04	Soil	9/17/98
B-6 @ 8'	B809519-05	Soil	9/17/98
B-6 @ 14'	B809519-06	Soil	9/17/98
B-6 @ 3'	B809519-07	Soil	9/17/98


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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-9 @ 7'				B809519-01		Soil		
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		95.8	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		64.6	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		102	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		63.6	"	
B-10 @ 8'				B809519-02		Soil		
Gasoline Range Hydrocarbons	0980831	9/25/98	9/26/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		121	%	1
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		127	"	1
B-11 @ 8'				B809519-03		Soil		
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		89.9	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		65.5	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		94.1	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		61.6	"	
B-6 @ 1'				B809519-04		Soil		
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	10.7	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	0.982	"	
Ethylbenzene	"	"	"		0.0500	0.133	"	
Xylenes (total)	"	"	"		0.100	0.891	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		117	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		88.9	"	

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-6 @ 1' (continued)				B809519-04			Soil	
Surrogate: 4-BFB (PID)	0980809	9/24/98	9/25/98	60.0-120		93.2	%	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		69.1	"	
B-6 @ 8'				B809519-05			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/26/98		500	2190	mg/kg dry	
Benzene	"	"	"		5.00	8.09	"	
Toluene	"	"	"		5.00	264	"	
Ethylbenzene	"	"	"		5.00	42.6	"	
Xylenes (total)	"	"	"		10.0	223	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		NR	%	2
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		NR	"	2
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		NR	"	2
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		NR	"	2
B-6 @ 14'				B809519-06			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/26/98		20.0	21.9	mg/kg dry	
Benzene	"	"	"		0.200	ND	"	
Toluene	"	"	"		0.200	6.08	"	
Ethylbenzene	"	"	"		0.200	0.541	"	
Xylenes (total)	"	"	"		0.400	3.04	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		77.7	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		44.7	"	3
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		80.6	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		35.0	"	3



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Diesel Hydrocarbons (C10-C25) by AK102 North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-9 @ 7'				B809519-01			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/23/98		4.00	ND	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		89.7	%	
B-10 @ 8'				B809519-02			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/24/98		4.00	31.1	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		98.5	%	
B-11 @ 8'				B809519-03			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/23/98		4.00	ND	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		84.5	%	
B-6 @ 1'				B809519-04			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/23/98		4.00	10.5	mg/kg dry	4
Surrogate: 2-FBP	"	"	"	50.0-150		67.6	%	
B-6 @ 8'				B809519-05			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/23/98		20.0	2490	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		108	%	
B-6 @ 14'				B809519-06			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/23/98		4.00	11.6	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		84.3	%	

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-6 @ 8'				B809519-05			Soil	
Acenaphthene	0980682	9/22/98	9/24/98		0.0100	0.0282	mg/kg dry	
Acenaphthylene	"	"	"		0.0100	0.0173	"	
Anthracene	"	"	"		0.0100	ND	"	
Benzo (a) anthracene	"	"	"		0.0100	ND	"	
Benzo (a) pyrene	"	"	"		0.0100	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0100	ND	"	
Benzo (ghi) perylene	"	"	"		0.0100	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0100	ND	"	
Chrysene	"	"	"		0.0100	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0100	ND	"	
Fluoranthene	"	"	"		0.0100	0.0219	"	
Fluorene	"	"	"		0.0100	0.0901	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0100	ND	"	
Naphthalene	"	"	10/1/98		0.100	4.83	"	
Phenanthrene	"	"	9/24/98		0.0100	0.137	"	
Pyrene	"	"	"		0.0100	0.0191	"	
Surrogate: 2-FBP	"	"	"	30.0-150		62.7	%	
Surrogate: Nitrobenzene-d5	"	"	"	30.0-150		84.6	"	
Surrogate: p-Terphenyl-d14	"	"	"	30.0-150		82.5	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Conventional Chemistry Parameters by APHA/EPA Methods North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
				<u>B809519-05</u>				
<u>B-6 @ 8'</u>								
pH	0980803	9/23/98	9/23/98	EPA 9045B		6.95	Soil pH units	
Total Organic Carbon	0980848	9/24/98	9/25/98	EPA 9060 mod.	50.0	13300	mg/kg dry	
				<u>B809519-07</u>				
<u>B-6 @ 3'</u>								
pH	0980803	9/23/98	9/23/98	EPA 9045B		6.67	Soil pH units	
Total Organic Carbon	0980848	9/24/98	9/25/98	EPA 9060 mod.	50.0	2720	mg/kg dry	


 Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Grain Size by PSEP Recommended Guidelines
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
B-6 @ 8'				B809519-05			Soil	
% Passing Sieve #4 (>4750µm)	1080057	9/29/98	10/2/98	PSEP Grain Size		100	% by Weight	
% Passing Sieve #10 (4750-2000µm)	"	"	"	PSEP Grain Size		99.7	"	
% Passing Sieve #20 (2000-850µm)	"	"	"	PSEP Grain Size		99.5	"	
% Passing Sieve #40 (850-425µm)	"	"	"	PSEP Grain Size		99.2	"	
% Passing Sieve #60 (425-250µm)	"	"	"	PSEP Grain Size		98.9	"	
% Passing Sieve #140 (250-106µm)	"	"	"	PSEP Grain Size		98.6	"	
% Passing Sieve #200 (106-75µm)	"	"	"	PSEP Grain Size		98.2	"	
% Passing Sieve #230 (75-62.5µm)	"	"	"	PSEP Grain Size		97.6	"	
% Passing phi 4 (62.5-31.2µm)	"	"	"	PSEP Grain Size		65.3	"	
% Passing phi 5 (31.2-15.6µm)	"	"	"	PSEP Grain Size		38.1	"	
% Passing phi 6 (15.6-7.8µm)	"	"	"	PSEP Grain Size		24.5	"	
% Passing phi 7 (7.8-3.9µm)	"	"	"	PSEP Grain Size		21.8	"	
% Passing phi 8 (3.9-1.9µm)	"	"	"	PSEP Grain Size		16.3	"	
% Passing phi 9 (1.9-0.9µm)	"	"	"	PSEP Grain Size		10.9	"	
% Passing phi 10 (<0.9µm)	"	"	"	PSEP Grain Size		5.40	"	
Fractional % Sieve #4 (>4750µm)	"	"	"	PSEP Grain Size		ND	"	
Fractional % Sieve #10 (4750-2000µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % Sieve #20 (2000-850µm)	"	"	"	PSEP Grain Size		0.200	"	
Fractional % Sieve #40 (850-425µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % Sieve #60 (425-250µm)	"	"	"	PSEP Grain Size		0.200	"	
Fractional % Sieve #140 (250-106µm)	"	"	"	PSEP Grain Size		0.400	"	
Fractional % Sieve #200 (106-75µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % Sieve #230 (75-62.5µm)	"	"	"	PSEP Grain Size		0.700	"	
Fractional % phi 4 (62.5-31.2µm)	"	"	"	PSEP Grain Size		32.3	"	
Fractional % phi 5 (31.2-15.6µm)	"	"	"	PSEP Grain Size		27.2	"	
Fractional % phi 6 (15.6-7.8µm)	"	"	"	PSEP Grain Size		13.6	"	
Fractional % phi 7 (7.8-3.9µm)	"	"	"	PSEP Grain Size		2.70	"	
Fractional % phi 8 (3.9-1.9µm)	"	"	"	PSEP Grain Size		5.40	"	
Fractional % phi 9 (1.9-0.9µm)	"	"	"	PSEP Grain Size		5.40	"	
Fractional % phi 10 (<0.9µm)	"	"	"	PSEP Grain Size		5.40	"	


Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Grain Size by PSEP Recommended Guidelines
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Specific Method	Reporting Limit	Result	Units	Notes*
B-6 @ 3'				B809519-07			Soil	
% Passing Sieve #4 (>4750µm)	1080057	9/29/98	10/2/98	PSEP Grain Size		61.2	% by Weight	
% Passing Sieve #10 (4750-2000µm)	"	"	"	PSEP Grain Size		51.2	"	
% Passing Sieve #20 (2000-850µm)	"	"	"	PSEP Grain Size		41.7	"	
% Passing Sieve #40 (850-425µm)	"	"	"	PSEP Grain Size		25.6	"	
% Passing Sieve #60 (425-250µm)	"	"	"	PSEP Grain Size		11.0	"	
% Passing Sieve #140 (250-106µm)	"	"	"	PSEP Grain Size		4.60	"	
% Passing Sieve #200 (106-75µm)	"	"	"	PSEP Grain Size		3.70	"	
% Passing Sieve #230 (75-62.5µm)	"	"	"	PSEP Grain Size		3.40	"	
% Passing phi 4 (62.5-31.2µm)	"	"	"	PSEP Grain Size		2.10	"	
% Passing phi 5 (31.2-15.6µm)	"	"	"	PSEP Grain Size		2.10	"	
% Passing phi 6 (15.6-7.8µm)	"	"	"	PSEP Grain Size		1.40	"	
% Passing phi 7 (7.8-3.9µm)	"	"	"	PSEP Grain Size		1.40	"	
% Passing phi 8 (3.9-1.9µm)	"	"	"	PSEP Grain Size		1.00	"	
% Passing phi 9 (1.9-0.9µm)	"	"	"	PSEP Grain Size		0.700	"	
% Passing phi 10 (<0.9µm)	"	"	"	PSEP Grain Size		0.700	"	
Fractional % Sieve #4 (>4750µm)	"	"	"	PSEP Grain Size		38.8	"	
Fractional % Sieve #10 (4750-2000µm)	"	"	"	PSEP Grain Size		10.0	"	
Fractional % Sieve #20 (2000-850µm)	"	"	"	PSEP Grain Size		9.50	"	
Fractional % Sieve #40 (850-425µm)	"	"	"	PSEP Grain Size		16.1	"	
Fractional % Sieve #60 (425-250µm)	"	"	"	PSEP Grain Size		14.6	"	
Fractional % Sieve #140 (250-106µm)	"	"	"	PSEP Grain Size		6.50	"	
Fractional % Sieve #200 (106-75µm)	"	"	"	PSEP Grain Size		0.800	"	
Fractional % Sieve #230 (75-62.5µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % phi 4 (62.5-31.2µm)	"	"	"	PSEP Grain Size		1.30	"	
Fractional % phi 5 (31.2-15.6µm)	"	"	"	PSEP Grain Size		ND	"	
Fractional % phi 6 (15.6-7.8µm)	"	"	"	PSEP Grain Size		0.700	"	
Fractional % phi 7 (7.8-3.9µm)	"	"	"	PSEP Grain Size		ND	"	
Fractional % phi 8 (3.9-1.9µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % phi 9 (1.9-0.9µm)	"	"	"	PSEP Grain Size		0.300	"	
Fractional % phi 10 (<0.9µm)	"	"	"	PSEP Grain Size		ND	"	


Matthew Essig, Project Manager



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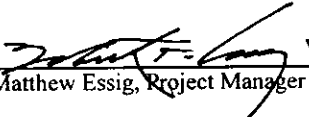
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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Dry Weight Determination
North Creek Analytical - Bothell**

Sample Name	Lab ID	Matrix	Result	Units
B-9 @ 7'	B809519-01	Soil	96.6	%
B-10 @ 8'	B809519-02	Soil	96.4	%
B-11 @ 8'	B809519-03	Soil	89.0	%
B-6 @ 1'	B809519-04	Soil	97.7	%
B-6 @ 8'	B809519-05	Soil	73.2	%
B-6 @ 14'	B809519-06	Soil	76.7	%
B-6 @ 3'	B809519-07	Soil	92.0	%

North Creek Analytical - Bothell


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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Recov. Limits	RPD %	RPD Limit	RPD %	Notes*
Batch: 0980809			Date Prepared: 9/24/98		Extraction Method: EPA 5030B (P/T)					
Blank			0980809-BLK1							
Gasoline Range Hydrocarbons	9/26/98			ND	mg/kg dry	5.00				
Benzene	"			ND	"	0.0500				
Toluene	"			ND	"	0.0500				
Ethylbenzene	"			ND	"	0.0500				
Xylenes (total)	"			ND	"	0.100				
Surrogate: 4-BFB (FID)	"	2.40		2.29	"	60.0-120	95.4			
Surrogate: a,a,a-TFT (FID)	"	2.40		1.76	"	50.0-150	73.3			
Surrogate: 4-BFB (PID)	"	2.40		2.43	"	60.0-120	101			
Surrogate: a,a,a-TFT (PID)	"	2.40		1.81	"	50.0-150	75.4			
LCS			0980809-BS1							
Gasoline Range Hydrocarbons	9/26/98	25.0		21.7	mg/kg dry	60.0-120	86.8			
Surrogate: 4-BFB (FID)	"	2.40		2.45	"	60.0-120	102			
Surrogate: a,a,a-TFT (FID)	"	2.40		1.87	"	50.0-150	77.9			
LCS Dup			0980809-BSD1							
Gasoline Range Hydrocarbons	9/26/98	25.0		23.1	mg/kg dry	60.0-120	92.4	20.0	6.25	
Surrogate: 4-BFB (FID)	"	2.40		2.54	"	60.0-120	106			
Surrogate: a,a,a-TFT (FID)	"	2.40		1.95	"	50.0-150	81.2			
Matrix Spike			0980809-MS1 B809519-01							
Benzene	9/25/98	0.248	ND	0.255	mg/kg dry	60.0-120	103			
Toluene	"	0.248	ND	0.261	"	60.0-120	105			
Ethylbenzene	"	0.248	ND	0.227	"	60.0-120	91.5			
Xylenes (total)	"	0.745	ND	0.687	"	60.0-120	92.2			
Surrogate: 4-BFB (PID)	"	1.19		1.08	"	60.0-120	90.8			
Surrogate: a,a,a-TFT (PID)	"	1.19		0.750	"	50.0-150	63.0			
Matrix Spike Dup			0980809-MSD1 B809519-01							
Benzene	9/25/98	0.248	ND	0.261	mg/kg dry	60.0-120	105	20.0	1.92	
Toluene	"	0.248	ND	0.270	"	60.0-120	109	20.0	3.74	
Ethylbenzene	"	0.248	ND	0.240	"	60.0-120	96.8	20.0	5.63	
Xylenes (total)	"	0.745	ND	0.728	"	60.0-120	97.7	20.0	5.79	
Surrogate: 4-BFB (PID)	"	1.19		1.11	"	60.0-120	93.3			
Surrogate: a,a,a-TFT (PID)	"	1.19		0.745	"	50.0-150	62.6			

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980831			Date Prepared: 9/25/98		Extraction Method: EPA 5030B (MeOH)					
Blank			0980831-BLK1							
Gasoline Range Hydrocarbons	9/26/98			ND	mg/kg dry	5.00				
Benzene	"			ND	"	0.0500				
Toluene	"			ND	"	0.0500				
Ethylbenzene	"			ND	"	0.0500				
Xylenes (total)	"			ND	"	0.100				
Surrogate: 4-BFB (FID)	"	4.00		5.65	"	60.0-120	141			1
Surrogate: 4-BFB (PID)	"	4.00		5.43	"	60.0-120	136			1
LCS			0980831-BS1							
Gasoline Range Hydrocarbons	9/26/98	25.0		22.5	mg/kg dry	60.0-120	90.0			
Surrogate: 4-BFB (FID)	"	4.00		5.48	"	60.0-120	137			1
LCS Dup			0980831-BSD1							
Gasoline Range Hydrocarbons	9/26/98	25.0		22.3	mg/kg dry	60.0-120	89.2	20.0	0.893	
Surrogate: 4-BFB (FID)	"	4.00		5.65	"	60.0-120	141			1
Matrix Spike			0980831-MS1 B809519-02							
Benzene	9/26/98	0.519	ND	0.515	mg/kg dry	60.0-120	99.2			
Toluene	"	0.519	ND	0.536	"	60.0-120	103			
Ethylbenzene	"	0.519	ND	0.511	"	60.0-120	98.5			
Xylenes (total)	"	1.56	ND	1.64	"	60.0-120	105			
Surrogate: 4-BFB (PID)	"	4.15		5.29	"	60.0-120	127			1
Matrix Spike Dup			0980831-MSD1 B809519-02							
Benzene	9/26/98	0.519	ND	0.522	mg/kg dry	60.0-120	101	20.0	1.80	
Toluene	"	0.519	ND	0.528	"	60.0-120	102	20.0	0.976	
Ethylbenzene	"	0.519	ND	0.508	"	60.0-120	97.9	20.0	0.611	
Xylenes (total)	"	1.56	ND	1.61	"	60.0-120	103	20.0	1.92	
Surrogate: 4-BFB (PID)	"	4.15		5.16	"	60.0-120	124			1


Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Diesel Hydrocarbons (C10-C25) by AK102/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980683			Date Prepared: 9/22/98		Extraction Method: EPA 3550B				
Blank			0980683-BLK1						
Diesel Range Hydrocarbons	9/22/98			ND	mg/kg dry	4.00			
Surrogate: 2-FBP	"	13.2		8.40	"	50.0-150	63.6		
LCS			0980683-BS1						
Diesel Range Hydrocarbons	9/24/98	80.0		77.6	mg/kg dry	60.0-120	97.0		
Surrogate: 2-FBP	"	13.2		10.8	"	50.0-150	81.8		
LCS Dup			0980683-BSD1						
Diesel Range Hydrocarbons	9/24/98	80.0		87.6	mg/kg dry	60.0-120	109	20.0	11.7
Surrogate: 2-FBP	"	13.2		14.4	"	50.0-150	109		


Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980682			Date Prepared: 9/22/98		Extraction Method: EPA 3550B				
Blank			0980682-BLK1						
Acenaphthene	9/23/98			ND	mg/kg dry		0.0100		
Acenaphthylene	"			ND	"		0.0100		
Anthracene	"			ND	"		0.0100		
Benzo (a) anthracene	"			ND	"		0.0100		
Benzo (a) pyrene	"			ND	"		0.0100		
Benzo (b) fluoranthene	"			ND	"		0.0100		
Benzo (ghi) perylene	"			ND	"		0.0100		
Benzo (k) fluoranthene	"			ND	"		0.0100		
Chrysene	"			ND	"		0.0100		
Dibenz (a,h) anthracene	"			ND	"		0.0100		
Fluoranthene	"			ND	"		0.0100		
Fluorene	"			ND	"		0.0100		
Indeno (1,2,3-cd) pyrene	"			ND	"		0.0100		
Naphthalene	"			ND	"		0.0100		
Phenanthrene	"			ND	"		0.0100		
Pyrene	"			ND	"		0.0100		
Surrogate: 2-FBP	"	1.67		1.22	"		30.0-150	73.1	
Surrogate: Nitrobenzene-d5	"	1.67		1.47	"		30.0-150	88.0	
Surrogate: p-Terphenyl-d14	"	1.67		1.54	"		30.0-150	92.2	
LCS			0980682-BS1						
Chrysene	9/23/98	0.333		0.247	mg/kg dry		10.0-125	74.2	
Fluorene	"	0.333		0.276	"		11.0-116	82.9	
Indeno (1,2,3-cd) pyrene	"	0.333		0.191	"		10.0-147	57.4	
Surrogate: 2-FBP	"	1.67		1.39	"		30.0-150	83.2	
Surrogate: Nitrobenzene-d5	"	1.67		1.49	"		30.0-150	89.2	
Surrogate: p-Terphenyl-d14	"	1.67		1.57	"		30.0-150	94.0	
Matrix Spike			0980682-MS1 B809519-05						
Chrysene	9/24/98	0.455	ND	0.300	mg/kg dry		10.0-125	65.9	
Fluorene	"	0.455	0.0901	0.443	"		10.0-154	77.6	
Indeno (1,2,3-cd) pyrene	"	0.455	ND	0.358	"		10.0-144	78.7	
Surrogate: 2-FBP	"	2.28		1.66	"		30.0-150	72.8	
Surrogate: Nitrobenzene-d5	"	2.28		1.58	"		30.0-150	69.3	
Surrogate: p-Terphenyl-d14	"	2.28		1.93	"		30.0-150	84.6	

Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike Dup		0980682-MSD1	B809519-05							
Chrysene	9/24/98	0.455	ND	0.236	mg/kg dry	10.0-125	51.9	28.0	23.8	
Fluorene	"	0.455	0.0901	0.360	"	10.0-154	59.3	32.0	26.7	
Indeno (1,2,3-cd) pyrene	"	0.455	ND	0.280	"	10.0-144	61.5	47.0	24.5	
Surrogate: 2-FBP	"	2.28		1.39	"	30.0-150	61.0			
Surrogate: Nitrobenzene-d5	"	2.28		1.34	"	30.0-150	58.8			
Surrogate: p-Terphenyl-d14	"	2.28		1.55	"	30.0-150	68.0			



Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Conventional Chemistry Parameters by APHA/EPA Methods/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980803			Date Prepared: 9/23/98		Extraction Method: General Preparation				
Duplicate			0980803-DUP1	B809519-07					
pH	9/23/98		6.67	6.66	pH units		10.0	0.150	
Batch: 0980848			Date Prepared: 9/24/98		Extraction Method: General Preparation				
Blank			0980848-BLK1						
Total Organic Carbon	9/25/98			ND	mg/kg dry		50.0		
LCS			0980848-BS1						
Total Organic Carbon	9/25/98	2500		2440	mg/kg dry	91.0-112	97.6		
Duplicate			0980848-DUP1		B809432-01				
Total Organic Carbon	9/25/98		621	691	mg/kg dry		24.0	10.7	


Matthew Essig, Project Manager



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Grain Size by PSEP Recommended Guidelines/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Recov. Limits	RPD %	RPD Limit	RPD %	Notes*
Batch: 1080057			Date Prepared: 9/29/98			Extraction Method: General Preparation				
Duplicate			1080057-DUP1	B809519-07						
% Passing Sieve #4 (>4750µm)	10/2/98		61.2	64.9	% by Weight					5.87
% Passing Sieve #10 (4750-2000µm)	"		51.2	52.6	"					2.70
% Passing Sieve #20 (2000-850µm)	"		41.7	42.4	"					1.66
% Passing Sieve #40 (850-425µm)	"		25.6	26.7	"					4.21
% Passing Sieve #60 (425-250µm)	"		11.0	12.2	"					10.3
% Passing Sieve #140 (250-106µm)	"		4.60	5.60	"					19.6
% Passing Sieve #200 (106-75µm)	"		3.70	4.80	"					25.9
% Passing Sieve #230 (75-62.5µm)	"		3.40	4.50	"					27.8
% Passing phi 4 (62.5-31.2µm)	"		2.10	2.10	"					0
% Passing phi 5 (31.2-15.6µm)	"		2.10	2.10	"					0
% Passing phi 6 (15.6-7.8µm)	"		1.40	1.40	"					0
% Passing phi 7 (7.8-3.9µm)	"		1.40	1.40	"					0
% Passing phi 8 (3.9-1.9µm)	"		1.00	1.40	"					33.3
% Passing phi 9 (1.9-0.9µm)	"		0.700	0.700	"					0
% Passing phi 10 (<0.9µm)	"		0.700	0.700	"					0
Fractional % Sieve #4 (>4750µm)	"		38.8	35.1	"					10.0
Fractional % Sieve #10 (4750-2000µm)	"		10.0	12.3	"					20.6
Fractional % Sieve #20 (2000-850µm)	"		9.50	10.2	"					7.11
Fractional % Sieve #40 (850-425µm)	"		16.1	15.7	"					2.52
Fractional % Sieve #60 (425-250µm)	"		14.6	14.5	"					0.687
Fractional % Sieve #140 (250-106µm)	"		6.50	6.60	"					1.53
Fractional % Sieve #200 (106-75µm)	"		0.800	0.800	"					0
Fractional % Sieve #230 (75-62.5µm)	"		0.300	0.400	"					28.6
Fractional % phi 4 (62.5-31.2µm)	"		1.30	2.30	"					55.6
Fractional % phi 5 (31.2-15.6µm)	"		ND	ND	"					
Fractional % phi 6 (15.6-7.8µm)	"		0.700	0.700	"					0
Fractional % phi 7 (7.8-3.9µm)	"		ND	ND	"					
Fractional % phi 8 (3.9-1.9µm)	"		0.300	ND	"					
Fractional % phi 9 (1.9-0.9µm)	"		0.300	0.700	"					80.0
Fractional % phi 10 (<0.9µm)	"		ND	ND	"					
Duplicate			1080057-DUP2	B809519-07						
% Passing Sieve #4 (>4750µm)	10/2/98		61.2	66.1	% by Weight					7.70
% Passing Sieve #10 (4750-2000µm)	"		51.2	53.2	"					3.83
% Passing Sieve #20 (2000-850µm)	"		41.7	43.0	"					3.07
% Passing Sieve #40 (850-425µm)	"		25.6	27.1	"					5.69
% Passing Sieve #60 (425-250µm)	"		11.0	12.7	"					14.3

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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**Grain Size by PSEP Recommended Guidelines/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Duplicate (continued)	1080057-DUP2		B809519-07							
% Passing Sieve #140 (250-106µm)	10/2/98		4.60	5.80	% by Weight				23.1	
% Passing Sieve #200 (106-75µm)	"		3.70	4.90	"				27.9	
% Passing Sieve #230 (75-62.5µm)	"		3.40	4.50	"				27.8	
% Passing phi 4 (62.5-31.2µm)	"		2.10	2.10	"				0	
% Passing phi 5 (31.2-15.6µm)	"		2.10	2.10	"				0	
% Passing phi 6 (15.6-7.8µm)	"		1.40	1.80	"				25.0	
% Passing phi 7 (7.8-3.9µm)	"		1.40	1.40	"				0	
% Passing phi 8 (3.9-1.9µm)	"		1.00	1.40	"				33.3	
% Passing phi 9 (1.9-0.9µm)	"		0.700	0.700	"				0	
% Passing phi 10 (<0.9µm)	"		0.700	0.700	"				0	
Fractional % Sieve #4 (>4750µm)	"		38.8	33.9	"				13.5	
Fractional % Sieve #10 (4750-2000µm)	"		10.0	12.9	"				25.3	
Fractional % Sieve #20 (2000-850µm)	"		9.50	10.3	"				8.08	
Fractional % Sieve #40 (850-425µm)	"		16.1	15.8	"				1.88	
Fractional % Sieve #60 (425-250µm)	"		14.6	14.4	"				1.38	
Fractional % Sieve #140 (250-106µm)	"		6.50	6.90	"				5.97	
Fractional % Sieve #200 (106-75µm)	"		0.800	0.900	"				11.8	
Fractional % Sieve #230 (75-62.5µm)	"		0.300	0.400	"				28.6	
Fractional % phi 4 (62.5-31.2µm)	"		1.30	2.40	"				59.5	
Fractional % phi 5 (31.2-15.6µm)	"		ND	ND	"					
Fractional % phi 6 (15.6-7.8µm)	"		0.700	0.400	"				54.5	
Fractional % phi 7 (7.8-3.9µm)	"		ND	0.400	"					
Fractional % phi 8 (3.9-1.9µm)	"		0.300	ND	"					
Fractional % phi 9 (1.9-0.9µm)	"		0.300	0.700	"				80.0	
Fractional % phi 10 (<0.9µm)	"		ND	ND	"					



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 10/5/98 10:57
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Notes and Definitions

#	Note
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- 1 The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
- 2 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- 3 The field surrogate for this sample is outside established control limits. Acceptable laboratory surrogate recovery suggests the field surrogate was partially lost during sampling or sample handling.
- 4 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference

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 San Ramon, CA 94583
 FAX (415)842-9591

Chvron Facility Number 9-2609
 Facility Address Seward Hwy, Mile 29, Berkeley AK
 Consultant Project Number 75007-033-01
 Consultant Name SECOR International Inc.
 Address 9712 Business Pk. Drive, Ste. 100 Sacramento, CA 95827
 Project Contact (Name) Roger Hoffmann
 (Phone) 916-364-1880 (Fax Number) 916-364-1889

Chvron Contact (Name) Bob Carlson
 (Phone) 925-842-9655
 Laboratory Name North Creek Analytical
 Laboratory Release Number 914629
 Samples Collected by (Name) Roger Hoffmann
 Collection Date 9/17/98
 Signature Roger Hoffmann

Chain-of-Custody-Recor

Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type C = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analytes To Be Performed							Remarks		
							BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Porosity	pH		GRO (AK 101) +BTEX (8020) DRO (AK 102)	PAH
B-9 @ 7'	3	S	D	800519701	in methanol	Yes										Use analytical method for PAH
B-10 @ 8'	3	S	D	-02						X	X	X	X	X	X	w/ lowest MCL's
B-11 @ 8'	3	S	D	-03						X	X	X	X	X	X	
B-6 @ 1'	4	S	D	-04						X	X	X	X	X	X	
B-6 @ 8'	5	S	D	-05						X	X	X	X	X	X	
B-6 @ 14'	3	S	D	-06						X	X	X	X	X	X	
B-6 @ 3'	2	S	D	-07	Name					X	X	X	X	X	X	
Relinquished By (Signature) <u>Roger Hoffmann</u>	Organization <u>SECOR Int'l</u>	Date/Time <u>9/20/98</u>	Received By (Signature) <u>Roger Hoffmann</u>	Organization <u>AK Airlines</u>	Date/Time <u>9-20-98</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted										
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time											
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time											

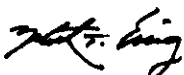
Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B-1	B809356-01	Water	9/14/98
B-2	B809356-02	Water	9/14/98
B-3	B809356-03	Water	9/14/98
B-4	B809356-04	Water	9/14/98
B-5	B809356-05	Water	9/14/98
B-6	B809356-06	Water	9/14/98
B-7	B809356-07	Water	9/14/98
B-8	B809356-08	Water	9/14/98
B-1@3'	B809356-09	Soil	9/14/98
B-2@3'	B809356-10	Soil	9/14/98
B-3@3'	B809356-11	Soil	9/14/98
B-4@3'	B809356-12	Soil	9/14/98
B-5@3'	B809356-13	Soil	9/14/98
B-6@3'	B809356-14	Soil	9/14/98
B-7@3'	B809356-15	Soil	9/14/98
B-8@3'	B809356-16	Soil	9/14/98

North Creek Analytical - Bothell

*The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.*



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Secor-California
9912 Business Park Dr #100
Sacramento, CA 95827

Project: Chevron #9-2609
Project Number: 76007-033-01
Project Manager: Roger Hoffmore

Sampled: 9/14/98
Received: 9/15/98
Reported: 9/28/98 12:03

Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
				<u>B809356-01</u>	<u>Water</u>			
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		102	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		100	"	
				<u>B809356-02</u>	<u>Water</u>			
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		50.0	292	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	1.18	"	
Ethylbenzene	"	"	"		0.500	1.87	"	
Xylenes (total)	"	"	"		1.00	18.8	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		NR	%	1
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		NR	"	1
				<u>B809356-03</u>	<u>Water</u>			
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		99.0	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		102	"	
				<u>B809356-04</u>	<u>Water</u>			
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		91.2	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		101	"	
				<u>B809356-05</u>	<u>Water</u>			
Gasoline Range Hydrocarbons	0980821	9/24/98	9/25/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-5 (continued)				B809356-05		Water		
Toluene	0980821	9/24/98	9/25/98		0.500	ND	ug/l	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	1.22	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		116	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		120	"	
B-6				B809356-06		Water		
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		2500	18900	ug/l	
Benzene	"	"	"		50.0	ND	"	2
Toluene	"	"	"		25.0	204	"	
Ethylbenzene	"	"	"		25.0	450	"	
Xylenes (total)	"	"	"		50.0	2110	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		109	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		104	"	
B-7				B809356-07		Water		
Gasoline Range Hydrocarbons	0980821	9/24/98	9/25/98		25000	80500	ug/l	
Benzene	"	"	"		250	ND	"	
Toluene	"	"	"		250	18800	"	
Ethylbenzene	"	"	"		250	2800	"	
Xylenes (total)	"	"	"		500	18000	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		98.8	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		103	"	
B-8				B809356-08		Water		
Gasoline Range Hydrocarbons	0980821	9/24/98	9/24/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		89.8	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		99.8	"	
B-1@3'				B809356-09		Soil		
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	0.0671	"	
Ethylbenzene	"	"	"		0.0500	ND	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-1@3' (continued)				B809356-09			Soil	
Xylenes (total)	0980809	9/24/98	9/25/98		0.100	0.135	mg/kg dry	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		116	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		69.0	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		101	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		62.1	"	
B-2@3'				B809356-10			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		93.9	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		67.8	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		91.7	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		62.2	"	
B-3@3'				B809356-11			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		89.9	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		53.5	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		87.1	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		50.2	"	
B-4@3'				B809356-12			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	0.0561	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		97.2	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		58.3	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		96.5	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		56.6	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-5@3'				B809356-13			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	0.0541	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	0.132	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		93.5	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		64.2	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		92.9	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		62.1	"	
B-6@3'				B809356-14			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		250	1550	mg/kg dry	
Benzene	"	"	"		2.50	ND	"	
Toluene	"	"	"		2.50	ND	"	
Ethylbenzene	"	"	"		2.50	3.94	"	
Xylenes (total)	"	"	"		5.00	19.3	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		NR	%	3
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		NR	"	3
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		199	"	3
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		NR	"	3
B-7@3'				B809356-15			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		250	5970	mg/kg dry	
Benzene	"	"	"		2.50	2.89	"	
Toluene	"	"	"		2.50	92.9	"	
Ethylbenzene	"	"	"		2.50	40.6	"	
Xylenes (total)	"	"	"		5.00	210	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		NR	%	3
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		NR	"	3
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		192	"	3
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		NR	"	3
B-8@3'				B809356-16			Soil	
Gasoline Range Hydrocarbons	0980809	9/24/98	9/25/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
 North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-8@3' (continued)				B809356-16			Soil	
Surrogate: 4-BFB (FID)	0980809	9/24/98	9/25/98	60.0-120		90.2	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		29.6	"	4
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		94.3	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		30.3	"	4

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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**Diesel Hydrocarbons (C10-C25) by AK102
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-1				B809356-01			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/21/98		0.100	0.335	mg/l	5
Surrogate: 2-FBP	"	"	"	50.0-150		62.6	%	
B-2				B809356-02			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/21/98		0.100	0.532	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		74.8	%	
B-3				B809356-03			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/21/98		0.100	0.309	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		65.5	%	
B-4				B809356-04			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/21/98		0.100	0.356	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		65.8	%	
B-5				B809356-05			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/21/98		0.100	0.142	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		76.1	%	
B-6				B809356-06			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/22/98		0.100	16.5	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		64.8	%	
B-7				B809356-07			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/22/98		0.500	13.9	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		79.0	%	
B-8				B809356-08			Water	
Diesel Range Hydrocarbons	0980637	9/21/98	9/22/98		0.100	0.212	mg/l	
Surrogate: 2-FBP	"	"	"	50.0-150		66.8	%	
B-1@3'				B809356-09			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/22/98		4.00	10.7	mg/kg dry	5
Surrogate: 2-FBP	"	"	"	50.0-150		87.5	%	
B-2@3'				B809356-10			Soil	
Diesel Range Hydrocarbons	0980683	9/22/98	9/22/98		4.00	26.4	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		81.5	%	

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Diesel Hydrocarbons (C10-C25) by AK102 North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-3@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/22/98	B809356-11 50.0-150	4.00	4.95 82.8	Soil mg/kg dry %	
B-4@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/22/98	B809356-12 50.0-150	20.0	50.6 72.4	Soil mg/kg dry %	5
B-5@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/22/98	B809356-13 50.0-150	4.00	ND 83.7	Soil mg/kg dry %	
B-6@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/22/98	B809356-14 50.0-150	4.00	625 61.9	Soil mg/kg dry %	
B-7@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/24/98	B809356-15 50.0-150	20.0	735 126	Soil mg/kg dry %	
B-8@3' Diesel Range Hydrocarbons Surrogate: 2-FBP	0980683	9/22/98	9/22/98	B809356-16 50.0-150	4.00	ND 78.4	Soil mg/kg dry %	

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Dry Weight Determination North Creek Analytical - Bothell

Sample Name	Lab ID	Matrix	Result	Units
B-1@3'	B809356-09	Soil	86.8	%
B-2@3'	B809356-10	Soil	90.3	%
B-3@3'	B809356-11	Soil	78.1	%
B-4@3'	B809356-12	Soil	86.8	%
B-5@3'	B809356-13	Soil	93.3	%
B-6@3'	B809356-14	Soil	92.0	%
B-7@3'	B809356-15	Soil	95.2	%
B-8@3'	B809356-16	Soil	94.4	%

North Creek Analytical - Bothell

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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980809			Date Prepared: 9/24/98		Extraction Method: EPA 5030B (P/T)				
Blank			0980809-BLK1						
Gasoline Range Hydrocarbons	9/26/98			ND	mg/kg dry	5.00			
Benzene	"			ND	"	0.0500			
Toluene	"			ND	"	0.0500			
Ethylbenzene	"			ND	"	0.0500			
Xylenes (total)	"			ND	"	0.100			
Surrogate: 4-BFB (FID)	"	2.40		2.29	"	60.0-120	95.4		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.76	"	50.0-150	73.3		
Surrogate: 4-BFB (PID)	"	2.40		2.43	"	60.0-120	101		
Surrogate: a,a,a-TFT (PID)	"	2.40		1.81	"	50.0-150	75.4		
LCS			0980809-BS1						
Gasoline Range Hydrocarbons	9/26/98	25.0		21.7	mg/kg dry	60.0-120	86.8		
Surrogate: 4-BFB (FID)	"	2.40		2.45	"	60.0-120	102		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.87	"	50.0-150	77.9		
LCS Dup			0980809-BSD1						
Gasoline Range Hydrocarbons	9/26/98	25.0		23.1	mg/kg dry	60.0-120	92.4	20.0	6.25
Surrogate: 4-BFB (FID)	"	2.40		2.54	"	60.0-120	106		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.95	"	50.0-150	81.2		
Matrix Spike			0980809-MS1 B809519-01						
Benzene	9/25/98	0.248	ND	0.255	mg/kg dry	60.0-120	103		
Toluene	"	0.248	ND	0.261	"	60.0-120	105		
Ethylbenzene	"	0.248	ND	0.227	"	60.0-120	91.5		
Xylenes (total)	"	0.745	ND	0.687	"	60.0-120	92.2		
Surrogate: 4-BFB (PID)	"	1.19		1.08	"	60.0-120	90.8		
Surrogate: a,a,a-TFT (PID)	"	1.19		0.750	"	50.0-150	63.0		
Matrix Spike Dup			0980809-MSD1 B809519-01						
Benzene	9/25/98	0.248	ND	0.261	mg/kg dry	60.0-120	105	20.0	1.92
Toluene	"	0.248	ND	0.270	"	60.0-120	109	20.0	3.74
Ethylbenzene	"	0.248	ND	0.240	"	60.0-120	96.8	20.0	5.63
Xylenes (total)	"	0.745	ND	0.728	"	60.0-120	97.7	20.0	5.79
Surrogate: 4-BFB (PID)	"	1.19		1.11	"	60.0-120	93.3		
Surrogate: a,a,a-TFT (PID)	"	1.19		0.745	"	50.0-150	62.6		

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980821			Date Prepared: 9/24/98			Extraction Method: EPA 5030B (P/T)				
Blank			0980821-BLK1							
Gasoline Range Hydrocarbons	9/25/98			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	1.00				
Surrogate: 4-BFB (FID)	"	48.0		45.2	"	60.0-120	94.2			
Surrogate: 4-BFB (PID)	"	48.0		48.5	"	60.0-120	101			
LCS			0980821-BS1							
Gasoline Range Hydrocarbons	9/25/98	500		431	ug/l	60.0-120	86.2			
Surrogate: 4-BFB (FID)	"	48.0		48.7	"	60.0-120	101			
LCS Dup			0980821-BSD1							
Gasoline Range Hydrocarbons	9/25/98	500		419	ug/l	60.0-120	83.8	20.0	2.82	
Surrogate: 4-BFB (FID)	"	48.0		48.5	"	60.0-120	101			
Matrix Spike			0980821-MS1 B809356-01							
Benzene	9/25/98	10.0	ND	9.87	ug/l	60.0-120	98.7			
Toluene	"	10.0	ND	9.61	"	60.0-120	96.1			
Ethylbenzene	"	10.0	ND	9.48	"	60.0-120	94.8			
Xylenes (total)	"	30.0	ND	28.4	"	60.0-120	94.7			
Surrogate: 4-BFB (PID)	"	48.0		48.7	"	60.0-120	101			
Matrix Spike Dup			0980821-MSD1 B809356-01							
Benzene	9/25/98	10.0	ND	10.6	ug/l	60.0-120	106	20.0	7.13	
Toluene	"	10.0	ND	10.3	"	60.0-120	103	20.0	6.93	
Ethylbenzene	"	10.0	ND	10.2	"	60.0-120	102	20.0	7.32	
Xylenes (total)	"	30.0	ND	30.3	"	60.0-120	101	20.0	6.44	
Surrogate: 4-BFB (PID)	"	48.0		48.3	"	60.0-120	101			

North Creek Analytical - Bothell

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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**Diesel Hydrocarbons (C10-C25) by AK102/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980637			Date Prepared: 9/21/98			Extraction Method: EPA 3510C/600 Series				
Blank			0980637-BLK1							
Diesel Range Hydrocarbons	9/21/98			0.144	mg/l	0.100				
Surrogate: 2-FBP	"	0.329		0.222	"	50.0-150	67.5			
LCS			0980637-BS1							
Diesel Range Hydrocarbons	9/21/98	2.00		1.68	mg/l	60.0-120	84.0			
Surrogate: 2-FBP	"	0.329		0.232	"	50.0-150	70.5			
LCS Dup			0980637-BSD1							
Diesel Range Hydrocarbons	9/21/98	2.00		1.67	mg/l	60.0-120	83.5	20.0	0.597	
Surrogate: 2-FBP	"	0.329		0.245	"	50.0-150	74.5			
Batch: 0980683			Date Prepared: 9/22/98			Extraction Method: EPA 3550B				
Blank			0980683-BLK1							
Diesel Range Hydrocarbons	9/22/98			ND	mg/kg dry	4.00				
Surrogate: 2-FBP	"	13.2		8.40	"	50.0-150	63.6			
LCS			0980683-BS1							
Diesel Range Hydrocarbons	9/24/98	80.0		77.6	mg/kg dry	60.0-120	97.0			
Surrogate: 2-FBP	"	13.2		10.8	"	50.0-150	81.8			
LCS Dup			0980683-BSD1							
Diesel Range Hydrocarbons	9/24/98	80.0		87.6	mg/kg dry	60.0-120	109	20.0	11.7	
Surrogate: 2-FBP	"	13.2		14.4	"	50.0-150	109			



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 76007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/14/98 Received: 9/15/98 Reported: 9/28/98 12:03
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Notes and Definitions

#	Note
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- 1 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
- 2 The reporting limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- 3 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- 4 The field surrogate for this sample is outside established control limits. Acceptable laboratory surrogate recovery suggests the field surrogate was partially lost during sampling or sample handling.
- 5 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

Recov. Recovery

RPD Relative Percent Difference

North Creek Analytical - Bothell

Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B-9	B809521-01	Water	9/17/98
MW-4	B809521-02	Water	9/17/98
B-11	B809521-03	Water	9/17/98
MW-5	B809521-04	Water	9/17/98
MW-6	B809521-05	Water	9/17/98
MW-7	B809521-06	Water	9/17/98
MW-8	B809521-07	Water	9/17/98
TB	B809521-08	Water	9/17/98



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B-9				B809521-01		Water		
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	1.30	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		101	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		105	"	
MW-4				B809521-02		Water		
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		96.0	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		107	"	
B-11				B809521-03		Water		
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		97.9	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		107	"	
MW-5				B809521-04		Water		
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		10000	49400	ug/l	
Benzene	"	"	"		100	ND	"	
Toluene	"	"	"		100	5650	"	
Ethylbenzene	"	"	"		100	2030	"	
Xylenes (total)	"	"	"		200	10300	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		103	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		107	"	
MW-6				B809521-05		Water		
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	222	ug/l	
Benzene	"	"	"		0.500	ND	"	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-6 (continued)				B809521-05			Water	
Toluene	0980957	9/29/98	9/29/98		0.500	ND	ug/l	
Ethylbenzene	"	"	"		0.500	2.77	"	
Xylenes (total)	"	"	"		1.00	6.64	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		132	%	1
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		118	"	
MW-7				B809521-06			Water	
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	7100	ug/l	2
Benzene	"	"	"		27.0	ND	"	3
Toluene	"	"	"		12.0	ND	"	3
Ethylbenzene	"	"	"		0.500	21.2	"	
Xylenes (total)	"	"	"		0.500	52.0	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		NR	%	1
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		149	"	1
MW-8				B809521-07			Water	
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		100	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		107	"	
TB				B809521-08			Water	
Gasoline Range Hydrocarbons	0980957	9/29/98	9/29/98		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		97.1	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		107	"	


Matthew Essig, Project Manager



NORTH CREEK ANALYTICAL

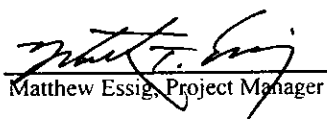
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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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Diesel Hydrocarbons (C10-C25) by AK102 North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW-4</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/24/98	<u>B809521-02</u> 50.0-150	0.100	ND 87.2	<u>Water</u> mg/l %	
<u>B-11</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/25/98	<u>B809521-03</u> 50.0-150	0.100	0.102 67.9	<u>Water</u> mg/l %	
<u>MW-5</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/25/98	<u>B809521-04</u> 50.0-150	0.100	4.73 80.7	<u>Water</u> mg/l %	
<u>MW-6</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/25/98	<u>B809521-05</u> 50.0-150	0.100	0.445 72.2	<u>Water</u> mg/l %	
<u>MW-7</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/25/98	<u>B809521-06</u> 50.0-150	0.100	7.50 86.1	<u>Water</u> mg/l %	
<u>MW-8</u> Diesel Range Hydrocarbons Surrogate: 2-FBP	0980743	9/23/98	9/25/98	<u>B809521-07</u> 50.0-150	0.100	0.134 56.6	<u>Water</u> mg/l %	


Matthew Essig, Project Manager



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control North Creek Analytical - Bothell

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980957			Date Prepared: 9/29/98			Extraction Method: EPA 5030B (MeOH)				
Blank			0980957-BLK1							
Gasoline Range Hydrocarbons	9/29/98			ND	ug/l	50.0				
Benzene	"			ND	"	0.500				
Toluene	"			ND	"	0.500				
Ethylbenzene	"			ND	"	0.500				
Xylenes (total)	"			ND	"	1.00				
Surrogate: 4-BFB (FID)	"	48.0		45.5	"	60.0-120	94.8			
Surrogate: 4-BFB (PID)	"	48.0		50.9	"	60.0-120	106			
LCS			0980957-BS1							
Gasoline Range Hydrocarbons	9/29/98	500		428	ug/l	60.0-120	85.6			
Surrogate: 4-BFB (FID)	"	48.0		48.7	"	60.0-120	101			
LCS Dup			0980957-BSD1							
Gasoline Range Hydrocarbons	9/30/98	500		404	ug/l	60.0-120	80.8	20.0	5.77	
Surrogate: 4-BFB (FID)	"	48.0		46.7	"	60.0-120	97.3			
Matrix Spike			0980957-MS1 B809521-03							
Benzene	9/29/98	10.0	ND	10.0	ug/l	60.0-120	100			
Toluene	"	10.0	ND	10.1	"	60.0-120	101			
Ethylbenzene	"	10.0	ND	9.90	"	60.0-120	99.0			
Xylenes (total)	"	30.0	ND	29.7	"	60.0-120	99.0			
Surrogate: 4-BFB (PID)	"	48.0		50.3	"	60.0-120	105			
Matrix Spike Dup			0980957-MSD1 B809521-03							
Benzene	9/29/98	10.0	ND	9.79	ug/l	60.0-120	97.9	20.0	2.12	
Toluene	"	10.0	ND	9.70	"	60.0-120	97.0	20.0	4.04	
Ethylbenzene	"	10.0	ND	9.67	"	60.0-120	96.7	20.0	2.35	
Xylenes (total)	"	30.0	ND	29.0	"	60.0-120	96.7	20.0	2.35	
Surrogate: 4-BFB (PID)	"	48.0		50.6	"	60.0-120	105			


 Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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**Diesel Hydrocarbons (C10-C25) by AK102/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0980743		Date Prepared: 9/23/98			Extraction Method: EPA 3510C/600 Series					
Blank		0980743-BLK1								
Diesel Range Hydrocarbons	9/24/98			ND	mg/l	0.100				
Surrogate: 2-FBP	"	0.320		0.247	"	50.0-150	77.2			
LCS		0980743-BS1								
Diesel Range Hydrocarbons	9/24/98	2.00		1.70	mg/l	60.0-120	85.0			
Surrogate: 2-FBP	"	0.320		0.256	"	50.0-150	80.0			
LCS Dup		0980743-BSD1								
Diesel Range Hydrocarbons	9/24/98	2.00		1.61	mg/l	60.0-120	80.5	20.0	5.44	
Surrogate: 2-FBP	"	0.320		0.267	"	50.0-150	83.4			



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/17/98 Received: 9/21/98 Reported: 9/30/98 15:52
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Notes and Definitions

#	Note
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- 1 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
- 2 The chromatogram for this sample does not resemble a typical gasoline pattern. Please refer to the sample chromatogram.
- 3 The reporting limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference

Chain-of-Custody-Record

Chevron Facility Number: 9-2609
 Facility Address: Sexual Hwy, Mile 19, Portage, AK
 Consultant Project Number: 70007-033-01
 Consultant Name: SECOR International Incorporated
 Address: 912 Business Park Dr. Ste. 100 Sacramento CA 95827
 Project Contact (Name): Roger Hoffmann
 (Phone): 916-364-1880 (Fax Number): 916-364-1889

Chevron Contact (Name): Bob Cochran
 (Phone): 925-842-9655
 Laboratory Name: North Creek Analytical
 Laboratory Release Number: 9/14/98
 Samples Collected by (Name): Roger Hoffmann
 Collection Date: 9/17/98
 Signature: Roger Hoffmann

Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Glob C = Composite D = Diacete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed								Remarks		
							BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Total Lead (M)	Metals Cd,Cr,Pb,Zn,NI (ICAP or AA)	GRO (AK101)		BTEX (8020)	DRO (AK102)
B-9	3	W	G		3-HCl, 1-NP	Yes	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Total Lead (M)	Metals Cd,Cr,Pb,Zn,NI (ICAP or AA)	GRO (AK101)	BTEX (8020)	DRO (AK102)	No DRO for B-9 (insufficient sample) Page me at 916-697-4443 w/questions
MW-4	3				2-HCl, 1-NP									X	X	X	
B-11	4				3-HCl, 1-NP									X	X	X	
MW-5	3				2-HCl, 1-NP									X	X	X	
MW-6	3													X	X	X	
MW-7	3													X	X	X	
MW-8	3													X	X	X	
TB	2	W	G		HCl	Yes								X			

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<u>Roger Hoffmann</u>	<u>SECOR Int'l</u>	<u>9/10/98</u>	<u>Roger Hoffmann</u>	<u>AK Analytical</u>	<u>9/20/98 8:30</u>	24 Hrs. 48 Hrs. 5 Days <u>10 Days</u> As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
			<u>D. Williams</u>	<u>AKA</u>	<u>9-21-98</u>	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time	



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
SP-1	B809749-01	Soil	9/28/98
SP-2	B809749-02	Soil	9/28/98

North Creek Analytical - Bothell

*The results in this report apply to the samples analyzed in accordance with the chain of custody document.
 This analytical report must be reproduced in its entirety.*


 Matthew Essig, Project Manager

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-1				B809749-01			Soil	
Gasoline Range Hydrocarbons	1080126	10/5/98	10/6/98		5.00	ND	mg/kg dry	
Benzene	"	"	"		0.0500	ND	"	
Toluene	"	"	"		0.0500	ND	"	
Ethylbenzene	"	"	"		0.0500	ND	"	
Xylenes (total)	"	"	"		0.100	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		99.1	%	
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		36.8	"	1
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		99.1	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		35.4	"	1
SP-2				B809749-02			Soil	
Gasoline Range Hydrocarbons	1080126	10/5/98	10/6/98		5.00	84.3	mg/kg dry	
Benzene	"	"	"		0.0500	0.0582	"	
Toluene	"	"	"		0.0500	0.341	"	
Ethylbenzene	"	"	"		0.0500	0.363	"	
Xylenes (total)	"	"	"		0.100	2.32	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		125	%	2
Surrogate: a,a,a-TFT (FID)	"	"	"	50.0-150		130	"	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		111	"	
Surrogate: a,a,a-TFT (PID)	"	"	"	50.0-150		73.6	"	


Matthew Essig, Project Manager



NORTH CREEK ANALYTICAL

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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Diesel Hydrocarbons (C10-C25) by AK102 North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-1				B809749-01			Soil	
Diesel Range Hydrocarbons	1080019	10/1/98	10/5/98		4.00	13.3	mg/kg dry	3
Surrogate: 2-FBP	"	"	"	50.0-150		140	%	
SP-2				B809749-02			Soil	
Diesel Range Hydrocarbons	1080019	10/1/98	10/5/98		4.00	85.8	mg/kg dry	
Surrogate: 2-FBP	"	"	"	50.0-150		145	%	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager

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 PORTLAND ■ (503) 906-9200 ■ FAX 906-9210

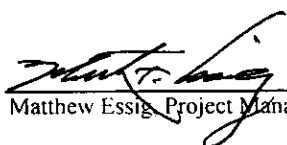
Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-1				B809749-01			Soil	
Acenaphthene	1080004	10/1/98	10/2/98		0.0200	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0200	ND	"	
Anthracene	"	"	"		0.0200	ND	"	
Benzo (a) anthracene	"	"	"		0.0200	ND	"	
Benzo (a) pyrene	"	"	"		0.0200	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0200	ND	"	
Benzo (ghi) perylene	"	"	"		0.0200	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0200	ND	"	
Chrysene	"	"	"		0.0200	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0200	ND	"	
Fluoranthene	"	"	"		0.0200	ND	"	
Fluorene	"	"	"		0.0200	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0200	ND	"	
Naphthalene	"	"	"		0.0200	ND	"	
Phenanthrene	"	"	"		0.0200	ND	"	
Pyrene	"	"	"		0.0200	ND	"	
Surrogate: 2-FBP	"	"	"	30.0-150		90.6	%	
Surrogate: Nitrobenzene-d5	"	"	"	30.0-150		67.5	"	
Surrogate: p-Terphenyl-d14	"	"	"	30.0-150		113	"	
SP-2				B809749-02			Soil	
Acenaphthene	1080004	10/1/98	10/2/98		0.0500	ND	mg/kg dry	
Acenaphthylene	"	"	"		0.0500	ND	"	
Anthracene	"	"	"		0.0500	ND	"	
Benzo (a) anthracene	"	"	"		0.0500	ND	"	
Benzo (a) pyrene	"	"	"		0.0500	ND	"	
Benzo (b) fluoranthene	"	"	"		0.0500	ND	"	
Benzo (ghi) perylene	"	"	"		0.0500	ND	"	
Benzo (k) fluoranthene	"	"	"		0.0500	ND	"	
Chrysene	"	"	"		0.0500	ND	"	
Dibenz (a,h) anthracene	"	"	"		0.0500	ND	"	
Fluoranthene	"	"	"		0.0500	ND	"	
Fluorene	"	"	"		0.0500	ND	"	
Indeno (1,2,3-cd) pyrene	"	"	"		0.0500	ND	"	
Naphthalene	"	"	"		0.0500	0.123	"	
Phenanthrene	"	"	"		0.0500	ND	"	
Pyrene	"	"	"		0.0500	ND	"	
Surrogate: 2-FBP	"	"	"	30.0-150		105	%	

North Creek Analytical - Bothell

*Refer to end of report for text of notes and definitions.


Matthew Essig, Project Manager

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 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
SP-2 (continued)				B809749-02			Soil	
Surrogate: Nitrobenzene-d5	1080004	10/1/98	10/2/98	30.0-150		65.3	%	
Surrogate: p-Terphenyl-d14	"	"	"	30.0-150		130	"	


Matthew Essig, Project Manager



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Dry Weight Determination
North Creek Analytical - Bothell**

Sample Name	Lab ID	Matrix	Result	Units
SP-1	B809749-01	Soil	78.5	%
SP-2	B809749-02	Soil	94.9	%

North Creek Analytical - Bothell


Matthew Essig, Project Manager

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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 and EPA 8021B/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1080126									
Blank									
Date Prepared: 10/5/98									
Extraction Method: EPA 5030B (P/T)									
1080126-BLK1									
Gasoline Range Hydrocarbons	10/5/98			ND	mg/kg dry	5.00			
Benzene	"			ND	"	0.0500			
Toluene	"			ND	"	0.0500			
Ethylbenzene	"			ND	"	0.0500			
Xylenes (total)	"			ND	"	0.100			
Surrogate: 4-BFB (FID)	"	2.40		2.35	"	60.0-120	97.9		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.77	"	50.0-150	73.7		
Surrogate: 4-BFB (PID)	"	2.40		2.39	"	60.0-120	99.6		
Surrogate: a,a,a-TFT (PID)	"	2.40		1.74	"	50.0-150	72.5		
LCS									
1080126-BS1									
Gasoline Range Hydrocarbons	10/5/98	25.0		21.9	mg/kg dry	60.0-120	87.6		
Surrogate: 4-BFB (FID)	"	2.40		2.62	"	60.0-120	109		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.88	"	50.0-150	78.3		
LCS Dup									
1080126-BSD1									
Gasoline Range Hydrocarbons	10/6/98	25.0		22.2	mg/kg dry	60.0-120	88.8	20.0	1.36
Surrogate: 4-BFB (FID)	"	2.40		2.69	"	60.0-120	112		
Surrogate: a,a,a-TFT (FID)	"	2.40		1.92	"	50.0-150	80.0		
Matrix Spike									
1080126-MS1 B809746-16									
Benzene	10/6/98	0.182	ND	0.179	mg/kg dry	60.0-120	98.4		
Toluene	"	0.182	ND	0.176	"	60.0-120	96.7		
Ethylbenzene	"	0.182	ND	0.168	"	60.0-120	92.3		
Xylenes (total)	"	0.546	ND	0.514	"	60.0-120	94.1		
Surrogate: 4-BFB (PID)	"	0.874		0.820	"	60.0-120	93.8		
Surrogate: a,a,a-TFT (PID)	"	0.874		0.512	"	50.0-150	58.6		
Matrix Spike Dup									
1080126-MSD1 B809746-16									
Benzene	10/6/98	0.182	ND	0.192	mg/kg dry	60.0-120	105	20.0	6.49
Toluene	"	0.182	ND	0.181	"	60.0-120	99.5	20.0	2.85
Ethylbenzene	"	0.182	ND	0.172	"	60.0-120	94.5	20.0	2.36
Xylenes (total)	"	0.546	ND	0.562	"	60.0-120	103	20.0	9.03
Surrogate: 4-BFB (PID)	"	0.874		0.824	"	60.0-120	94.3		
Surrogate: a,a,a-TFT (PID)	"	0.874		0.514	"	50.0-150	58.8		

Matthew Essig, Project Manager



Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Diesel Hydrocarbons (C10-C25) by AK102/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1080019			Date Prepared: 10/1/98		Extraction Method: EPA 3550B				
Blank			1080019-BLK1						
Diesel Range Hydrocarbons	10/2/98			ND	mg/kg dry	4.00			
Surrogate: 2-FBP	"	12.8		12.1	"	50.0-150	94.5		
LCS			1080019-BS1						
Diesel Range Hydrocarbons	10/2/98	80.0		72.2	mg/kg dry	60.0-120	90.2		
Surrogate: 2-FBP	"	12.8		8.14	"	50.0-150	63.6		
LCS Dup			1080019-BSD1						
Diesel Range Hydrocarbons	10/2/98	80.0		74.8	mg/kg dry	60.0-120	93.5	20.0	3.59
Surrogate: 2-FBP	"	12.8		11.8	"	50.0-150	92.2		

Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Batch: 1080004			Date Prepared: 10/1/98			Extraction Method: EPA 3550B				
Blank			1080004-BLK1							
Acenaphthene	10/1/98			ND	mg/kg dry	0.0100				
Acenaphthylene	"			ND	"	0.0100				
Anthracene	"			ND	"	0.0100				
Benzo (a) anthracene	"			ND	"	0.0100				
Benzo (a) pyrene	"			ND	"	0.0100				
Benzo (b) fluoranthene	"			ND	"	0.0100				
Benzo (ghi) perylene	"			ND	"	0.0100				
Benzo (k) fluoranthene	"			ND	"	0.0100				
Chrysene	"			ND	"	0.0100				
Dibenz (a,h) anthracene	"			ND	"	0.0100				
Fluoranthene	"			ND	"	0.0100				
Fluorene	"			ND	"	0.0100				
Indeno (1,2,3-cd) pyrene	"			ND	"	0.0100				
Naphthalene	"			ND	"	0.0100				
Phenanthrene	"			ND	"	0.0100				
Pyrene	"			ND	"	0.0100				
Surrogate: 2-FBP	"	1.67		1.16	"	30.0-150	69.5			
Surrogate: Nitrobenzene-d5	"	1.67		0.897	"	30.0-150	53.7			
Surrogate: p-Terphenyl-d14	"	1.67		1.13	"	30.0-150	67.7			
LCS			1080004-BS1							
Chrysene	10/1/98	0.333		0.146	mg/kg dry	10.0-125	43.8			
Fluorene	"	0.333		0.178	"	11.0-116	53.5			
Indeno (1,2,3-cd) pyrene	"	0.333		0.201	"	10.0-147	60.4			
Surrogate: 2-FBP	"	1.67		1.12	"	30.0-150	67.1			
Surrogate: Nitrobenzene-d5	"	1.67		0.843	"	30.0-150	50.5			
Surrogate: p-Terphenyl-d14	"	1.67		1.09	"	30.0-150	65.3			
Matrix Spike			1080004-MS1		B810005-01					
Chrysene	10/2/98	0.379	3.95	0.873	mg/kg dry	10.0-125	NR			4
Fluorene	"	0.379	ND	0.303	"	10.0-154	79.9			
Indeno (1,2,3-cd) pyrene	"	0.379	3.95	2.66	"	10.0-144	NR			4
Surrogate: 2-FBP	"	1.90		2.16	"	30.0-150	114			
Surrogate: Nitrobenzene-d5	"	1.90		1.21	"	30.0-150	63.7			
Surrogate: p-Terphenyl-d14	"	1.90		2.20	"	30.0-150	116			



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Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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**Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring/Quality Control
North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike Dup		1080004-MSD1	B810005-01							
Chrysene	10/2/98	0.379	3.95	1.21	mg/kg dry	10.0-125	NR	28.0		4
Fluorene	"	0.379	ND	0.303	"	10.0-154	79.9	32.0	0	
Indeno (1,2,3-cd) pyrene	"	0.379	3.95	2.50	"	10.0-144	NR	47.0		4
Surrogate: 2-FBP	"	1.90		2.28	"	30.0-150	120			
Surrogate: Nitrobenzene-d5	"	1.90		1.25	"	30.0-150	65.8			
Surrogate: p-Terphenyl-d14	"	1.90		2.31	"	30.0-150	122			


Matthew Essig, Project Manager

Secor-California 9912 Business Park Dr #100 Sacramento, CA 95827	Project: Chevron #9-2609, #9144629 Project Number: 7G007-033-01 Project Manager: Roger Hoffmore	Sampled: 9/28/98 Received: 9/19/98 Reported: 10/12/98 10:25
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Notes and Definitions

#	Note
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- 1 The field surrogate for this sample is outside established control limits. Acceptable laboratory surrogate recovery suggests the field surrogate was partially lost during sampling or sample handling.
- 2 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
- 3 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- 4 The recovery and RPD for this spike compound is outside control limits due to sample dilution required from matrix interferences.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference

Chain-of-Custody-Record

5809749

Chevron Facility Number: 7-2609
 Facility Address: Seawall Hwy., Mile 7.9, Packer, AK
 Consultant Project Number: 76007-033-01
 Consultant Name: SFC of Int'l Inc.
 Address: P.O. Box 301, Seagram Street, Packer, AK 99622
 Project Contact (Name): Roger Hoffmann
 (Phone) 304-354-1880 (Fax Number) 304-1887

Chevron Contact (Name): Bob Cochran
 (Phone) 907-842-9635
 Laboratory Name: North Creek Analytical
 Laboratory Release Number: 9141629
 Sample Collected by (Name): Roger Hoffmann
 Collection Date: 9/29/98
 Signature: Roger Hoffmann

Sample Number	Number of Containers	Matrix S = Soil W = Water C = Charcoal	Type C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks					
							BTX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Chlorinated HC (8010)	Non Chlorinated HC (8020)	Total Lead (AA)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	Grd (AK1)	Drd (AK2)	Stm (AK3)		PH				
Sp-1	2	S	C		In methanol	Yes									X	X	X	X	X	X	B509749-01	
Sp-2	3	S	C			↓									X	X	X	X	X	X	-02	

Relinquished By (Signature): Roger Hoffmann Organization: SELECINT Date/Time: 9/29/98
 Relinquished By (Signature): _____ Organization: _____ Date/Time: _____
 Relinquished By (Signature): _____ Organization: _____ Date/Time: _____

Received By (Signature): [Signature] Organization: ASA Date/Time: 9/29/98
 Received By (Signature): [Signature] Organization: PCA Date/Time: 9/29/98 5:00 W.

Turn Around Time (Circle Choice)
 24 Hrs. 6.0
 48 Hrs.
 5 Days
 10 Days
 As Contracted



PACIFIC TESTING LABORATORIES

A Division of **PSI** Environmental
Geotechnical
Construction
Consulting • Engineering • Testing

November 12, 1998
Project No. 745-85019

Page 1 of 2

Mr. Matthew Essig
NORTH CREEK ANALYTICAL
18939 120th Avenue NE, Suite 101
Bothell, WA 98011

Subject: Soil Testing

Dear Mr. Essig:

As requested and agreed, Professional Services Industries (PSI) analyzed the material provided by the client for moisture content, unit weight and porosity calculation. Material testing was performed in accordance to ASTM D2216-90, D854-92 & C127-88(1993). Test results conform to applicable specifications unless otherwise noted. Please refer to Table 1 on Page 2 for test results.

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Thank you for using PSI. If you have any questions, or if we can be of further assistance to you, please contact us at (425) 485-4244.

Sincerely,

Paul Elliott,
Geotechnical Services Manager

PE/sam

Information To Build On

NORTH CREEK ANALYTICAL
Project No. 745-85019
November 12, 1998

Page 2 of 2

Table 1 Test Results

Sample ID	FR5054A	FR5054B
Sample Description	Gray silty sand with clay	Gray gravelly sand
Sample Location	B-6 @ 8'	B-6 @ 3'
% Moisture	40.5	6.9
Unit Weight (pcf)	79.3	131.6
Porosity	0.50	0.24

North Creek Analytical - Bothell Subcontract Order
B809519

Sending Laboratory

North Creek Analytical - Bothell
 18939 120th Ave NE, Suite 101
 Bothell, WA 98011

Receiving Laboratory

PSI - Bothell
 11824 Northcreek Parkway N, Ste 101
 Bothell, WA 98011

Phone: 206/481-9200
 Fax: 206/485-2992
 Project Manager: Matthew Essig

Phone: 206/485-4244
 Fax: 206/485-4611

Subcontract Order Comments

9/16/98 14:00

Sample/Analysis Information

Sample Name	Matrix	Sampled/ Expires	Analysis Requested	Due	Lab Number	Container	Comments
B809519-05	Soil	9/17/98					Watch Hold Time
		3/16/99	Misc. Subcontract 1	11/4/98			Porosity, % Moisture, and Unit Weight
B809519-07	Soil	9/17/98					Watch Hold Time
		3/16/99	Misc. Subcontract 1	11/4/98			Porosity, % Moisture and Unit Weight

Released By _____ Date _____ Received By _____ Date _____

Released By _____ Date _____ Received By _____ Date _____