

May 10, 2001
Project 077.43509

RECEIVED
MAY 14 2001

Ms. Linda Nuechterlein
Alaska Department of Environmental Conservation-Fairbanks
610 University Avenue
Anchorage, AK 99518

Dept. of Environmental Conservation
Underground Storage Tanks — FAP

Re: **Site Assessment Report**
Chevron Service Station 9-5414
5210 Old Seward Highway
Anchorage, Alaska

Dear Ms. Nuechterlein:

This letter was prepared by SECOR International Incorporated (SECOR) on behalf of Chevron Products Company (Chevron) to document the findings and results of a site assessment performed at the site referenced above (Figures 1 and 2). The purpose of this assessment was to further evaluate potential hydrocarbon impact to soil and groundwater crossgradient and downgradient of the site. The site assessment included drilling and installing three groundwater-monitoring wells, advancing five hand auger borings, and the sampling and analysis of soil and groundwater samples.

This work was performed as described in SECOR's *Work Plan for Site Assessment*, dated April 14, 2000.

SITE BACKGROUND AND PREVIOUS INVESTIGATIONS

Chevron Service Station #9-5414 is located on the southwest corner of the intersection of International Airport Road and Old Seward Highway in Anchorage, Alaska (Figure 2).

Between April 23 and May 5, 1996, five underground storage tanks (USTs) were removed from the property. Three gasoline USTs were located northwest of the service station building (two 10,000 gallon tanks and one 5,000 gallon tank), and two additional USTs (a 1,000 gallon - diesel fuel and a 1,000 gallon - used oil) were located on the south side of the building. The USTs, product piping, and pump island dispensers were excavated and removed during site renovation.

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A site assessment was performed during UST removals in accordance with Alaska Department of Environmental Conservation (ADEC) UST regulations (18 AAC 78). Groundwater was reportedly encountered at approximately 8 feet below ground surface (bgs) during the removal activities. Following UST removal, approximately 1,500 tons of soil containing residual petroleum hydrocarbons were excavated and removed from the site. Soil vapor extraction piping was installed below the former eastern most gasoline dispenser, in the new UST basin, and in the area of the old UST basin.

In August 1998, three monitoring wells (MW-1 through MW-3) were installed to assess potential groundwater impacts. Soil samples collected during drilling activities were found to contain concentrations of gasoline-range organics (GRO) at 1,440 mg/kg in MW-3. Soil samples from stock piled drill cuttings from MW-1 and MW-3 contained 354 mg/kg GRO. Groundwater samples collected from the monitoring wells reportedly exceeded applicable water quality standards for benzene, toluene, ethylbenzene and xylenes. GRO was detected in all three wells at concentrations ranging from 18,800 µg/l (MW-3) to 190 µg/l (MW-2). No gradient information was available.

ASSESSMENT ACTIVITIES AND FINDINGS

On August 16, 2000, SECOR supervised Discovery Drilling Incorporated (Discovery) of Anchorage, Alaska in drilling and installing three groundwater monitoring wells (MW-4 through MW-6). Monitoring well locations are shown on Figure 2. Permission was obtained from offsite property owners prior to drilling. Each monitoring well was drilled to approximately 18 feet bgs, and constructed with 10 feet of screen from 8 to 18 feet bgs. Additionally, five hand auger borings were completed to approximately 5 feet bgs along the southern and western property boundaries to characterize the soil for possible off-site disposal or re-use, in preparation for construction activities associated with the re-building of the retaining wall in October of 2000. Boring logs showing well completion details are included as Attachment A. Boring logs were not completed for the shallow hand auger borings.

- **Subsurface Conditions.** The site is underlain by gravelly to silty sand from near surface grade to a depth of approximately 6 to 10 feet bgs. In the borings for MW-4 and MW-6, this gravelly to silty sand was underlain by a six-inch layer of organic material. Silt and mixtures of silt with sand and gravel were encountered from 6 to 10 feet bgs to the bottom of the borings, approximately 20 feet bgs.

Groundwater was initially encountered at approximately 11 feet bgs in MW-4, 9 feet bgs in MW-5, and 18 feet bgs in MW-6. Groundwater stabilized at 6 feet bgs in MW-4 and MW-5, and at 13 feet bgs in MW-6.

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- **Soil Sampling and Analysis.** Selected soil samples collected from the three monitoring well installations and five hand augered borings were analyzed for GRO, residual range hydrocarbons (RRO), diesel range hydrocarbons (DRO), benzene, toluene, ethylbenzene, xylenes (BTEX compounds) and methyl tertiary-butyl ether (MtBE). The soil sample collected from MW-4@10' was analyzed for halogenated volatile organic compounds (VOCs) and poly-nuclear aromatic hydrocarbon compounds (PAHs). Soil samples from MW-6 were also analyzed for total organic carbon (TOC), porosity, permeability, and bulk density for possible future risk evaluation. Analytical results are summarized in Tables 1 and 2.

Analytical results for the three well borings indicated GRO at a concentration of 170 mg/kg in MW-4@10', and 5.42 mg/kg in MW-5@9'. Low-level BTEX and MtBE concentrations were detected in some of the monitoring well soil samples.

Hand auger analytical results indicated GRO in one soil sample (RWB-1@5.0') at a concentration of 8.46 mg/kg. RRO was reported in all of the hand auger soil samples at concentrations ranging from 28.2 mg/kg (RWB-4@2.5') to 152 mg/kg (RWB-5@5.0'). DRO was also detected in all of the hand auger soil samples at concentrations ranging from 13.4 mg/kg (RWB-4@2.5) to 79.6 mg/kg (RWB-5@5.0'). Low-level BTEX concentrations were detected in some of the hand auger soil samples.

- **Stockpiled Soil.** Approximately 1 cubic yard of soil was generated during drilling of the monitoring wells and five hand auger boreholes. This material was stockpiled onsite. Two 2-part composite samples were collected from the stockpiled soil and analyzed for GRO, BTEX, and MtBE. Analytical results indicate GRO, benzene, ethylbenzene, xylenes, and MtBE were below laboratory detection limits. Toluene was reported in both stockpile soil samples (SP-1 and SP-2) at 0.115 mg/kg and 0.106 mg/kg, respectively. Stockpiled soil analytical data is presented in Table 3. Certified analytical reports are presented as Attachment C.
- **Groundwater Monitoring Well Development, Sampling, and Surveying**
Following installation, each monitoring well was developed by vigorously surging over the entire screen interval, and purging ten casing volumes of water. Field and laboratory procedures are presented as Attachment B.

Groundwater samples were collected from the three newly installed groundwater monitoring wells on August 18, 2000 and submitted for laboratory analysis of GRO, BTEX, and MtBE. Analytical results for groundwater samples collected from MW-4 indicated concentrations of GRO and BTEX at 289 µg/l, 61.4 µg/l, 0.977 µg/l, 0.777 µg/l, and 30.2 µg/l, respectively. Well MW-5 contained concentrations of GRO, BTEX, and MtBE at 227 µg/l, 33.8 µg/l, 1.83 µg/l, 5.52

µg/l, 22.7 µg/l, and 6.54 µg/l, respectively. Analytical results for the groundwater sample collected from MW-6 were reported at concentrations below laboratory detection limits. Groundwater analytical data is presented in Table 4. Field and laboratory procedures are presented as Attachment B. Field data sheets, certified laboratory analytical reports, and chain-of-custody documentation are presented as Attachment C.

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On October 30, 2000, R and M Consultants Incorporated (R and M) surveyed the newly installed groundwater monitoring wells relative to mean sea level from the top of each well casing. These measurements and depth to water measurements provided by Gettler-Ryan (09/21/00) were used to construct a groundwater elevation contour map (Figure 3). The groundwater gradient underlying the site is generally toward the southwest at a gradient of 0.004 ft/ft. Surveying data is presented in Attachment D.

SUMMARY OF FINDINGS

- Laboratory analytical results of soil samples indicated concentrations of GRO, RRO, DRO, BTEX, and MtBE up to 170 mg/kg (MW-4@10'), 152 mg/kg (RWB-5@5.0'), 79.6 mg/kg (RWB-5@5.0'), 0.115 mg/kg (MW-5@9'), 0.0539 mg/kg (MW-5@9'), 0.221 mg/kg (MW-5@9'), 0.823 mg/kg (MW-5@9'), and 0.0371 mg/kg (MW-5@9'), respectively.
- Reported concentrations of GRO, RRO, DRO, toluene, ethylbenzene, and xylenes in soil were below the applicable ADEC Method Two Cleanup Standards. Benzene, at 0.0693 mg/kg (MW-4@10') and 0.0542 mg/kg (RWB-1@5') is above the ADEC Method Two Cleanup Standard for benzene (migration to groundwater in a 40" zone), which is 0.02 mg/kg.
- GRO, BTEX, and MtBE were reported in the groundwater samples collected from groundwater monitoring wells MW-4 and MW-5 at concentrations up to 289 µg/l, 61.4 µg/l, 1.83 µg/l, 5.52 µg/l, 30.2 µg/l, and 6.54 µg/l, respectively.
- Reported concentrations of GRO, toluene, ethylbenzene, xylene, and MtBE in groundwater were below the applicable ADEC Groundwater Cleanup Standards with the exception of 61.4 µg/l and 33.8 µg/l of benzene in wells MW-4 and MW-5. The ADEC Groundwater Cleanup Standard for benzene is 5 µg/l.
- Groundwater flow at the site was to the southwest at a gradient of 0.004 ft/ft, which is consistent with historical data.

CONCLUSIONS

Based on the data collected during this investigation, soil and groundwater underlying the site have been impacted by low levels of GRO, RRO, DRO, BTEX, and MtBE. Although benzene was reported onsite at concentrations exceeding ADEC cleanup


standards, all the analytes, including benzene appear to be defined offsite in groundwater to levels below ADEC cleanup standards.

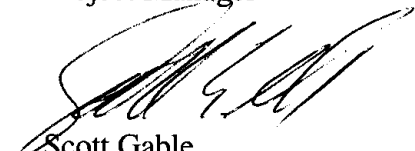
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If there are any questions regarding the contents of this site assessment report, please call us at (916) 861-0400.

Sincerely,

SECOR International Incorporated


Roger Hoffmore
Project Manager


Scott Gable
Senior Geologist

Attachments: Table 1 – Soil Analytical Data – Soil Borings
Table 2 – Soil Analytical Data - Geotechnical
Table 3 – Soil Analytical Data - Stockpiled Soil
Table 4 – Groundwater Analytical Data
Figure 1 - Site Location Map
Figure 2 - Site Plan
Figure 3 – Groundwater Elevation Contour Map
Attachment A – Boring Logs
Attachment B - Field And Laboratory Procedures
Attachment C –Certified Laboratory Analytical
Reports, and Chain-of-Custody Documentation
Attachment D – Survey Data
Attachment E – Historical Groundwater Analytical Data

cc: Mr. Bob Cochran, Chevron Products Company, San Ramon, CA

Table 1
Soil Analytical Data
Soil Borings

Chevron Service Station 9-5414
5210 Old Seward Highway
Anchorage, Alaska

Sample Name	Sample Depth	Date Sampled	GRO (mg/kg)	RRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)	TOC average (mg/kg)	TOC high (mg/kg)	TOC low (mg/kg)
MW-4@10'	10	8/16/00	170	N/A	N/A	0.0693	0.0171	0.0316	0.225	<0.0161	N/A	N/A	N/A
MW-5@9'	9	8/16/00	5.42	N/A	N/A	0.115	0.0539	0.221	0.823	0.0371	N/A	N/A	N/A
MW-6@9'	9	8/16/00	<1.94	N/A	N/A	0.00792	<0.0194	<0.0194	0.0413	<0.0233	10200	10600	9480
MW-6@15'	15	8/16/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9020	14100	5880
MW-6@20'	20	8/16/00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<300	824	<300
RWB-1@2.5'	2.5	8/14/00	<1.64	67.0	22.3	0.00835	<0.0164	<0.0164	0.0434	N/A	N/A	N/A	N/A
RWB-1@5.0	5.0	8/14/00	8.46	41.6	17.9	0.0542	<0.0170	0.0772	0.385	N/A	N/A	N/A	N/A
RWB-2@2.5'	2.5	8/15/00	<1.79	79.9	28.9	0.00965	<0.0179	<0.0179	0.0576	N/A	N/A	N/A	N/A
RWB-2@5.0'	5.0	8/15/00	<1.54	94.8	32.4	0.00846	<0.0154	<0.0154	0.0403	N/A	N/A	N/A	N/A
RWB-3@2.5'	2.5	8/15/00	<1.49	57.3	23.4	<0.00598	<0.0149	<0.0149	0.0373	N/A	N/A	N/A	N/A
RWB-3@5.0	5.0	8/15/00	<1.50	95.0	28.4	<0.00602	<0.0150	<0.0150	<0.0301	N/A	N/A	N/A	N/A
RWB-4@2.5'	2.5	8/15/00	<1.52	28.2	13.4	0.0141	0.0214	<0.0152	0.0536	N/A	N/A	N/A	N/A
RWB-4@5.0	5.0	8/15/00	<1.57	72.9	17.6	<0.00628	<0.0157	<0.0157	<0.0314	N/A	N/A	N/A	N/A
RWB-5@2.5'	2.5	8/15/00	<1.34	47.7	22.9	0.00777	<0.0134	<0.0134	0.0326	N/A	N/A	N/A	N/A
RWB-5@5.0'	5.0	8/15/00	<1.24	152	79.6	<0.00496	<0.0124	<0.0124	<0.0248	N/A	N/A	N/A	N/A
ADEC Method Two Soil Cleanup Standards**			300	11,000	250	0.02	5.4	5.5	78	---	---	---	---
Note: Sample MW-4 @ 10' was analyzed for Halogenated Volatile Organic Compounds and Polynuclear Aromatic Compounds. Analytical results were reported as non-detect.										GRO = Gasoline Range Organics			
TOC = Total Organic Carbon										RRO = Residual Range Organics			
N/A = not analyzed										DRO = Diesel Range Hydrocarbons			
mg/kg = milligrams per kilogram										MtBE = Methyl-tertiary-Butyl-Ether			
** = Strictest Levels (Migration to Groundwater) in Under 40" Zone													

Table 2
Soil Analytical Data
Geotechnical

Chevron Service Station 9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

Sample Name	Date Sampled	As Received Sample Parameters				After Test Sample Parameters				Gradient*	Hydraulic Conductivity (cm/s)
		Wet Density (lbs/ft ³)	Total Porosity	Saturation	Moisture Content (%)	Wet Density (lbs/ft ³)	Total Porosity	Saturation	Moisture Content (%)		
MW-6@15'	08/16/2000	116	0.478	0.85	28.2	126	0.426	0.99	26.4	0.27	1.4E-06
MW-6@20'	08/16/2000	121	0.425	0.84	22.6	134	0.342	1.00	19.5	0.29	3.6E-07

lbs/ft³ = pounds per cubic foot
 * = dimensionless hydraulic radian
 cm/s = centimeter per second

Table 3
Soil Analytical Data
Stockpiled Soil

Chevron Service Station 9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

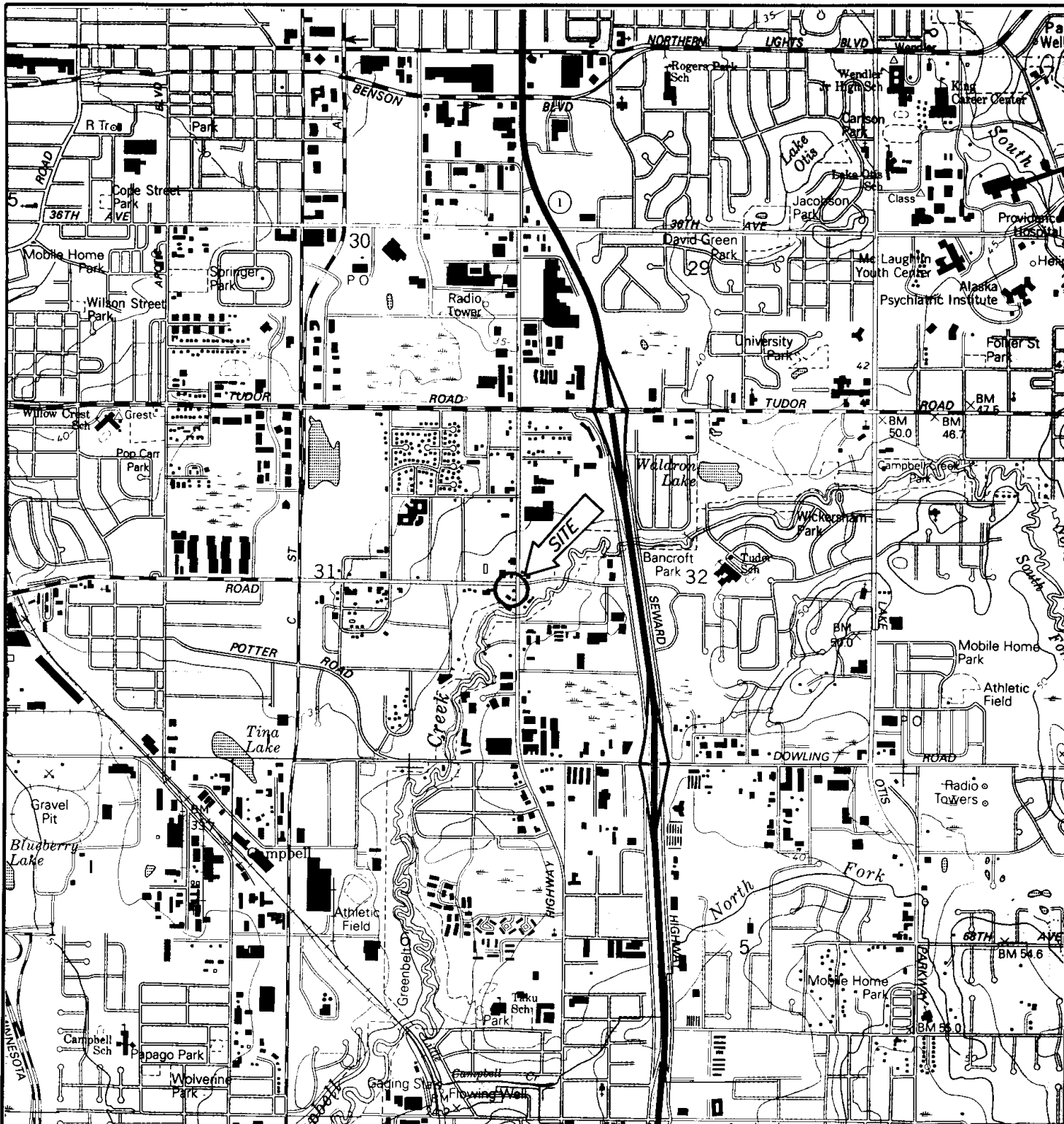
Sample Name	Date Sampled	Gasoline					
		Hydrocarbons (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MtBE (mg/kg)
SP-1-1	8/21/00	<2.05	<0.00819	0.115	<0.0205	<0.0410	<0.0246
SP-1-2	8/21/00	<1.91	<0.00763	0.106	<0.0191	<0.0381	<0.0229

mg/kg = milligrams per kilograms
 MtBE = Methyl tert-butyl ether

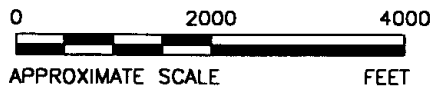
Table 4
Groundwater Analytical Data
 Chevron Service Station 9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

Well Number	Date Sampled	Well Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)	GRO (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MtBE (ug/l)
MW-1	08/18/2000	109.76	--	--	--	--	--	--	--	--
	09/21/2000		7.46	102.30	281	<10.2	<0.500	<0.500	6.39	<4.86
MW-2	08/18/2000	**	--	--	--	--	--	--	--	--
	09/21/2000		8.67	--	88.4	25.3	0.587	<0.500	3.07	<1.00
MW-3	08/18/2000	110.84	--	--	--	--	--	--	--	--
	09/21/2000		8.83	102.01	22,300	1,390	1,750	168	2,910	<172
MW-4	08/18/2000	108.14	6.15	101.99	289	61.4	0.977	0.777	30.2	<1.00
	09/21/2000		6.30	101.84	<50.0	<0.210	<0.500	<0.500	<1.00	<1.00
MW-5	08/18/2000	108.01	5.97	102.04	227	33.8	1.83	5.52	22.7	6.54
	09/21/2000		6.25	101.76	122	2.15	<0.500	<0.500	2.45	4.74*
MW-6	08/18/2000	110.58	8.17	102.41	<50.0	<0.500	<0.500	<0.500	<1.00	<1.00
	09/21/2000		8.28	102.30	<50.0	0.222	<5.00	<0.500	1.1	<1.00
ADEC Groundwater Cleanup Standards					1,300	5	1,000	700	10,000	--

MtBE = Methyl tert-butyl ether
 GRO = Gasoline Range Organics
 ug/l = micrograms per liter
 * = MtBE not confirmed by EPA Method 8260
 ** = R&M Consultants were unable to locate well at time of survey
 Note: See Gettler-Ryan second semi-annual quarterly monitoring and sampling report 2000 for historical groundwater data



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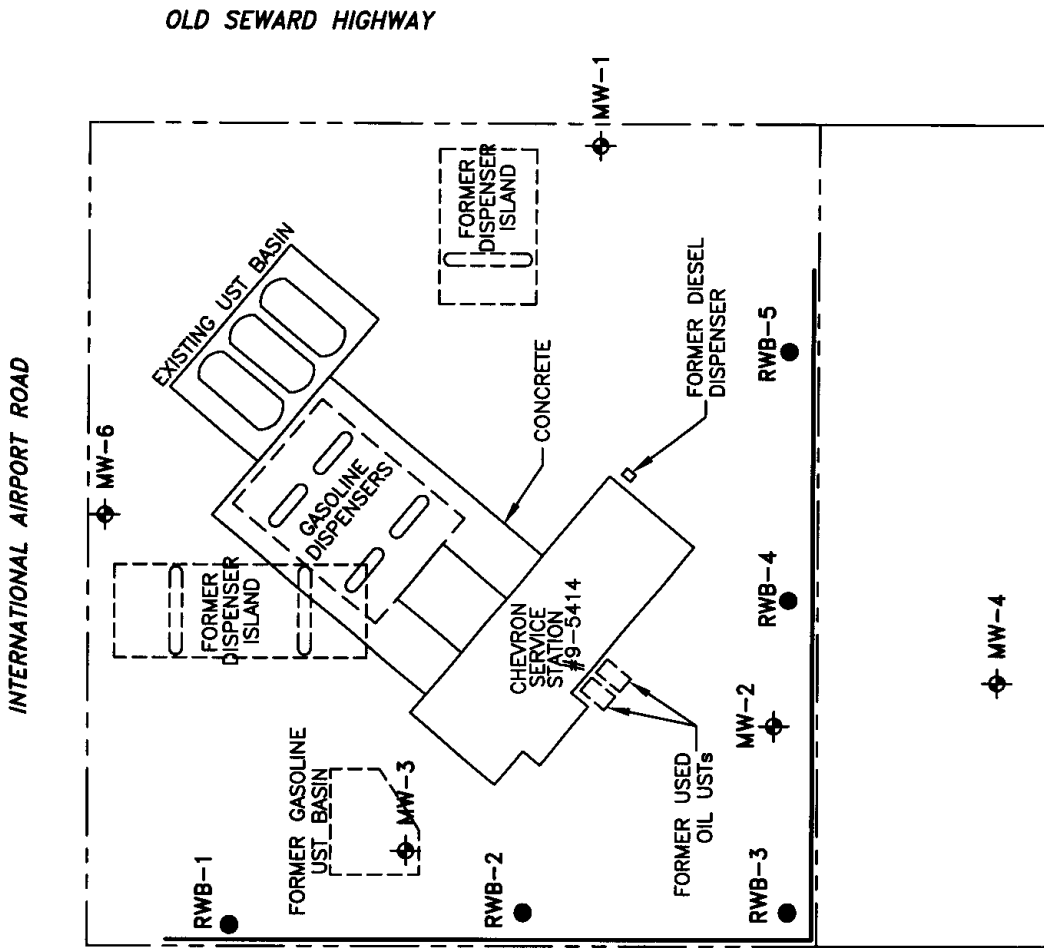
REFERENCE: U.S. GEOLOGICAL SURVEY, 7.5 MINUTE SERIES
ANCHORAGE, ALASKA, QUADRANGLE.
PHOTOREVISED 1980.

SECOR
International
Incorporated

DRAWN	TJZ
APPR	RH
DATE	13APR2000
JOB NO.	077.41991.500

FIGURE 1
CHEVRON SERVICE STATION #9-5414
5210 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
SITE LOCATION MAP

0000050



LEGEND:

- ⊕ MW-1 GROUNDWATER MONITORING WELL
- RWB-3 HAND AUGER BORING LOCATION
- CANOPY
- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE RETAINING WALL BOUNDARY



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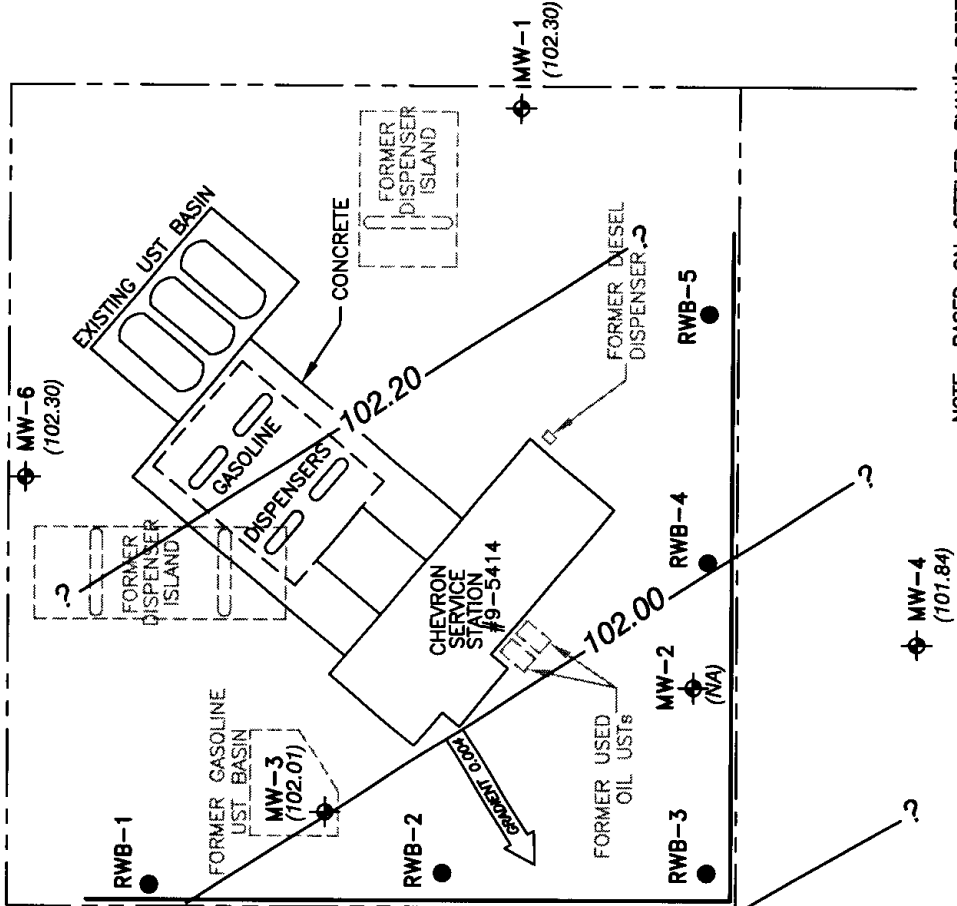
DRAWN	DRM
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DATE	02NOV2000
JOB NO.	077.41991.040

FIGURE 2
CHEVRON SERVICE STATION #9-5414
5210 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
SITE PLAN



INTERNATIONAL AIRPORT ROAD

OLD SEWARD HIGHWAY



LEGEND:

- ⊕ MW-1 GROUNDWATER MONITORING WELL
- RWB-3 HAND AUGER BORING LOCATION
- - - CANOPY
- - - APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE RETAINING WALL BOUNDARY
- ← GRADIENT 0.004 APPROXIMATE GROUNDWATER FLOW DIRECTION (ft/ft)
- 102.20 GROUNDWATER ELEVATION
- (102.30) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- (NA) WELL NOT LOCATED AT TIME OF SURVEY



NOTE: BASED ON GETTLER-RYAN'S DEPTH TO WATER READINGS FROM SECOND SEMI-ANNUAL SAMPLING EVENT (09/21/00).

DRAWN	DRM
APPR	RH
DATE	02NOV2000
JOB NO.	077.41991.040

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FIGURE 3
CHEVRON SERVICE STATION #9-5414
5210 OLD SEWARD HIGHWAY
ANCHORAGE, ALASKA
**GROUNDWATER ELEVATION
CONTOUR MAP**

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ATTACHMENT A
BORING LOGS

SECOR

International Incorporated

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Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:		
Meckstroth	8/16/00	Discovery Drilling	Chevron #9-5414 Anchorage, AK 5210 Old Seward Highway	Split Spoon CME-75/AK101	MW-4		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.):	Surface Elev.(ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt.(lbs.):	Drop Dist.(in.):
		8		▽ 11 First Water ▼ 6 Stablized Water	20.0	140	30
Well Construction	Depth, (ft.)	Sample Type	Blows/6"	Description	PID/FID Readings (ppm)	Sample Name	
well box cement				3" Asphalt			
bentonite seal			3	GRAVELLY SAND (SP): Gray (5YR 5/1), fine grained sand, fine subrounded gravel, loose, moist, no hydrocarbon odor. (25,75,0,0).			
2" blank casing			3				
	5		3	6.0' Stabilized Water	0.0	MW-4 @5	
				Organic Wood and Peat Materials with SILT (OL): Very Dark Gray (10YR 3/1), no hydrocarbon odor.			
2" slotted 0.020 casing			1	SILTY SAND with GRAVEL (SM): Dark Gray (10YR 4/1), coarse grained sand, silt, fine gravel, loose to medium dense, moist, hydrocarbon odor (10,60,30,0).			
	10		5		1.7	MW-4 @10	
			6	11.0' Encountered Water			
			8				
	15		12	Grades to			
#3 Colorado Sand			12	SAND (SP): Very Dark Gray (10YR 3/1), medium to fine grained, heaving, medium dense, wet, hydrocarbon odor (0,100,0,0).	1.5	MW-4 @15	
2" threaded end cap			9				
	20		10		0.0	MW-4 @20	
			10	As above.			
				Total Depth = 20' bgs			

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

Project No. 077.41991.040 Date 10/24/00

Log of Well

95414.GPJ
LOG OF BOREHOLE

Figure

(sheet 1 of 1)

Logged By: Meckstroth	Date Drilled: 8/16/00	Drilling Contractor: Discovery Drilling	Project Name: Chevron #9-5414 Anchorage, AK 5210 Old Seward Highway	Method/Equipment: Split Spoon CME-75/AK101	Well Number: MW-5		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam. (in.): 8	Surface Elev. (ft.):	Groundwater Depth (ft.): ▽ 9 First Water ▼ 6 Stabilized Water	Total Depth (ft.): 18.0	Drive wt. (lbs.): 140	Drop Dist. (in.): 30

Well Construction	Depth, (ft.)	Sample Type	Blows/6"	Description	PID/FID Readings (ppm)	Sample Name
well box cement				Fill Material		
bentonite seal						
2" blank casing	1-4		1-4	SILTY SAND with GRAVEL (SM): Dark Gray (10YR 4/1), medium grained sand, loose, moist, no hydrocarbon odor (10,60,30,0).	0	MW-5 @5
2" slotted 0.020 casing	5-10		2-3	6.0' Stabilized Water		
	10-15		2-3	9.0' First Water	0	MW-5 @10
#3 Colorado Sand	15-18		2-3	GRAVELLY SILT (ML): Gray (10YR 3/1), slightly plastic, soft to firm, wet, no hydrocarbon odor.		
	18-20		2-3	As above.	0	MW-5 @15
	20-21.5		2-3	As above.	0	MW-5 @18
2" threaded end cap	21.5		3	Total Depth = 18.5' bgs		

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

Project No. **077.41991.040** Date **10/24/00**

Log of Well

95414.GPJ
LOG OF BOREHOLE

Figure

(sheet 1 of 1)

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well Number:		
Meckstroth	8/16/00	Discovery Drilling	Chevron #9-5414 Anchorage, AK 5210 Old Seward Highway	Split Spoon CME-75/AK101	MW-6		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam. (in.):	Surface Elev. (ft.):	Groundwater Depth (ft.):	Total Depth (ft.):	Drive wt. (lbs.):	Drop Dist. (in.):
		8		▽ 18 First Water ▼ 13 Stabilized Water	20.0	140	30
Well Construction	Depth, (ft.)	Sample Type	Blows/6"	Description	PID/FID Readings (ppm)	Sample Name	
well box cement				3" Washed Gravel Sandy Gravel Fill Material			
bentonite seal			5	GRAVELLY SAND (SP): Dark Brown (10YR 3/3), medium grained sand, fine gravel, medium dense, moist, no hydrocarbon odor (30,70,0,0).	0.0	MW-6 @5	
2" blank casing	5		5				
2" slotted 0.020 casing			5	Organic Debris and Peat (OL): Dark Gray (10YR 4/1), wood, branches, moist, no hydrocarbon odor. SILT (ML): Gray (7.5YR 5/0), stiff, slightly plastic, moist, no hydrocarbon odor (0,0,100,0).	0.0	MW-6 @9	
	10		4				
2" threaded end cap			5	13.0' Stabilized Water	0.0	MW-6 @15	
	15		4				
			5				
			5	18.0' Encountered Water, becomes wet.			
			6	SAND (SP): Very Dark Gray (10YR 3/1), heaving, coarse to medium grained sand, wet, medium dense, no hydrocarbon odor (0,100,0,0).	0.0	MW-4 @20	
	20		7				
				Total Depth = 20' bgs			

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

Project No. 077.41991.040

Date 10/24/00

Log of Well

95414.GPJ
LOG OF BOREHOLE

Figure

(sheet 1 of 1)

ATTACHMENT B
FIELD AND LABORATORY PROCEDURES

ATTACHMENT B

FIELD AND LABORATORY PROCEDURES

Exploratory Drilling and Sampling

The soil borings for the monitoring wells were drilled using 8-inch hollow-stem auger drilling equipment. Borings were logged by a SECOR representative using the Unified Soil Classification System and standard geologic techniques. Soil samples for logging were collected at five-foot intervals from the well borings using a split-spoon sampler or equivalent. Two soil samples were collected from each of the five hand auger locations at approximately 2 and 5 feet for analysis. Soil samples for chemical analysis were prepared as follows, per ADEC guidelines: a portion of the soil collected in the sampler was removed and placed in ADEC approved glass jars provided by the laboratory, preserved as appropriate, labeled, and placed on ice for transport to the laboratory accompanied by chain-of-custody documentation. Down-hole drilling equipment was steam-cleaned prior to and following the completion of each soil boring. Down-hole sampling equipment was washed in an alconox solution between samples.

Groundwater Monitoring Well Installation

Selected borings (MW-4 through MW-6) were converted to groundwater monitoring wells by installing 2-inch diameter, flush-threaded, schedule 40 PVC casing with 0.020-inch factory-slotted screen. Approximately 10 feet of screen was placed in the bottom of the boring. A #3 Colorado sand was placed in the annular space across the entire screened interval, and extended approximately 2 feet above the top of the screen for the well. A bentonite seal was extended from the sand pack to the well box. The well casing was topped with a locking cap. The wellhead was contained in a watertight well box, either traffic rated and flush mounted or in a "stove-pipe" arrangement. The boring logs show well construction details. The wells were developed after completion. The development procedure for each well consisted of pumping or bailing water from the well until the water was visibly clear, the well went dry, or until a maximum of ten casing volumes were removed.

The newly installed wells were surveyed by an Alaska State Licensed Surveyor. The well casings were surveyed to the nearest 0.01 feet in elevation to a known benchmark.

Organic Vapor Procedures

Soil samples collected at 5-foot depth intervals during drilling were analyzed in the field for ionizable organic compounds using a photo-ionization detector (PID) with a 10.2 eV lamp or a flame ionization detector (FID). The test procedure involved measuring approximately 30 grams from an undisturbed soil sample and placing this subsample in a sealed container (either a zip-lock bag or a mason jar). The container was warmed for approximately 20 minutes (in the sun), then the head-space within was tested for total organic vapor, measured in parts per million as benzene (ppm; volume/volume). The instrument was calibrated prior to drilling using a 100-ppm isobutylene standard (in air) and a sensitivity factor of 55, which relates the photo-ionization potential of benzene to that of isobutylene at 100 ppm. The results of the field-testing were noted on the boring logs. PID and FID readings are useful for indicating relative levels of contamination, but cannot be used to evaluate hydrocarbon levels with the confidence of laboratory analyses.

Laboratory Procedures

Selected soil samples and groundwater samples collected were analyzed for the presence of gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylenes, and methyl-tertiary-butyl-ether (MtBE) by Alaska Method AK 101. Diesel range hydrocarbons (DRO) and residual range hydrocarbons were analyzed by AK102/103. Total organic carbon was analyzed by EPA Method 9060 Modified. Volatile organic compounds (VOCs) were analyzed by EPA Method 8260B, and polynuclear aromatic compounds by GC/MS. Selected soil samples were also analyzed for porosity and permeability by ASTM-5084, and bulk density by ASTM D 854.

Soil Cuttings, Rinsate and Purge Water

Soil cuttings generated during drilling operations were temporarily stored onsite and covered with a plastic sheeting pending characterization and disposal. Soil cuttings were removed to an appropriate offsite disposal facility. Rinsate and purge water were temporarily stored on site in DOT 55-gallon drums, and then removed to an appropriate disposal facility.

ATTACHMENT C
CERTIFIED LABORATORY ANALYTICAL REPORTS
AND CHAIN OF CUSTODY DOCUMENTATION

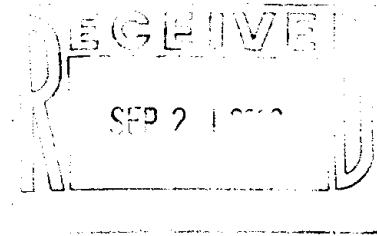


Seattle 11720 North Creek Pkwy N. Suite 400, Bothell, WA 98011 8223
425.420.9200 fax 425.420.9210
Spokane East 13145 Montgomery, Suite B, Spokane, WA 99206 4776
509.924.9200 fax 509.924.9290
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008 7132
503.906.9200 fax 503.906.9210
Bend 20322 Empire Avenue, Suite F-1, Bend, OR 97701 5711
541.383.9310 fax 541.382.7588

00060

September 13, 2000

Roger Hoffmore
Secor - California
Rancho Cordova, CA 95670



Project #: Chevron #9-5414
077.41991.500

Roger,
Here is a cross reference of your project numbers to North Creek Analytical project numbers for porosity, permeability and bulk density.

SECOR PROJECT #

NORTH CREEK ANALYTICAL #

MW-6@15'
MW-6@20'

B0H0464-01
B0H0464-02

Thank you,

Jeanne Garthwaite
Jeanne Garthwaite,
Project Manager

000061

September 12, 2000

Ms. Jeanne Thompson
North Creek Analytical, Inc.
11720 North Creek Parkway, Suite 400
Bothel, WA 98011

Subject: B0H0464; REGL Project No.: 1052-002A

Dear Ms. Thompson;

On August 28, 2000 we received two samples for porosity, permeability and bulk density. The test results are on the following pages. A narrative is included that describes the samples and methods.

Please call me to discuss any questions, or comments you may have on the data or its presentation.

Best Regards,
Rosa Environmental & Geotechnical Laboratory, LLC.


Harold Benny
Laboratory Manager

Client: North Creek Analytical, Inc.	REGL Project No.: 1052-002A
Client Project: B0H0464	Sample Batch No.: NA

Case Narrative

1. Two samples were received on August 28, 2000.
2. The samples were examined and selected for flexible wall hydraulic conductivity testing. The flexible wall tests were run in general accordance with ASTM D-5084. Tap water was used as the permeant. The saturation and porosity were calculated based on a measured specific gravity, as reported.
3. Bulk density was calculated based on the average sample height and diameter, and the wet weight of the sample. The porosity was calculated using the bulk density and the specific gravity of the sample, as measured according to ASTM D-854.
4. The reported values for specific gravity are slightly higher than might be expected for a silt/clay.
5. There were no other anomalies in the samples or methods on this project.

Approved by:
Title:

Harold Berry
Laboratory Lead

Date: 9/12/00

North Creek Analytical, Inc.
BOH0464

Specific Gravity, by ASTM D-854

Sample Identification	Specific Gravity
BOH0464-01	2.78
BOH0464-02	2.74

ROSA ENVIRONMENTAL AND GEOTECHNICAL LABORATORY

North Creek Analytical, Inc.
Project No. B0H0464

Test Results for Flexible Wall Hydraulic Conductivity Testing

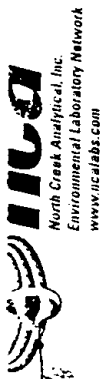
Sample ID	Depth (ft)	As Received Sample Parameters			After Test Sample Parameters				Gradient (h/l)	Hydraulic Conductivity (cm/s)	
		Wet Density (lbs/ft ³)	Total Porosity	Saturation	Moisture Content (%)	Wet Density (lbs/ft ³)	Total Porosity	Saturation			Moisture Content (%)
B0H0464-01	NA	116	0.478	0.85	28.2	126	0.426	0.99	26.4	0.27	1.4 x 10 ⁻⁶
B0H0464-02	NA	121	0.425	0.84	22.6	134	0.342	1.00	19.5	0.29	3.6 x 10 ⁻⁷

Notes:

1. The samples were tested in accordance with ASTM D-5084.
2. The tests were performed using tap water for the permeant.
3. The porosity and the saturation were calculated using measured specific gravity values.

Sample Description and Dimensions

Sample ID	Visual Description	Depth (ft)	Confining Pressure (psi)	Initial Average Length (cm)	Initial Average Diameter (cm)	Final Average Length (cm)	Final Average Diameter (cm)
B0H0464-01	Clayey Silt	NA	35.0	7.56	6.17	7.35	5.97
B0H0464-02	Clayey Silt with Fine Sand	NA	35.0	8.12	6.10	7.33	6.00



CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT BOH04164

CHEVRON INFORMATION

Facility Number: 9-5414
 Site Address: 5210 Old Seaward Hwy
 City, State, ZIP: Anchorage, AK
 Service Code: Site Assessment
 Service Order: Remediation
 Cost Element: 75100100 O & M GWM
 Chevron Project Manager: Bob Cochran

CONSULTANT INFORMATION

Name: SIECOR
 Project#: 077-41991-500
 Address: 3017 Kilgore Rd, Suite 100
 Rancho Cordova CA 95670
 Phone: 916-861-0100 Fax: 916-861-0430
 Project Manager: Roger Hoffmann
 Airbill#:
 Sample Collection by: Scott Meeks to th

2099 924-9200 FAX 924-9290
 2033 906-9200 FAX 906-9210
 2541 383-9310 FAX 382-7588

Laboratory Turnaround Time

1 Business Day
 3 Business Days
 5 Business Days
 10 Business Days
 3 Day Air Samples
 (Please Select One)

SAMPLE IDENTIFICATION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CON-TAINERS
1 MW-6215'	8/16 135	S	2
2 MW-6220'	8/16 145	S	2
3			
4			
5			
6			
7			
8			
9			
10			

TPH-HCID	TPH-Gas	BTEX Only	EPA 8021 Mod	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel-Ext	TPH-Diesel-Ext w/SG Cleanup	Halogen Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GCMS Volatiles EPA 8260	GCMS Semivol EPA 8270	PAHs EPA 8270	Lead: 8270 SIM or 8310	Total of Dissolved TCLP or RCRA Metals (81)	TPH-Density	TPH-Density	TPH-Density
															X	X	X
															X	X	X

Received by: *Gregory T. Tully* Firm: NCA Date & Time: 8/22/00 8:24
 Date & Time: 8/21/00
 Firm: SIECOR
 Date & Time: 8/21/00

Additional Comments: Please Fax Results w/o 1612

SAMPLES WERE NOT @ 2-DC UPON RECEIPT 0065

NCA SAMPLE NUMBER BOH04164-01 -02



0000066

Seattle 11715 North Creek Parkway, Suite 400, Bothell, WA 98011 8722
425 420 9200 Fax 425 420 9210
Spokane 11115 Montgomery Road, Spokane, WA 99206 4115
509 324 9200 Fax 509 324 9296
Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008 7137
503 906 9200 Fax 503 906 9210
Bend 20752 Empire Avenue, Suite 101, Bend, OR 97701 5711
531 680 9210 Fax 531 680 7088

Secor-California
3017 Kilgore Rd Suite 100
Rancho Cordova CA. 95670

Project: Chevron #9-5414
Project Number: 077.41991.500
Project Manager: Roger Hoffmore

Reported:
08/24/00 15:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1-1	B0110496-01	Soil	08/21/00 15:30	08/23/00 09:00
SP1-2	B0110496-02	Soil	08/21/00 15:35	08/23/00 09:00

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.


Jeanne Thompson, Project Manager

**North Creek Analytical, Inc.
Environmental Laboratory Network**

Page 1 of 6



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 425 426 9200 fax 425 426 9210
 Spokane East 1115 Montgomery, Suite B Spokane, WA 99206 4756
 509 924 9200 fax 509 924 9290
 Portland 9405 SW Nimbus Avenue Beaverton, OR 97008 715
 503 906 9200 fax 503 906 9210
 Bend 20332 Empire Avenue, Suite F 1 Bend, OR 97701 501
 541 383 9310 fax 541 387 7588

000067

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.500 Project Manager: Roger Hoffmore	Reported: 08/24/00 15:14
---	--	-----------------------------

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								

SP1-1 (B0H0496-01) Soil Sampled: 08/21/00 15:30 Received: 08/23/00 09:00

Methyl tert-butyl ether	ND	0.0246	mg/kg dry	1	01123035	08/23/00	08/24/00	AK 101		
Gasoline Range Hydrocarbons	ND	2.05	"	"	"	"	"	"		
Benzene	ND	0.00819	"	"	"	"	"	"		
Toluene	0.115	0.0205	"	"	"	"	"	"		
Ethylbenzene	ND	0.0205	"	"	"	"	"	"		
Xylenes (total)	ND	0.0410	"	"	"	"	"	"		
Surrogate: 4-BFB (FID)	93.9 %	60-120				"	"	"		
Surrogate: a,a,a-TFT (FID)	69.2 %	50-150				"	"	"		
Surrogate: 4-BFB (PID)	94.4 %	60-120				"	"	"		
Surrogate: a,a,a-TFT (PID)	73.7 %	50-150				"	"	"		

SP1-2 (B0H0496-02) Soil Sampled: 08/21/00 15:35 Received: 08/23/00 09:00

Methyl tert-butyl ether	ND	0.0229	mg/kg dry	1	0H23035	08/23/00	08/24/00	AK 101		
Gasoline Range Hydrocarbons	ND	1.91	"	"	"	"	"	"		
Benzene	ND	0.00763	"	"	"	"	"	"		
Toluene	0.106	0.0191	"	"	"	"	"	"		
Ethylbenzene	ND	0.0191	"	"	"	"	"	"		
Xylenes (total)	ND	0.0381	"	"	"	"	"	"		
Surrogate: 4-BFB (FID)	88.9 %	60-120				"	"	"		
Surrogate: a,a,a-TFT (FID)	68.3 %	50-150				"	"	"		
Surrogate: 4-BFB (PID)	94.4 %	60-120				"	"	"		
Surrogate: a,a,a-TFT (PID)	76.3 %	50-150				"	"	"		

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.

JMT

Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 2 of 6



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 425 420 9200 fax 425 420 9210
 Spokane: East 11115 Montgomery, Suite B, Spokane, WA 99206 4/7/6
 509 924 9200 fax 509 924 9398
 Portland: 9405 SW Nimbus Avenue, Beaverton, OR 97008 7/132
 503 906 9200 fax 503 906 9210
 Bend: 20332 Empire Avenue, Suite L 1, Bend, OR 97701 5/11
 541 383 9310 fax 541 382 7588

00068

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA, 95670

Project: Chevron #9-5414
 Project Number: 077.41991.500
 Project Manager: Roger Hoffmore

Reported:
 08/24/00 15:14

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SP1-1 (B0H0496-01) Soil Sampled: 08/21/00 15:30 Received: 08/23/00 09:00									
Dry Weight	82.9	1.00	%	1	0H23040	08/23/00	08/24/00	BSOPSPL003R07	
SP1-2 (B0H0496-02) Soil Sampled: 08/21/00 15:35 Received: 08/23/00 09:00									
Dry Weight	84.6	1.00	%	1	0H23040	08/23/00	08/24/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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 Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 3 of 6



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 425 420 9200 fax 425 420 9210
 Spokane East 11125 Montague Way, Suite B, Spokane, WA 99201 509 924 9200 fax 509 924 9200
 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008 503 606 9200 fax 503 606 9200
 Bend 20332 Empire Avenue, Suite 100, Bend, OR 97701 541 383 9310 fax 541 382 7955

0069

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.500 Project Manager: Roger Hoffmore	Reported: 08/24/00 15:14
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H23035: Prepared 08/23/00 Using EPA 5030B (P/T)

Blank (0H23035-BLK1)

Methyl tert-butyl ether	ND	0.0600	mg/kg wet							
Gasoline Range Hydrocarbons	ND	5.00	"							
Benzene	ND	0.0200	"							
Toluene	ND	0.0500	"							
Ethylbenzene	ND	0.0500	"							
Xylenes (total)	ND	0.100	"							
Surrogate: 4-BFB (FID)	4.03		"	4.00		101	60-120			
Surrogate: a,a,a-TFT (FID)	2.30		"	2.40		95.8	50-150			
Surrogate: 4-BFB (PID)	4.01		"	4.00		100	60-120			
Surrogate: a,a,a-TFT (PID)	2.38		"	2.40		99.2	50-150			

LCS (0H23035-BS1)

Methyl tert-butyl ether	0.411	0.0600	mg/kg wet	0.500		82.2	60-120			
Benzene	0.496	0.0200	"	0.500		99.2	60-120			
Toluene	0.493	0.0500	"	0.500		98.6	60-120			
Ethylbenzene	0.526	0.0500	"	0.500		105	60-120			
Xylenes (total)	1.58	0.100	"	1.50		105	60-120			
Surrogate: 4-BFB (PID)	3.80		"	4.00		95.0	60-120			
Surrogate: a,a,a-TFT (PID)	2.23		"	2.40		92.9	50-150			

LCS (0H23035-BS2)

Gasoline Range Hydrocarbons	23.1	5.00	mg/kg wet	25.0		92.4	60-120			
Surrogate: 4-BFB (FID)	3.81		"	4.00		95.2	60-120			
Surrogate: a,a,a-TFT (FID)	2.18		"	2.40		90.8	50-150			

LCS Dup (0H23035-BSD1)

Methyl tert-butyl ether	0.414	0.0600	mg/kg wet	0.500		82.8	60-120	0.727	20	
Benzene	0.505	0.0200	"	0.500		101	60-120	1.80	20	
Toluene	0.500	0.0500	"	0.500		100	60-120	1.41	20	
Ethylbenzene	0.527	0.0500	"	0.500		105	60-120	0.190	20	
Xylenes (total)	1.61	0.100	"	1.50		107	60-120	1.88	20	
Surrogate: 4-BFB (PID)	3.87		"	4.00		96.7	60-120			
Surrogate: a,a,a-TFT (PID)	2.30		"	2.40		95.8	50-150			

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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 Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network



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 Spokane East 11111 Montpelier, Suite B, Spokane, WA 99206 4776
 509 924 9200 Fax 509 924 9290
 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008 7152
 503 906 9200 Fax 503 906 9210
 Bend 20337 Empire Avenue, Suite E-1, Bend, OR 97701 5211
 541 385 9310 Fax 541 382 7888

0070

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.500 Project Manager: Roger Hoffmore	Reported: 08/24/00 15:14
---	--	-----------------------------

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

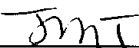
Batch 0H23040: Prepared 08/23/00 Using Dry Weight

Blank (0H23040-BLK1)

Dry Weight	99.8	1.00	%							
------------	------	------	---	--	--	--	--	--	--	--

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.


 Jeanne Thompson, Project Manager



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011 8225
 425 420 9200 fax 425 420 9210
 Spokane East 11115 Montpelier, Suite B, Spokane, WA 99206 4726
 509 924 9200 fax 509 924 9299
 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008 7332
 503 906 9200 fax 503 906 9210
 Bend 20332 Empire Avenue, Suite E, Bend, OR 97703 5211
 541 383 9310 fax 541 382 2588

0071

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.500 Project Manager: Roger Hoffmore	Reported: 08/24/00 15:14
---	--	-----------------------------

Notes and Definitions

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- N.R Not Reported
- d Sample results reported on a dry weight basis
- F Relative Percent Difference



mcaTM
North Creek Analytical, Inc.
Environmental Laboratory Network
www.ncalabs.com

CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT / 8040496

CHEVRON INFORMATION

Facility Number: **9-5414**
 Site Address: **5210 Old Seward Hwy**
 City, State, ZIP: **Anchorage, AK**
 Service Code: Site Assessment
 Remediation
 O & M
 GWM
 Cost Element: 75100100
 Chevron Project Manager: **Bob Cochran**

CONSULTANT INFORMATION

Name: **SECOR** Project # **07741991.500**
 Address: **3017 Kigore Rd, So. F. 100**
Rancho Cordova, CA 95670
 Phone: **916-861-0400** Fax: **916-861-0430**
 Project Manager: **Roger Hoffmire** Airbill #:
 Sample Collection by: **Scott Mackintosh**

Laboratory Turnaround Time

1 Business Day
 3 Business Days
 5 Business Days
 10 Business Days
 3 Day Air Samples
 (Please Select One)

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223 (425) 420-9200 FAX 420-9210
 East 11115 Montgomery, Suite B, Spokane, WA 98206-4776 (509) 924-9200 FAX 924-9290
 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132 (503) 906-9200 FAX 906-9210
 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 (541) 383-9310 FAX 382-7588

SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W,S,O)	# OF CON-TAINERS
1. SP1-1	8/21/530	S	2
2. SP1-2	8/21/535	S	2
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

TPH-HCID	TPH-Gas	BTEX Only EPA 8021 Mod. TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel Extended	TPH-Diesel-Ext. w/SG Cleanup	Halogen Volatiles EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles EPA 8260	GC/MS SemiVols. EPA 8270	PAH's: 8270 SIM or 8310	Lead: Total or Dissolved	TCLP or RCRA Metals (8)

NCA SAMPLE NUMBER
8040496-01
02

Requested By: **Ryan Smith** Firm: **SECOR** Date & Time: **8/22/2000**
 Received By: **Calvin White** Firm: **NCA** Date & Time: **8/23/2000**

Additional Comments:
 5.2%
 0%



Seattle 14225 Aurora Ave, Suite 100, Everett, WA 98031
 425.476.9262 fax 425.429.9262
 Spokane 141115 Alameda, Suite B, Spokane, WA 99204
 509.924.9200 fax 509.924.9200
 Portland 3405 SW Northrup, Astoria, Oregon 97103
 503.326.9210 fax 503.326.9210
 Bend 2035 E. Highway 97, Bend, OR 97701
 541.323.9200 fax 541.323.9200

00073

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/31/00 09:24
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4	B0H0424-01	Water	08/17/00 12:35	08/18/00 09:00
MW-5	B0H0424-02	Water	08/17/00 12:45	08/18/00 09:00
MW-6	B0H0424-03	Water	08/17/00 12:50	08/18/00 09:00

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.


 For Jeanne Thompson, Project Manager



Seattle 11717 Aurora Drive, Puyallup, WA 98015-8221
 254 420 9200 Fax 254 420 9210
 Spokane 11115 Montgomery, Suite B, Spokane, WA 99206-4779
 509 824 9200 Fax 509 824 9290
 Portland 9408 SW Nimbus Avenue, Beaverton, OR 97007-7122
 503 966 9200 Fax 503 966 9210
 Bend 20332 Cooper Avenue, Suite E, Bend, OR 97701-9211
 541 380 9210 Fax 541 382 7158

000074

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/31/00 09:24
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101

North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (B0H0424-01) Water Sampled: 08/17/00 12:35 Received: 08/18/00 09:00									
Methyl tert-butyl ether	ND	1.00	ug/l	1	0H28029	08/28/00	08/28/00	AK 101	
Gasoline Range Hydrocarbons	289	50.0	"	"	"	"	"	"	
Benzene	61.4	0.500	"	"	"	"	"	"	
Toluene	0.977	0.500	"	"	"	"	"	"	
Ethylbenzene	0.777	0.500	"	"	"	"	"	"	
Xylenes (total)	30.2	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	105 %	60-120			"	"	"	"	
Surrogate: 4-BFB (PID)	95.8 %	60-120			"	"	"	"	
MW-5 (B0H0424-02) Water Sampled: 08/17/00 12:45 Received: 08/18/00 09:00									
Methyl tert-butyl ether	6.54	1.00	ug/l	1	0H28029	08/28/00	08/28/00	AK 101	O-06
Gasoline Range Hydrocarbons	227	50.0	"	"	"	"	"	"	
Benzene	33.8	0.500	"	"	"	"	"	"	
Toluene	1.83	0.500	"	"	"	"	"	"	
Ethylbenzene	5.52	0.500	"	"	"	"	"	"	
Xylenes (total)	22.7	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	90.4 %	60-120			"	"	"	"	
Surrogate: 4-BFB (PID)	93.5 %	60-120			"	"	"	"	
MW-6 (B0H0424-03) Water Sampled: 08/17/00 12:50 Received: 08/18/00 09:00									
Methyl tert-butyl ether	ND	1.00	ug/l	1	0H28029	08/28/00	08/28/00	AK 101	
Gasoline Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	103 %	60-120			"	"	"	"	
Surrogate: 4-BFB (PID)	92.1 %	60-120			"	"	"	"	

North Creek Analytical - Bothell

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 For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network



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 Spokane: East 1115 Montecello, Suite B, Spokane, WA 99206 4776509 / 509-324-9200 Fax: 509-324-9200
 Portland: 3425 SW Nimbus Avenue, Seaside, OR 97138 503-906-9200 Fax: 503-906-9210
 Bend: 20032 Empire Avenue, Suite E-1, Bend, OR 97701 531-380-9333 Fax: 531-387-7588

00075

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA. 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 08/31/00 09:24

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H28029: Prepared 08/28/00 Using EPA 5030B (P/T)

Blank (0H28029-BLK1)

Methyl tert-butyl ether	ND	1.00	ug/l							
Gasoline Range Hydrocarbons	ND	50.0	"							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	48.6		"	48.0		101	60-120			
Surrogate: 4-BFB (PID)	45.4		"	48.0		94.6	60-120			

Blank (0H28029-BLK2)

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	44.1		"	48.0		91.9	60-120			
Surrogate: 4-BFB (PID)	45.1		"	48.0		94.0	60-120			

LCS (0H28029-BS1)

Gasoline Range Hydrocarbons	464	50.0	ug/l	500		92.8	60-120			
Surrogate: 4-BFB (FID)	51.0		"	48.0		106	60-120			

LCS (0H28029-BS2)

Gasoline Range Hydrocarbons	464	50.0	ug/l	500		92.8	60-120			
Surrogate: 4-BFB (FID)	51.5		"	48.0		107	60-120			

Duplicate (0H28029-DUP1)

Gasoline Range Hydrocarbons	251	50.0	ug/l		227			10.0	20	
Surrogate: 4-BFB (FID)	49.2		"	48.0		103	60-120			

Source: B0H0424-02

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
 Environmental Laboratory Network

Page 3 of 5



Seattle 11720 North Creek Pkwy N., Suite 400, Bellevue, WA 98011-3211
 425-420-9200 Fax 425-420-9210
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 509-924-9200 Fax 509-924-9290
 Portland 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132
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 Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541-383-9310 Fax 541-382-7588

0076

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/31/00 09:24
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H28029: Prepared 08/28/00 Using EPA 5030B (P/T)

Duplicate (0H28029-DUP2)

Source: B0H0424-03

Gasoline Range Hydrocarbons	ND	50.0	ug/l		ND			10.2	20	
<i>Surrogate: 4-BFB (FID)</i>	39.3		"	48.0		81.9	60-120			

Matrix Spike (0H28029-MS1)

Source: B0H0605-01

Methyl tert-butyl ether	10.1	1.00	ug/l	10.0		101	60-120			
Benzene	22.6	0.500	"	10.0	15.0	76.0	60-120			
Toluene	9.49	0.500	"	10.0	ND	90.5	60-120			
Ethylbenzene	9.18	0.500	"	10.0	ND	90.6	60-120			
Xylenes (total)	25.8	1.00	"	30.0	ND	84.7	60-120			
<i>Surrogate: 4-BFB (PID)</i>	44.7		"	48.0		93.1	60-120			

Matrix Spike Dup (0H28029-MSD1)

Source: B0H0605-01

Methyl tert-butyl ether	8.03	1.00	ug/l	10.0		80.3	60-120	22.8	20	Q-07
Benzene	22.8	0.500	"	10.0	15.0	78.0	60-120	0.881	20	
Toluene	9.43	0.500	"	10.0	ND	89.9	60-120	0.634	20	
Ethylbenzene	9.15	0.500	"	10.0	ND	90.3	60-120	0.327	20	
Xylenes (total)	25.1	1.00	"	30.0	ND	82.4	60-120	2.75	20	
<i>Surrogate: 4-BFB (PID)</i>	44.2		"	48.0		92.1	60-120			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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 425.427.9200 fax 425.428.9200
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 Portland 9400 SW Astor Ave., Portland, OR 97225-1157
 503.590.9200 fax 503.590.9200
 Bend 10000 E. Main Avenue, Suite 100 Bend, OR 97701-4221
 541.324.9200 fax 541.324.9200

0077

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/31/00 09:24
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Notes and Definitions

- O-06 Qualitative confirmation (second detector) for this analyte is not available at the concentration found.
- Q-07 The RPD value for this QC sample is above the established control limit. Review of associated QC indicates the high RPD does not represent an out-of-control condition for the batch.
- 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
- RPD Relative Percent Difference

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager



11720 North Creek Pkwy. N. Suite 4001, Bothell, WA 98011-8223
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 (509) 924-9200 FAX 924-9290
 (503) 906-9200 FAX 906-9210
 (541) 383-9310 FAX 382-7588

CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT **BOH0424**

CHEVRON INFORMATION

Facility Number: 9-5414

Site Address: 5210 Old Seward Hwy

City, State, ZIP: Anchorage AK

Service Code: Site Assessment Remediation O & M GWM

Service Order:

Cost Element: 75100100

Chevron Project Manager: Bob Cochran

CONSULTANT INFORMATION

Name: SECOR Project#: 077.4991.040

Address: 3017 K'ilgore Rd, Ste 100
 Rancho Cordova CA 95670

Phone: 916-861-0700 Fax: 916-861-0430

Project Manager: Roger Hoffmore Airtbill#:

Sample Collection by: Scott Meeks/Koth

LABORATORY TURNAROUND TIME

1 Business Day
 3 Business Days
 5 Business Days
 10 Business Days

3 Day Air Samples (Please Select One)

NCA SAMPLE NUMBER

BOH0424-01
-02
-03

	J	A	K	J	O	R	J	W	A	J	N	W	S	E	R	I	E
TPH-HCID																	
TPH-Gas																	
BTEX Only																	
EPA 8021 Mod.																	
TPH-Gas + BTEX																	
TPH-Diesel																	
TPH-Diesel-Ext																	
w/SG Cleanup																	
Halogen, Volatiles																	
EPA 8021																	
Pesticides/PCBs																	
GC/MS Volatiles																	
EPA 8260																	
GC/MS SemiVols																	
EPA 8270																	
PAH's																	
8270 SIM or 8310																	
Lead																	
Total or Dissolved																	
TCLP or RCRA																	
Metals (8)																	

SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W,S,O)	# OF CON-TAINERS
1. MW-4	8/17 1235	W	3Z
2. MW-5	8/17 1245	W	3Z
3. MW-6	8/17 1250	W	3Z
4. Trip Blank	NA	W	1
5.			
6.			
7.			
8.			
9.			
10.			

Received by: Elmer Jr Date & Time: 8/19/00 0900

Firm: NCA

Additional Comments: Please Fax Results.
* Also on other Coc



0079

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Trip Blank #1	B0H0405-01	Soil	08/15/00 12:00	08/18/00 09:00
RWB-5@2.5'	B0H0405-02	Soil	08/15/00 15:00	08/18/00 09:00
Dup #2	B0H0405-03	Soil	08/15/00 15:00	08/18/00 09:00
RWB-5@5.0'	B0H0405-04	Soil	08/15/00 16:15	08/18/00 09:00

28



0080

Secor-California
3017 Kilgore Rd Suite 100
Rancho Cordova CA. 95670

Project: Chevron #9-5414
Project Number: 077.41991.040
Project Manager: Roger Hoffmore

Reported:
08/21/00 15:55

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

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

Trip Blank #1 (B0H0405-01) Soil **Sampled: 08/15/00 12:00** **Received: 08/18/00 09:00**

Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	0H18018	08/18/00	08/19/00	AK 101	
Benzene	ND	0.0200	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	82.2 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	87.5 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	91.3 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	102 %	50-150			"	"	"	"	

RWB-5@2.5' (B0H0405-02) Soil **Sampled: 08/15/00 15:00** **Received: 08/18/00 09:00**

Gasoline Range Hydrocarbons	ND	1.34	mg/kg dry	1	0H18018	08/18/00	08/19/00	AK 101	
Benzene	0.00777	0.00535	"	"	"	"	"	"	
Toluene	ND	0.0134	"	"	"	"	"	"	
Ethylbenzene	ND	0.0134	"	"	"	"	"	"	
Xylenes (total)	0.0326	0.0268	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	92.7 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	85.8 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	90.2 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	87.1 %	50-150			"	"	"	"	

Dup #2 (B0H0405-03) Soil **Sampled: 08/15/00 15:00** **Received: 08/18/00 09:00**

Gasoline Range Hydrocarbons	ND	1.31	mg/kg dry	1	0H18018	08/18/00	08/19/00	AK 101	
Benzene	0.00681	0.00524	"	"	"	"	"	"	
Toluene	ND	0.0131	"	"	"	"	"	"	
Ethylbenzene	ND	0.0131	"	"	"	"	"	"	
Xylenes (total)	0.0310	0.0262	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	95.2 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	86.7 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	88.7 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	84.5 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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Jmt
Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 2 of 9



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Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
North Creek Analytical - Bothell

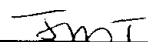
Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

RWB-5@5.0' (B0H0405-04) Soil **Sampled: 08/15/00 16:15** **Received: 08/18/00 09:00**

Gasoline Range Hydrocarbons	ND	1.24	mg/kg dry	1	0H18018	08/18/00	08/19/00	AK 101	
Benzene	ND	0.00496	"	"	"	"	"	"	
Toluene	ND	0.0124	"	"	"	"	"	"	
Ethylbenzene	ND	0.0124	"	"	"	"	"	"	
Xylenes (total)	ND	0.0248	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	97.2 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	87.5 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	88.8 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	85.0 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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0082

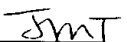
Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RWB-5@2.5' (B0H0405-02) Soil Sampled: 08/15/00 15:00 Received: 08/18/00 09:00									
Diesel Range Hydrocarbons	22.9	4.00	mg/kg dry	1	0H18017	08/18/00	08/19/00	AK102/103	
Residual Range Organics	47.7	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	84.4 %	50-150			"	"	"	"	
Surrogate: Octacosane	86.4 %	50-150			"	"	"	"	
Dup #2 (B0H0405-03) Soil Sampled: 08/15/00 15:00 Received: 08/18/00 09:00									
Diesel Range Hydrocarbons	12.6	4.00	mg/kg dry	1	0H18017	08/18/00	08/19/00	AK102/103	
Residual Range Organics	ND	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	62.8 %	50-150			"	"	"	"	
Surrogate: Octacosane	73.0 %	50-150			"	"	"	"	
RWB-5@5.0' (B0H0405-04) Soil Sampled: 08/15/00 16:15 Received: 08/18/00 09:00									
Diesel Range Hydrocarbons	79.6	4.00	mg/kg dry	1	0H18017	08/18/00	08/19/00	AK102/103	
Residual Range Organics	152	25.0	"	"	"	"	"	"	
Surrogate: 2-FBP	84.7 %	50-150			"	"	"	"	
Surrogate: Octacosane	74.5 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



0083

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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**Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell**

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							
Trip Blank #1 (B0H0405-01) Soil Sampled: 08/15/00 12:00 Received: 08/18/00 09:00									
Dry Weight	100	1.00	%	1	0H18039	08/18/00	08/21/00	BSOPSPL003R07	
RWB-5@2.5' (B0H0405-02) Soil Sampled: 08/15/00 15:00 Received: 08/18/00 09:00									
Dry Weight	87.0	1.00	%	1	0H18039	08/18/00	08/21/00	BSOPSPL003R07	
Dup #2 (B0H0405-03) Soil Sampled: 08/15/00 15:00 Received: 08/18/00 09:00									
Dry Weight	84.3	1.00	%	1	0H18039	08/18/00	08/21/00	BSOPSPL003R07	
RWB-5@5.0' (B0H0405-04) Soil Sampled: 08/15/00 16:15 Received: 08/18/00 09:00									
Dry Weight	93.3	1.00	%	1	0H18039	08/18/00	08/21/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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JMT
Jeanne Thompson, Project Manager

**North Creek Analytical, Inc.
Environmental Laboratory Network**



0084

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H18018: Prepared 08/18/00 Using EPA 5030B (P/T)

Blank (0H18018-BLK1)

Gasoline Range Hydrocarbons	ND	5.00	mg/kg wet							
Benzene	ND	0.0200	"							
Toluene	ND	0.0500	"							
Ethylbenzene	ND	0.0500	"							
Xylenes (total)	ND	0.100	"							
Surrogate: 4-BFB (FID)	3.91		"	4.00		97.8	60-120			
Surrogate: a,a,a-TFT (FID)	2.37		"	2.40		98.7	50-150			
Surrogate: 4-BFB (PID)	3.80		"	4.00		95.0	60-120			
Surrogate: a,a,a-TFT (PID)	2.39		"	2.40		99.6	50-150			

LCS (0H18018-BS1)

Benzene	0.503	0.0200	mg/kg wet	0.500		101	60-120			
Toluene	0.480	0.0500	"	0.500		96.0	60-120			
Ethylbenzene	0.509	0.0500	"	0.500		102	60-120			
Xylenes (total)	1.56	0.100	"	1.50		104	60-120			
Surrogate: 4-BFB (PID)	3.74		"	4.00		93.5	60-120			
Surrogate: a,a,a-TFT (PID)	2.30		"	2.40		95.8	50-150			

LCS (0H18018-BS2)

Gasoline Range Hydrocarbons	23.9	5.00	mg/kg wet	25.0		95.6	60-120			
Surrogate: 4-BFB (FID)	4.16		"	4.00		104	60-120			
Surrogate: a,a,a-TFT (FID)	2.38		"	2.40		99.2	50-150			

LCS Dup (0H18018-BSD1)

Benzene	0.515	0.0200	mg/kg wet	0.500		103	60-120	2.36	20	
Toluene	0.486	0.0500	"	0.500		97.2	60-120	1.24	20	
Ethylbenzene	0.517	0.0500	"	0.500		103	60-120	1.56	20	
Xylenes (total)	1.57	0.100	"	1.50		105	60-120	0.639	20	
Surrogate: 4-BFB (PID)	3.83		"	4.00		95.7	60-120			
Surrogate: a,a,a-TFT (PID)	2.30		"	2.40		95.8	50-150			

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Jmt
Jeanne Thompson, Project Manager

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00085

Secor-California
3017 Kilgore Rd Suite 100
Rancho Cordova CA. 95670

Project: Chevron #9-5414
Project Number: 077.41991.040
Project Manager: Roger Hoffmore

Reported:
08/21/00 15:55

**Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Quality Control
North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H18017: Prepared 08/18/00 Using EPA 3550B

Blank (0H18017-BLK1)

Diesel Range Hydrocarbons	ND	4.00	mg/kg wet							
Residual Range Organics	ND	25.0	"							
Surrogate: 2-FBP	9.12		"	12.8		71.2	50-150			
Surrogate: Octacosane	10.1		"	12.8		78.9	50-150			

LCS (0H18017-BS1)

Diesel Range Hydrocarbons	68.0	4.00	mg/kg wet	80.0		85.0	60-120			
Surrogate: 2-FBP	9.58		"	12.8		74.8	50-150			

LCS (0H18017-BS2)

Residual Range Organics	67.9	25.0	mg/kg wet	80.0		84.9	60-100			
Surrogate: Octacosane	10.1		"	12.8		78.9	50-150			

LCS Dup (0H18017-BSD1)

Diesel Range Hydrocarbons	63.2	4.00	mg/kg wet	80.0		79.0	60-120	7.32	20	
Surrogate: 2-FBP	8.56		"	12.8		66.9	50-150			

LCS Dup (0H18017-BSD2)

Residual Range Organics	66.0	25.0	mg/kg wet	80.0		82.5	60-100	2.84	20	
Surrogate: Octacosane	9.72		"	12.8		75.9	50-150			

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JMT

Jeanne Thompson, Project Manager

**North Creek Analytical, Inc.
Environmental Laboratory Network**

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00086

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 15:55
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Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H18039: Prepared 08/18/00 Using Dry Weight

Blank (0H18039-BLK1)

Dry Weight	100	1.00	%							
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0087

Secor-California
3017 Kilgore Rd Suite 100
Rancho Cordova CA, 95670

Project: Chevron #9-5414
Project Number: 077.41991.040
Project Manager: Roger Hoffmore

Reported:
08/21/00 15:55

Notes and Definitions

- 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
- RPD Relative Percent Difference



North Creek Analytical, Inc.
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CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT BOHO405

CHEVRON INFORMATION

Facility Number: 9-5414
Site Address: 5210 Old Seward Hwy
City, State, ZIP: Anchorage AK
Service Code: Site Assessment
Service Order: Remediation
Cost Element: 75100100 O & M
Chevron Project Manager: Bob Cochran GWM

CONSULTANT INFORMATION

Name: SECOR
Project#: 077,41991.040
Address: 3017 K. Gore Rd, Ste 100
Ranch Cordova, CA 95670
Phone: 916-861-0400 Fax: 916-861-0430
Project Manager: Roger Hoffmore
Sample Collection by: Scott Meeksloth

Laboratory Turnaround Time
 1 Business Day
 3 Business Days
 5 Business Days
 10 Business Days
 3 Day Air Samples
Please Select One

SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W,S,O)	# OF CONTAINERS
1. Trip Blank #1	8/6/00/NA	W	1
2. RWB-5 @ 2.5'	8/15/1500	S	2
3. DUP #2	8/15/1500	S	2
4. RWB-5 @ 5.0'	1615	S	2
5.			
6.			
7.			
8.			
9.			
10.			

TPH-HCID	TPH-Gas	BTEX Only	EPA 8021 Mod	TPH-Gas + BTEX	TPH-Diesel	Extended TPH-Diesel	TPH-Diesel-Ext	W/SG Cleanup	Halogen Volatiles	EPA 8021 Pesticides/PCBs or PCBs Only	G/CMS Volatiles	EPA 8260 G/CMS SemVol	EPA 8270 PAHs	8270 SIM or 8310 Lead	Total or Dissolved TCLP or RCRA Metals (8)	AK-101 (GRO)	AK102-DRO	AK103-RRO
																X	X	X

NCA SAMPLE NUMBER
BOHO405 01
02
03
04

Requested by: Scott Meeksloth / Sample
Firm: SECOR
Date & Time: 8/15/1700
Received by: Collette Weaver
Firm: NCA
Date & Time: 8/18/00
Additional Comments: Please Fax Results to Roger Hoffmore



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0089

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Trip Blank	B0H0421-01	Water	08/16/00 12:00	08/18/00 09:00
MW-4@10'	B0H0421-02	Soil	08/16/00 08:50	08/18/00 09:00
MW-5@9'	B0H0421-05	Soil	08/16/00 11:28	08/18/00 09:00
MW-6@9'	B0H0421-08	Soil	08/16/00 13:15	08/18/00 09:00
MW-6@15'	B0H0421-09	Soil	08/16/00 13:35	08/18/00 09:00
MW-6@20'	B0H0421-10	Soil	08/16/00 13:45	08/18/00 09:00

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
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0090

Secor-California Project: Chevron #9-5414
 3017 Kilgore Rd Suite 100 Project Number: 077.41991.040
 Rancho Cordova CA. 95670 Project Manager: Roger Hoffmore Reported:
 09/05/00 11:37

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

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							

Trip Blank (B0H0421-01) Water Sampled: 08/16/00 12:00 Received: 08/18/00 09:00

Methyl tert-butyl ether	ND	1.00	ug/l	1	0H28029	08/28/00	08/28/00	AK 101	
Gasoline Range Hydrocarbons	ND	50.0	"	"	"	"	"	"	
Benzene	ND	0.500	"	"	"	"	"	"	
Toluene	ND	0.500	"	"	"	"	"	"	
Ethylbenzene	ND	0.500	"	"	"	"	"	"	
Xylenes (total)	ND	1.00	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	103 %	60-120			"	"	"	"	
Surrogate: 4-BFB (PID)	92.7 %	60-120			"	"	"	"	

MW-4@10' (B0H0421-02) Soil Sampled: 08/16/00 08:50 Received: 08/18/00 09:00

Methyl tert-butyl ether	ND	0.0161	mg/kg dry	1	0H27007	08/27/00	08/28/00	AK 101	
Gasoline Range Hydrocarbons	1.70	1.34	"	"	"	"	"	"	
Benzene	0.0693	0.00536	"	"	"	"	"	"	
Toluene	0.0171	0.0134	"	"	"	"	"	"	
Ethylbenzene	0.0316	0.0134	"	"	"	"	"	"	
Xylenes (total)	0.225	0.0268	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	117 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	66.8 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	103 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	70.1 %	50-150			"	"	"	"	

MW-5@9' (B0H0421-05) Soil Sampled: 08/16/00 11:28 Received: 08/18/00 09:00

Methyl tert-butyl ether	0.0371	0.0186	mg/kg dry	1	0H27007	08/27/00	08/28/00	AK 101	O-06
Gasoline Range Hydrocarbons	5.42	1.55	"	"	"	"	08/28/00	"	
Benzene	0.115	0.00619	"	"	"	"	"	"	
Toluene	0.0539	0.0155	"	"	"	"	"	"	
Ethylbenzene	0.221	0.0155	"	"	"	"	"	"	
Xylenes (total)	0.823	0.0309	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	119 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	70.6 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	106 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	71.6 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
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00091

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
North Creek Analytical - Bothell

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								

MW-6@9' (B0H0421-08) Soil **Sampled: 08/16/00 13:15** **Received: 08/18/00 09:00**

Methyl tert-butyl ether	ND	0.0233	mg/kg dry	1	01127007	08/27/00	08/28/00	AK 101		
Gasoline Range Hydrocarbons	ND	1.94	"	"	"	"	08/28/00	"		
Benzene	0.00792	0.00776	"	"	"	"	"	"		
Toluene	ND	0.0194	"	"	"	"	"	"		
o-xylbenzene	ND	0.0194	"	"	"	"	"	"		
Xylenes (total)	0.0413	0.0388	"	"	"	"	"	"		
Surrogate: 4-BFB (FID)	110 %	60-120			"	"	"	"		
Surrogate: a,a,a-TFT (FID)	71.5 %	50-150			"	"	"	"		
Surrogate: 4-BFB (PID)	101 %	60-120			"	"	"	"		
Surrogate: a,a,a-TFT (PID)	75.5 %	50-150			"	"	"	"		

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 3 of 18



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00092

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Volatile Organic Compounds by EPA Method 8260B
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4@10' (B0H0421-02) Soil Sampled: 08/16/00 08:50 Received: 08/18/00 09:00									
Bromodichloromethane	ND	0.100	mg/kg dry	1	01128027	08/28/00	08/29/00	EPA 8260B	
Bromoform	ND	0.100	"	"	"	"	"	"	
Bromomethane	ND	0.100	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.100	"	"	"	"	"	"	
Chlorobenzene	ND	0.100	"	"	"	"	"	"	
Chloroethane	ND	0.100	"	"	"	"	"	"	
Chloroform	ND	0.100	"	"	"	"	"	"	
Chloromethane	ND	0.500	"	"	"	"	"	"	
Dibromochloromethane	ND	0.100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.100	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.100	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.100	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.100	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.100	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.100	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.100	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.100	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.100	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.100	"	"	"	"	"	"	
Methylene chloride	ND	1.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.100	"	"	"	"	"	"	
Tetrachloroethene	ND	0.100	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.100	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.100	"	"	"	"	"	"	
Trichloroethene	ND	0.100	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.100	"	"	"	"	"	"	
Vinyl chloride	ND	0.100	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4	106 %	70-130			"	"	"	"	
Surrogate: 4-BFB	108 %	70-130			"	"	"	"	

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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0093

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring
North Creek Analytical - Bothell

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
MW-4@10' (B0H0421-02) Soil Sampled: 08/16/00 08:50 Received: 08/18/00 09:00										
Acenaphthene	ND	0.0500		mg/kg dry	5	01122036	08/22/00	08/25/00	GCMS-SIM	A-01
Acenaphthylene	ND	0.0500		"	"	"	"	"	"	
Anthracene	ND	0.0500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.0500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0500		"	"	"	"	"	"	
Benzo (ghi) perylene	ND	0.0500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.0500		"	"	"	"	"	"	
Chrysene	ND	0.0500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.0500		"	"	"	"	"	"	
Fluoranthene	ND	0.0500		"	"	"	"	"	"	
Fluorene	ND	0.0500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0500		"	"	"	"	"	"	
Naphthalene	ND	0.0500		"	"	"	"	"	"	
Phenanthrene	ND	0.0500		"	"	"	"	"	"	
Pyrene	ND	0.0500		"	"	"	"	"	"	
Surrogate: 2-FBP	88.4 %	30-150				"	"	"	"	
Surrogate: Nitrobenzene-d5	72.6 %	30-150				"	"	"	"	
Surrogate: p-Terphenyl-d14	96.3 %	30-150				"	"	"	"	

North Creek Analytical - Bothell

For Jeanne Thompson, Project Manager

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000094

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Conventional Chemistry Parameters by APHA/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
MW-6@9' (B0H0421-08) Soil Sampled: 08/16/00 13:15 Received: 08/18/00 09:00										
Total Organic Carbon - Average	10200	300		mg/kg dry	1	0H31047	08/29/00	09/01/00	EPA 9060 mod.	
Total Organic Carbon - High	10600	300		"	"	"	"	"	"	"
Total Organic Carbon - Low	9480	300		"	"	"	"	"	"	"
MW-6@15' (B0H0421-09) Soil Sampled: 08/16/00 13:35 Received: 08/18/00 09:00										
Total Organic Carbon - Average	9020	300		mg/kg dry	1	0H22016	08/22/00	08/22/00	EPA 9060 mod.	
Total Organic Carbon - High	14100	300		"	"	"	"	"	"	"
Total Organic Carbon - Low	5880	300		"	"	"	"	"	"	"
MW-6@20' (B0H0421-10) Soil Sampled: 08/16/00 13:45 Received: 08/18/00 09:00										
Total Organic Carbon - Average	ND	300		mg/kg dry	1	0H22016	08/22/00	08/22/00	EPA 9060 mod.	
Total Organic Carbon - High	824	300		"	"	"	"	"	"	"
Total Organic Carbon - Low	ND	300		"	"	"	"	"	"	"

North Creek Analytical - Bothell

For Jeanne Thompson, Project Manager

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0095

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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**Physical Parameters by APHA/ASTM/EPA Methods
 North Creek Analytical - Bothell**

Analyte	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
	Result	Limit							
MW-4@10' (B0H0421-02) Soil Sampled: 08/16/00 08:50 Received: 08/18/00 09:00									
Dry Weight	87.8	1.00	%	1	0H22024	08/22/00	08/23/00	BSOPSPL003R07	
MW-5@9' (B0H0421-05) Soil Sampled: 08/16/00 11:28 Received: 08/18/00 09:00									
Dry Weight	81.9	1.00	%	1	0H24031	08/24/00	08/25/00	BSOPSPL003R07	
MW-6@9' (B0H0421-08) Soil Sampled: 08/16/00 13:15 Received: 08/18/00 09:00									
Dry Weight	93.8	1.00	%	1	0H24031	08/24/00	08/25/00	BSOPSPL003R07	
MW-6@15' (B0H0421-09) Soil Sampled: 08/16/00 13:35 Received: 08/18/00 09:00									
Dry Weight	81.1	1.00	%	1	0H22024	08/22/00	08/23/00	BSOPSPL003R07	
MW-6@20' (B0H0421-10) Soil Sampled: 08/16/00 13:45 Received: 08/18/00 09:00									
Dry Weight	80.9	1.00	%	1	0H22025	08/22/00	08/23/00	BSOPSPL003R07	

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For Jeanne Thompson, Project Manager

**North Creek Analytical, Inc.
 Environmental Laboratory Network**



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0096

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H27007: Prepared 08/27/00 Using EPA 5030B (MeOH)

Blank (0H27007-BLK1)

Methyl tert-butyl ether	ND	0.0600	mg/kg wet							
Gasoline Range Hydrocarbons	ND	5.00	"							
Benzene	ND	0.0200	"							
Toluene	ND	0.0500	"							
Ethylbenzene	ND	0.0500	"							
Xylenes (total)	ND	0.100	"							
Surrogate: 4-BFB (FID)	4.06		"	4.00		101	60-120			
Surrogate: a,a,a-TFT (FID)	2.25		"	2.40		93.7	50-150			
Surrogate: 4-BFB (PID)	3.95		"	4.00		98.8	60-120			
Surrogate: a,a,a-TFT (PID)	2.41		"	2.40		100	50-150			

LCS (0H27007-BS1)

Methyl tert-butyl ether	0.490	0.0600	mg/kg wet	0.500		98.0	60-120			
Benzene	0.496	0.0200	"	0.500		99.2	60-120			
Toluene	0.493	0.0500	"	0.500		98.6	60-120			
Ethylbenzene	0.506	0.0500	"	0.500		101	60-120			
Xylenes (total)	1.55	0.100	"	1.50		103	60-120			
Surrogate: 4-BFB (PID)	4.15		"	4.00		104	60-120			
Surrogate: a,a,a-TFT (PID)	2.34		"	2.40		97.5	50-150			

LCS (0H27007-BS2)

Gasoline Range Hydrocarbons	19.8	5.00	mg/kg wet	25.0		79.2	60-120			
Surrogate: 4-BFB (FID)	3.83		"	4.00		95.7	60-120			
Surrogate: a,a,a-TFT (FID)	2.10		"	2.40		87.5	50-150			

LCS Dup (0H27007-BSD1)

Methyl tert-butyl ether	0.494	0.0600	mg/kg wet	0.500		98.8	60-120	0.813	20	
Benzene	0.480	0.0200	"	0.500		96.0	60-120	3.28	20	
Toluene	0.478	0.0500	"	0.500		95.6	60-120	3.09	20	
Ethylbenzene	0.489	0.0500	"	0.500		97.8	60-120	3.42	20	
Xylenes (total)	1.50	0.100	"	1.50		100	60-120	3.28	20	
Surrogate: 4-BFB (PID)	4.02		"	4.00		100	60-120			
Surrogate: a,a,a-TFT (PID)	2.31		"	2.40		96.2	50-150			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager



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0097

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H28029: Prepared 08/28/00 Using EPA 5030B (P/T)

Blank (0H28029-BLK1)

Methyl tert-butyl ether	ND	1.00	ug/l							
Gasoline Range Hydrocarbons	ND	50.0	"							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	48.6		"	48.0		101	60-120			
Surrogate: 4-BFB (PID)	45.4		"	48.0		94.6	60-120			

Blank (0H28029-BLK2)

Methyl tert-butyl ether	ND	1.00	ug/l							
Gasoline Range Hydrocarbons	ND	50.0	"							
Benzene	ND	0.500	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Surrogate: 4-BFB (FID)	44.1		"	48.0		91.9	60-120			
Surrogate: 4-BFB (PID)	45.1		"	48.0		94.0	60-120			

LCS (0H28029-BS1)

Gasoline Range Hydrocarbons	464	50.0	ug/l	500		92.8	60-120			
Surrogate: 4-BFB (FID)	51.0		"	48.0		106	60-120			

LCS (0H28029-BS2)

Gasoline Range Hydrocarbons	464	50.0	ug/l	500		92.8	60-120			
Surrogate: 4-BFB (FID)	51.5		"	48.0		107	60-120			

Duplicate (0H28029-DUP1)

Gasoline Range Hydrocarbons	251	50.0	ug/l		227			10.0	20	
Surrogate: 4-BFB (FID)	49.2		"	48.0		103	60-120			

Source: B0H0424-02

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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0098

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H28029: Prepared 08/28/00 Using EPA 5030B (P/T)

Duplicate (0H28029-DUP2)

Source: B0H0424-03

Gasoline Range Hydrocarbons	ND	50.0	ug/l		ND			10.2	20	
Surrogate: 4-BFB (FID)	39.3		"	48.0		81.9	60-120			

Matrix Spike (0H28029-MS1)

Source: B0H0605-01

Methyl tert-butyl ether	10.1	1.00	ug/l	10.0	ND	101	60-120			
Benzene	22.6	0.500	"	10.0	15.0	76.0	60-120			
Toluene	9.49	0.500	"	10.0	ND	90.5	60-120			
Ethylbenzene	9.18	0.500	"	10.0	ND	90.6	60-120			
Xylenes (total)	25.8	1.00	"	30.0	ND	84.7	60-120			
Surrogate: 4-BFB (PID)	44.7		"	48.0		93.1	60-120			

Matrix Spike Dup (0H28029-MSD1)

Source: B0H0605-01

Methyl tert-butyl ether	8.03	1.00	ug/l	10.0	ND	79.9	60-120	22.8	20	Q-07
Benzene	22.8	0.500	"	10.0	15.0	78.0	60-120	0.881	20	
Toluene	9.43	0.500	"	10.0	ND	89.9	60-120	0.634	20	
Ethylbenzene	9.15	0.500	"	10.0	ND	90.3	60-120	0.327	20	
Xylenes (total)	25.1	1.00	"	30.0	ND	82.4	60-120	2.75	20	
Surrogate: 4-BFB (PID)	44.2		"	48.0		92.1	60-120			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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0099

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA. 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 09/05/00 11:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H28027: Prepared 08/28/00 Using EPA 5030B [P/T]

Blank (0H28027-BLK1)

Bromodichloromethane	ND	0.100	mg/kg wet							
Bromoform	ND	0.100	"							
Bromomethane	ND	0.100	"							
Carbon tetrachloride	ND	0.100	"							
Chlorobenzene	ND	0.100	"							
Chloroethane	ND	0.100	"							
Chloroform	ND	0.100	"							
Chloromethane	ND	0.500	"							
Dibromochloromethane	ND	0.100	"							
1,2-Dichlorobenzene	ND	0.100	"							
1,3-Dichlorobenzene	ND	0.100	"							
1,4-Dichlorobenzene	ND	0.100	"							
1,1-Dichloroethane	ND	0.100	"							
1,2-Dichloroethane	ND	0.100	"							
1,1-Dichloroethene	ND	0.100	"							
cis-1,2-Dichloroethene	ND	0.100	"							
trans-1,2-Dichloroethene	ND	0.100	"							
1,2-Dichloropropane	ND	0.100	"							
cis-1,3-Dichloropropene	ND	0.100	"							
trans-1,3-Dichloropropene	ND	0.100	"							
Methylene chloride	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	0.100	"							
Tetrachloroethene	ND	0.100	"							
1,1,1-Trichloroethane	ND	0.100	"							
1,1,2-Trichloroethane	ND	0.100	"							
Trichloroethene	ND	0.100	"							
Trichlorofluoromethane	ND	0.100	"							
Vinyl chloride	ND	0.100	"							
Surrogate: 1,2-DCA-d4	1.96		"	2.00		98.0	70-130			
Surrogate: 4-BFB	1.99		"	2.00		99.5	70-130			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
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Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Volatile Organic Compounds by EPA Method 8260B - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H28027: Prepared 08/28/00 Using EPA 5030B [P/T]

LCS (0H28027-BS1)

Chlorobenzene	0.853	0.100	mg/kg wet	1.00		85.3	70-130			
1,1-Dichloroethene	0.818	0.100	"	1.00		81.8	70-130			
Trichloroethene	0.962	0.100	"	1.00		96.2	70-130			
Surrogate: 1,2-DCA-d4	2.04		"	2.00		102	70-130			
Surrogate: 4-BFB	2.01		"	2.00		100	70-130			

Matrix Spike (0H28027-MS1)

Source: B0H0477-01

Chlorobenzene	0.818	0.100	mg/kg dry	1.09	ND	75.0	70-130			
1,1-Dichloroethene	0.694	0.100	"	1.09	ND	63.7	70-130			Q-03
Trichloroethene	0.904	0.100	"	1.09	ND	82.9	70-130			
Surrogate: 1,2-DCA-d4	1.78		"	2.19		81.3	70-130			
Surrogate: 4-BFB	1.89		"	2.19		86.3	70-130			

Matrix Spike Dup (0H28027-MSD1)

Source: B0H0477-01

Chlorobenzene	0.809	0.100	mg/kg dry	1.09	ND	74.2	70-130	1.11	15	
1,1-Dichloroethene	0.737	0.100	"	1.09	ND	67.6	70-130	6.01	15	Q-03
Trichloroethene	0.893	0.100	"	1.09	ND	81.9	70-130	1.22	15	
Surrogate: 1,2-DCA-d4	1.73		"	2.19		79.0	70-130			
Surrogate: 4-BFB	1.82		"	2.19		83.1	70-130			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

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Secor-California Project: Chevron #9-5414
 3017 Kilgore Rd Suite 100 Project Number: 077.41991.040
 Rancho Cordova CA. 95670 Project Manager: Roger Hoffmore Reported:
 09/05/00 11:37

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H22036: Prepared 08/22/00 Using EPA 3550B

Blank (0H22036-BLK1)

Acenaphthene	ND	0.0100	mg/kg wet							
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	1.46		"	1.67		87.4	30-150			
Surrogate: Nitrobenzene-d5	1.26		"	1.67		75.4	30-150			
Surrogate: p-Terphenyl-d14	1.67		"	1.67		100	30-150			

LCS (0H22036-BS1)

Chrysene	0.255	0.0100	mg/kg wet	0.333		76.6	10-125			
Fluorene	0.248	0.0100	"	0.333		74.5	11-116			
Indeno (1,2,3-cd) pyrene	0.247	0.0100	"	0.333		74.2	10-147			
Surrogate: 2-FBP	1.57		"	1.67		94.0	30-150			
Surrogate: Nitrobenzene-d5	1.34		"	1.67		80.2	30-150			
Surrogate: p-Terphenyl-d14	1.58		"	1.67		94.6	30-150			

North Creek Analytical - Bothell

For Jeanne Thompson, Project Manager

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Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA. 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 09/05/00 11:37

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H22036: Prepared 08/22/00 Using EPA 3550B

Matrix Spike (0H22036-MS1)

Source: B0H0116-08

Chrysene	0.362	0.0100	mg/kg dry	0.403	ND	89.8	10-125			
Fluorene	0.349	0.0100	"	0.403	ND	86.6	10-154			
Indeno (1.2.3-cd) pyrene	0.343	0.0100	"	0.403	ND	85.1	10-144			
Surrogate: 2-FBP	2.18		"	2.02		108	30-150			
Surrogate: Nitrobenzene-d5	1.91		"	2.02		94.6	30-150			
Surrogate: p-Terphenyl-d14	2.19		"	2.02		108	30-150			

Matrix Spike Dup (0H22036-MSD1)

Source: B0H0116-08

Chrysene	0.285	0.0100	mg/kg dry	0.403	ND	70.7	10-125	23.8	28	
Fluorene	0.280	0.0100	"	0.403	ND	69.5	10-154	21.9	32	
Indeno (1.2.3-cd) pyrene	0.280	0.0100	"	0.403	ND	69.5	10-144	20.2	47	
Surrogate: 2-FBP	1.70		"	2.02		84.2	30-150			
Surrogate: Nitrobenzene-d5	1.45		"	2.02		71.8	30-150			
Surrogate: p-Terphenyl-d14	1.78		"	2.02		88.1	30-150			

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

Page 14 of 18



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0103

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H22016: Prepared 08/19/00 Using General Preparation

Blank (0H22016-BLK1)

Total Organic Carbon - Average ND 300 mg/kg wet

Blank (0H22016-BLK2)

Total Organic Carbon - Average ND 300 mg/kg wet

Blank (0H22016-BLK3)

Total Organic Carbon - Average ND 300 mg/kg wet

Blank (0H22016-BLK4)

Total Organic Carbon - Average ND 300 mg/kg wet

LCS (0H22016-BS1)

Total Organic Carbon - Average	3510	300	mg/kg wet	3820	91.9	53.7-146
Total Organic Carbon - High	4090	300	"	3820	107	53.7-146
Total Organic Carbon - Low	2170	300	"	3820	56.8	53.7-146

LCS Dup (0H22016-BSD1)

Total Organic Carbon - Average	2710	300	mg/kg wet	3820	70.9	53.7-146	25.7	30
Total Organic Carbon - High	3110	300	"	3820	81.4	53.7-146	27.2	30
Total Organic Carbon - Low	2180	300	"	3820	57.1	53.7-146	0.460	30

Batch 0H31047: Prepared 08/28/00 Using General Preparation

Blank (0H31047-BLK1)

Total Organic Carbon - Average	ND	300	mg/kg wet
Total Organic Carbon - High	ND	300	"
Total Organic Carbon - Low	ND	300	"

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager

**North Creek Analytical, Inc.
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0104

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0H31047: Prepared 08/29/00 Using General Preparation

Blank (0H31047-BLK2)

Total Organic Carbon - Average	ND	300	mg/kg wet							
Total Organic Carbon - High	ND	300	"							
Total Organic Carbon - Low	ND	300	"							

Blank (0H31047-BLK3)

Total Organic Carbon - Average	ND	300	mg/kg wet							
--------------------------------	----	-----	-----------	--	--	--	--	--	--	--

Blank (0H31047-BLK4)

Total Organic Carbon - Average	ND	300	mg/kg wet							
--------------------------------	----	-----	-----------	--	--	--	--	--	--	--

LCS (0H31047-BS1)

Total Organic Carbon - Average	3800	300	mg/kg wet	3820		99.5	53.7-146			
Total Organic Carbon - High	4140	300	"	3820		108	53.7-146			
Total Organic Carbon - Low	3490	300	"	3820		91.4	53.7-146			

LCS Dup (0H31047-BSD1)

Total Organic Carbon - Average	3750	300	mg/kg wet	3820		98.2	53.7-146	1.32	30	
Total Organic Carbon - High	3990	300	"	3820		104	53.7-146	3.69	30	
Total Organic Carbon - Low	3650	300	"	3820		95.5	53.7-146	4.48	30	

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.

For Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



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0105

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0H22024: Prepared 08/22/00 Using Dry Weight										
Blank (0H22024-BLK1)										
Dry Weight	100	1.00	%							
Batch 0H22025: Prepared 08/22/00 Using Dry Weight										
Blank (0H22025-BLK1)										
Dry Weight	99.8	1.00	%							
Batch 0H24031: Prepared 08/24/00 Using Dry Weight										
Blank (0H24031-BLK1)										
Dry Weight	100	1.00	%							

North Creek Analytical - Bothell

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For Jeanne Thompson, Project Manager



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0000106

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 09/05/00 11:37
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Notes and Definitions

- A-01 Sample was analyzed at a dilution due to difficult sample matrix.
- O-06 Qualitative confirmation (second detector) for this analyte is not available at the concentration found.
- Q-03 The percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
- Q-07 The RPD value for this QC sample is above the established control limit. Review of associated QC indicates the high RPD does not represent an out-of-control condition for the batch.
- 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
- RPD Relative Percent Difference

North Creek Analytical - Bothell

For Jeanne Thompson, Project Manager

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CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT **BOH0421**

CHEVRON INFORMATION

Facility Number: **9-5414**

Site Address: **5210 Old Seward Hwy**

City, State, ZIP: **Anchorage, AK**

Service Code: Site Assessment
 Remediation
 O & M
 GWM

Service Order: _____

Cost Element: **75100100**

Chevron Project Manager: **Bob Cochran**

CONSULTANT INFORMATION

Name: **Secor** Project: **077, 41991.040**

Address: **3017 Kilgore Rd, Ste 100**

City, State, ZIP: **Sancho Cordova CA 95670**

Phone: **916-861-0400** Fax: **916-861-0430**

Project Manager: **Roger Hoffmore** Airbill#: _____

Sample Collection by: **Scott Meckstroth**

Laboratory Turnaround Time

1 Business Day
 3 Business Days
 5 Business Days
 10 Business Days

3 Day Air Samples
 (Please Select One)

SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W.S.O)	# OF CONTAINERS
1. 4c:ip Blank	NA	W	1
2. MW-4210'	8/16/0850	S	23
3. MW-4215'	8/16/0915	S	23
4. MW-4220'	8/16/0935	S	23
5. MW-50 9'	8/16/1128	S	2
6. MW-50 15'	8/16/1137	S	2
7. MW-50 18'	8/16/1145	S	2
8. MW-60 9'	8/16/115	S	2
9. MW-60 15'	8/16/135	S	2
10. MW-60 20'	8/16/145	S	2

TPH-HCID	TPH-Gas	BTEX Only	EPA 8021 Mod	TPH-Gas + BTEX	TPH-Diesel	Extended TPH-Diesel	TPH-Diesel-Ext	w/SG Cleanup	Halogen, Volatiles	EPA 8021	Pesticides/PCBs or PCBs Only	GC/MS Volatiles	EPA 8260	GC/MS Semivol	EPA 8270	PAH's	8270 SIM of 8310	Lead	Total or Dissolved	TCLP or RCRA	Metals (8)	TK101 G, RO, BTEX	MTE 8020	TOC's	NCA SAMPLE NUMBER	
																										-01
																										-02
																										-03
																										-04
																										-05
																										-06
																										-07
																										-08
																										-09
																										-10

Received by: **Secor** Date & Time: **8/17/00 0730**

Firm: **Secor**

Received by: **Tommy NCA** Date & Time: **8/18/00 0900**

Firm: **NCA**

Additional Comments: **Please Fax Results X-Run H-Hold**



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0108

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TripBlank#3	B0H0337-01	Soil	06/06/00 12:00	08/16/00 08:45
RWB-1@2.5'	B0H0337-02	Soil	08/14/00 19:35	08/16/00 08:45
RWB-1@5.0'	B0H0337-03	Soil	08/14/00 20:05	08/16/00 08:45
RWB-2@2.5'	B0H0337-04	Soil	08/15/00 07:45	08/16/00 08:45
RWB-2@5.0'	B0H0337-05	Soil	08/15/00 08:45	08/16/00 08:45
RWB-3@2.5'	B0H0337-06	Soil	08/15/00 09:15	08/16/00 08:45
RWB-3@5.0'	B0H0337-07	Soil	08/15/00 10:10	08/16/00 08:45
RWB-4@2.5'	B0H0337-08	Soil	08/15/00 11:20	08/16/00 08:45
RWB-4@5.0'	B0H0337-09	Soil	08/15/00 12:30	08/16/00 08:45
DUP#1	B0H0337-10	Soil	08/15/00 12:30	08/16/00 08:45

SEP - 1

North Creek Analytical - Bothell

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Jeanne Thompson
 Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

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0109

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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TripBlank#3 (B0H0337-01) Soil Sampled: 06/06/00 12:00 Received: 08/16/00 08:45 I-02									
Gasoline Range Hydrocarbons	ND	5.00	mg/kg dry	1	0H17010	08/17/00	08/17/00	AK 101	
Benzene	ND	0.0200	"	"	"	"	"	"	
Toluene	ND	0.0500	"	"	"	"	"	"	
Ethylbenzene	ND	0.0500	"	"	"	"	"	"	
Xylenes (total)	ND	0.100	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	102 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	105 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	95.2 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	101 %	50-150			"	"	"	"	

RWB-1@2.5' (B0H0337-02) Soil Sampled: 08/14/00 19:35 Received: 08/16/00 08:45									
Gasoline Range Hydrocarbons	ND	1.64	mg/kg dry	1	0H17010	08/17/00	08/17/00	AK 101	
Benzene	0.00835	0.00655	"	"	"	"	"	"	
Toluene	ND	0.0164	"	"	"	"	"	"	
Ethylbenzene	ND	0.0164	"	"	"	"	"	"	
Xylenes (total)	0.0434	0.0328	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	100 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	79.0 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	96.0 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	79.2 %	50-150			"	"	"	"	

RWB-1@5.0' (B0H0337-03) Soil Sampled: 08/14/00 20:05 Received: 08/16/00 08:45									
Gasoline Range Hydrocarbons	8.46	1.70	mg/kg dry	1	0H17010	08/17/00	08/17/00	AK 101	
Benzene	0.0542	0.00680	"	"	"	"	"	"	
Toluene	ND	0.0170	"	"	"	"	"	"	
Ethylbenzene	0.0772	0.0170	"	"	"	"	"	"	
Xylenes (total)	0.385	0.0340	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	130 %	60-120			"	"	"	"	S-02
Surrogate: a,a,a-TFT (FID)	82.0 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	102 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	87.5 %	50-150			"	"	"	"	

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.

Jeanne Thompson, Project Manager



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0110

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

RWB-2@2.5' (B0H0337-04) Soil Sampled: 08/15/00 07:45 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.79	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	0.00965	0.00718	"	"	"	"	"	"	"
Toluene	ND	0.0179	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0179	"	"	"	"	"	"	"
Xylenes (total)	0.0576	0.0359	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	92.1 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	86.8 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	94.5 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	96.0 %	50-150			"	"	"	"	"

RWB-2@5.0' (B0H0337-05) Soil Sampled: 08/15/00 08:45 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.54	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	0.00846	0.00616	"	"	"	"	"	"	"
Toluene	ND	0.0154	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0154	"	"	"	"	"	"	"
Xylenes (total)	0.0403	0.0308	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	97.2 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	88.4 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	93.6 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	90.4 %	50-150			"	"	"	"	"

RWB-3@2.5' (B0H0337-06) Soil Sampled: 08/15/00 09:15 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.49	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	ND	0.00598	"	"	"	"	"	"	"
Toluene	ND	0.0149	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0149	"	"	"	"	"	"	"
Xylenes (total)	0.0373	0.0299	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	89.5 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	79.5 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	90.9 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	85.3 %	50-150			"	"	"	"	"

North Creek Analytical - Bothell

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JMT
 Jeanne Thompson, Project Manager

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Environmental Laboratory Network



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 503-383-9310 fax 503-382-7588

0111

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA. 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 08/21/00 11:42

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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RWB-3@5.0' (B0H0337-07) Soil Sampled: 08/15/00 10:10 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.50	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	ND	0.00602	"	"	"	"	"	"	"
Toluene	ND	0.0150	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0150	"	"	"	"	"	"	"
Xylenes (total)	ND	0.0301	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	83.3 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	70.1 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	91.7 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	81.1 %	50-150			"	"	"	"	"

RWB-4@2.5' (B0H0337-08) Soil Sampled: 08/15/00 11:20 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.52	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	0.0141	0.00607	"	"	"	"	"	"	"
Toluene	0.0214	0.0152	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0152	"	"	"	"	"	"	"
Xylenes (total)	0.0536	0.0303	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	94.4 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	92.8 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	91.0 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	93.1 %	50-150			"	"	"	"	"

RWB-4@5.0' (B0H0337-09) Soil Sampled: 08/15/00 12:30 Received: 08/16/00 08:45

Gasoline Range Hydrocarbons	ND	1.57	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	ND	0.00628	"	"	"	"	"	"	"
Toluene	ND	0.0157	"	"	"	"	"	"	"
Ethylbenzene	ND	0.0157	"	"	"	"	"	"	"
Xylenes (total)	ND	0.0314	"	"	"	"	"	"	"
Surrogate: 4-BFB (FID)	102 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (FID)	90.4 %	50-150			"	"	"	"	"
Surrogate: 4-BFB (PID)	92.5 %	60-120			"	"	"	"	"
Surrogate: a,a,a-TFT (PID)	86.4 %	50-150			"	"	"	"	"

North Creek Analytical - Bothell

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 Jeanne Thompson, Project Manager

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Page 4 of 13



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Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	0112 Reported: 08/21/00 11:42
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Upits	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

DUP#1 (B0H0337-10) Soil **Sampled: 08/15/00 12:30** **Received: 08/16/00 08:45**

Gasoline Range Hydrocarbons	ND	1.90	mg/kg dry	1	0H17010	08/17/00	08/18/00	AK 101	
Benzene	ND	0.00759	"	"	"	"	"	"	
Toluene	ND	0.0190	"	"	"	"	"	"	
Ethylbenzene	ND	0.0190	"	"	"	"	"	"	
Xylenes (total)	ND	0.0379	"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	98.1 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (FID)	91.3 %	50-150			"	"	"	"	
Surrogate: 4-BFB (PID)	90.1 %	60-120			"	"	"	"	
Surrogate: a,a,a-TFT (PID)	88.3 %	50-150			"	"	"	"	

North Creek Analytical - Bothell

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Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA, 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 08/21/00 11:42

Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RWB-1@2.5' (B0H0337-02) Soil Sampled: 08/14/00 19:35 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	22.3	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B,D-09
Residual Range Organics	67.0	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	71.9 %	50-150			"	"	"	"	"
Surrogate: Octacosane	110 %	50-150			"	"	"	"	"
RWB-1@5.0' (B0H0337-03) Soil Sampled: 08/14/00 20:05 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	17.9	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B,D-09
Residual Range Organics	41.6	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	64.7 %	50-150			"	"	"	"	"
Surrogate: Octacosane	95.4 %	50-150			"	"	"	"	"
RWB-2@2.5' (B0H0337-04) Soil Sampled: 08/15/00 07:45 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	28.9	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B,D-09
Residual Range Organics	79.9	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	82.2 %	50-150			"	"	"	"	"
Surrogate: Octacosane	117 %	50-150			"	"	"	"	"
RWB-2@5.0' (B0H0337-05) Soil Sampled: 08/15/00 08:45 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	32.4	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B,D-09
Residual Range Organics	94.8	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	76.0 %	50-150			"	"	"	"	"
Surrogate: Octacosane	108 %	50-150			"	"	"	"	"
RWB-3@2.5' (B0H0337-06) Soil Sampled: 08/15/00 09:15 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	23.4	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B,D-09
Residual Range Organics	57.3	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	69.3 %	50-150			"	"	"	"	"
Surrogate: Octacosane	103 %	50-150			"	"	"	"	"

North Creek Analytical - Bothell

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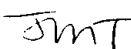
Secor-California Project: Chevron #9-5414
 3017 Kilgore Rd Suite 100 Project Number: 077.41991.040
 Rancho Cordova CA. 95670 Project Manager: Roger Hoffmore Reported:
 08/21/00 11:42

Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RWB-3@5.0' (B0H0337-07) Soil Sampled: 08/15/00 10:10 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	28.4	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B.D-09
Residual Range Organics	95.0	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	65.6 %	50-150			"	"	"	"	"
Surrogate: Octacosane	112 %	50-150			"	"	"	"	"
RWB-4@2.5' (B0H0337-08) Soil Sampled: 08/15/00 11:20 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	13.4	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B.D-09
Residual Range Organics	28.2	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	71.7 %	50-150			"	"	"	"	"
Surrogate: Octacosane	98.0 %	50-150			"	"	"	"	"
RWB-4@5.0' (B0H0337-09) Soil Sampled: 08/15/00 12:30 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	17.6	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B.D-09
Residual Range Organics	72.9	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	75.0 %	50-150			"	"	"	"	"
Surrogate: Octacosane	107 %	50-150			"	"	"	"	"
DUP#1 (B0H0337-10) Soil Sampled: 08/15/00 12:30 Received: 08/16/00 08:45									
Diesel Range Hydrocarbons	15.0	4.00	mg/kg dry	1	0H16030	08/16/00	08/17/00	AK102/103	B.D-09
Residual Range Organics	60.4	25.0	"	"	"	"	"	"	"
Surrogate: 2-FBP	76.6 %	50-150			"	"	"	"	"
Surrogate: Octacosane	114 %	50-150			"	"	"	"	"

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0115

**North Creek Analytical
 Diesel Hydrocarbons and Heavy Oil by AK102 & AK103
 Case Narrative**

**Client: Secor - California
 Project Name: Chevron #9-5414
 Consultant Project #: 077.41991.040
 Laboratory Work Order: B0H0337**

Summary

Nine samples were received on August 16, 2000 for diesel hydrocarbons and heavy oil by AK102 and AK103 analyses.

Sample Analysis

There were no anomalies encountered during the preparation and analyses procedures for the nine samples.

QC Analysis

During the QC analysis the blank sample for this batch was found to have a diesel range result that exceeds the maximum allowable level for a blank. The blank was re-shot and found to have the same results. The most likely cause was an extraction anomaly during the preparation of the blank.

" I certify that this data package is in compliance with the Contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature."

Jeanne Thompson
 Jeanne Thompson, Project Manager

8/22/00
 Date



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CHEVRON U.S.A., Inc. CHAIN OF CUSTODY REPORT **B011033**

CHEVRON INFORMATION

Facility Number: **9-5414**
 Site Address: **5210 old Steward Hwy**
 City, State, ZIP: **Anchorage AK**
 Service Code: Site Assessment
 Service Order: Remediation
 Cost Element: **5100100** O&M
 Chevron Project Manager: **Bob Cochran** GWAT

CONSULTANT INFORMATION

Name: **SECOR** Project#: **077.41991.040**
 Address: **507 Kibore Rd, Ste 100**
Rancho Cordova, CA 95670
 Phone: **916-861-0400** Fax: **916 861-0430**
 Project Manager: **Roger Hoffmann** Airball#: _____
 Sample Collection by: **Scott Meckstroth**

Laboratory Turnaround Time

1 Business Day
 3 Business Days **Will**
 5 Business Days **CALL**
 10 Business Days
2 DAY TAT
 3 Day Air Samples **8/16/00**
 (Please Select One)

SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	MATRIX (W.S.O)	# OF CON. TAINERS
TRIP Blank #3	6/6/00/NA	W	1
RWB-1a2.5'	8/14/00/1915	S	2
RWB-1a25.0'	8/14/2005	S	2
RWB-2a2.5'	8/15/745	S	2
RWB-2a5.0'	8/5/845	S	2
RWB-3a2.5'	8/5/0915	S	2
RWB-3a5.0'	8/5/1010	S	2
RWB-4a2.5'	8/5/1120	S	2
RWB-4a5.0'	8/5/1230	S	2
10. DUP #1	8/5/1230	S	2

TPH-HCID	TPH-Gas	BTEX Only	EPA 8021 Mod	TPH-Gas + BTEX	TPH-Diesel	TPH-Diesel-Ext	W/SG Cleanup	Halogen Volatiles	EPA 8021	Pesticides/PCBs or PCBs Only	GCMs Volatiles	EPA 8260	GCMs SemiVol	EPA 8270	PAH's	\$270 SIM or \$310	Lead	Total or Dissolved	TCLP or RCRA	Metals (8)	GCMS - GRS	AK 12-DRO	AK 13-DRO	NCA SAMPLE NUMBER	

Received by: **Sammy Tosty NCA** Date & Time: **8/16/00 08:15**
 Firm: **NCA**
 Additional Comments: **Please Fax Results w/o 2.2's**



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0117

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA. 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

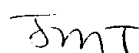
Reported:
 08/21/00 11:42

Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
ripBlank#3 (B0H0337-01) Soil Sampled: 06/06/00 12:00 Received: 08/16/00 08:45									
Wt Weight	100	1.00	%	1	0H17019	08/17/00	08/18/00	BSOPSPL003R07	
B-1@2.5' (B0H0337-02) Soil Sampled: 08/14/00 19:35 Received: 08/16/00 08:45									
Wt Weight	87.7	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
B-1@5.0' (B0H0337-03) Soil Sampled: 08/14/00 20:05 Received: 08/16/00 08:45									
Wt Weight	84.3	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
B-2@2.5' (B0H0337-04) Soil Sampled: 08/15/00 07:45 Received: 08/16/00 08:45									
Wt Weight	87.7	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
B-2@5.0' (B0H0337-05) Soil Sampled: 08/15/00 08:45 Received: 08/16/00 08:45									
Wt Weight	87.7	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
B-3@2.5' (B0H0337-06) Soil Sampled: 08/15/00 09:15 Received: 08/16/00 08:45									
Dry Weight	83.4	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
RWB-3@5.0' (B0H0337-07) Soil Sampled: 08/15/00 10:10 Received: 08/16/00 08:45									
Dry Weight	91.1	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
WB-4@2.5' (B0H0337-08) Soil Sampled: 08/15/00 11:20 Received: 08/16/00 08:45									
Wt Weight	84.0	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	
VB-4@5.0' (B0H0337-09) Soil Sampled: 08/15/00 12:30 Received: 08/16/00 08:45									
Wt Weight	94.2	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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0118

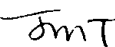
Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA, 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
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Physical Parameters by APHA/ASTM/EPA Methods
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
DUP#1 (B0H0337-10) Soil Sampled: 08/15/00 12:30 Received: 08/16/00 08:45									
Dry Weight	93.4	1.00	%	1	0H16043	08/16/00	08/17/00	BSOPSPL003R07	

North Creek Analytical - Bothell

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0119

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA, 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 08/21/00 11:42

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H17010: Prepared 08/17/00 Using EPA 5030B (MeOH)

Blank (0H17010-BLK1)

Gasoline Range Hydrocarbons	ND	5.00	mg/kg wet							
Benzene	ND	0.0200	"							
Toluene	ND	0.0500	"							
Ethylbenzene	ND	0.0500	"							
Xylenes (total)	ND	0.100	"							
Surrogate: 4-BFB (FID)	4.05		"	4.00		101	60-120			
Surrogate: a,a,a-TFT (FID)	2.44		"	2.40		102	50-150			
Surrogate: 4-BFB (PID)	3.93		"	4.00		98.3	60-120			
Surrogate: a,a,a-TFT (PID)	2.43		"	2.40		101	50-150			

LCS (0H17010-BS1)

Benzene	0.491	0.0200	mg/kg wet	0.500		98.2	60-120			
Toluene	0.485	0.0500	"	0.500		97.0	60-120			
Ethylbenzene	0.530	0.0500	"	0.500		106	60-120			
Xylenes (total)	1.61	0.100	"	1.50		107	60-120			
Surrogate: 4-BFB (PID)	3.94		"	4.00		98.5	60-120			
Surrogate: a,a,a-TFT (PID)	2.41		"	2.40		100	50-150			

LCS (0H17010-BS2)

Gasoline Range Hydrocarbons	23.4	5.00	mg/kg wet	25.0		93.6	60-120			
Surrogate: 4-BFB (FID)	4.20		"	4.00		105	60-120			
Surrogate: a,a,a-TFT (FID)	2.20		"	2.40		91.7	50-150			

LCS Dup (0H17010-BSD1)

Benzene	0.459	0.0200	mg/kg wet	0.500		91.8	60-120	6.74	20	
Toluene	0.470	0.0500	"	0.500		94.0	60-120	3.14	20	
Ethylbenzene	0.511	0.0500	"	0.500		102	60-120	3.65	20	
Xylenes (total)	1.54	0.100	"	1.50		103	60-120	4.44	20	
Surrogate: 4-BFB (PID)	3.85		"	4.00		96.2	60-120			
Surrogate: a,a,a-TFT (PID)	2.31		"	2.40		96.2	50-150			

North Creek Analytical - Bothell

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0120

Secor-California
 3017 Kilgore Rd Suite 100
 Rancho Cordova CA, 95670

Project: Chevron #9-5414
 Project Number: 077.41991.040
 Project Manager: Roger Hoffmore

Reported:
 08/21/00 11:42

Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 0H16030: Prepared 08/16/00 Using EPA 3550B

Blank (0H16030-BLK1)

Diesel Range Hydrocarbons	4.24	4.00	mg/kg wet							B
Residual Range Organics	ND	25.0	"							
Surrogate: 2-FBP	9.52		"	12.8		74.4	50-150			
Surrogate: Octacosane	11.1		"	12.8		86.7	50-150			

LCS (0H16030-BS1)

Diesel Range Hydrocarbons	63.7	4.00	mg/kg wet	80.0		79.6	60-120			
Surrogate: 2-FBP	11.7		"	12.8		91.4	50-150			

LCS (0H16030-BS2)

Residual Range Organics	97.1	25.0	mg/kg wet	80.0		121	60-100			Q-01
Surrogate: Octacosane	13.5		"	12.8		105	50-150			

LCS Dup (0H16030-BSD1)

Diesel Range Hydrocarbons	64.5	4.00	mg/kg wet	80.0		80.6	60-120	1.25	20	
Surrogate: 2-FBP	12.1		"	12.8		94.5	50-150			

LCS Dup (0H16030-BSD2)

Residual Range Organics	101	25.0	mg/kg wet	80.0		126	60-100	3.94	20	Q-01
Surrogate: Octacosane	13.4		"	12.8		105	50-150			

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.

Jeanne Thompson, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network



Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8223
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0121

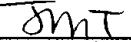
Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
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Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
North Creek Analytical - Bothell

Analyte	Result	Reporting	Units	Spike	Source	%REC		RPD		Notes
		Limit				%REC	Limits	RPD	Limit	
Batch 0H16043: Prepared 08/16/00 Using Dry Weight										
Blank (0H16043-BLK1)										
Dry Weight	100	1.00	%							
Batch 0H17019: Prepared 08/17/00 Using Dry Weight										
Blank (0H17019-BLK1)										
Dry Weight	99.8	1.00	%							

North Creek Analytical - Bothell

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 Jeanne Thompson, Project Manager



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0122

Secor-California 3017 Kilgore Rd Suite 100 Rancho Cordova CA. 95670	Project: Chevron #9-5414 Project Number: 077.41991.040 Project Manager: Roger Hoffmore	Reported: 08/21/00 11:42
---	--	------------------------------------

Notes and Definitions

- B Analyte detected in the method blank.
- D-09 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.
- I-02 This sample was analyzed outside of the recommended holding time.
- Q-01 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.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to 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
- RPD Relative Percent Difference

0123

ATTACHMENT D
SURVEY DATA
(PROVIDED BY R AND M CONSULTANTS)

SECOR INTERNATIONAL, INC.

Chevron Service Station #9-5414
5210 Old Seward Highway
Anchorage, Alaska

Prepared By:

R&M Consultants, Inc.

Point	Northing	Easting	Elevation	ELEVATION @	DESCRIPTION
1	5000.0	5000.0	109.78	On Mark	CP1
2	4831.1	5141.7	110.85	On mark	CP2
11	4863.9	5148.8	109.76	North Rim PVC	MW-1
12				Not Found	MW-2
13	4928.8	4986.0	110.84	North Rim Pvc	MW-3
14	4794.2	5012.8	108.14	North Rim PVC	MW-4
15	4966.0	4859.6	108.01	North Rim Pvc	MW-5
16	5002.3	5085.2	110.58	North Rim Pvc	MW-6
20	5027.1	4903.7	110.06	At Ground	GPOST
21	5020.8	4945.4	111.16	At Ground	FNCW6END
22	4926.7	4929.2	108.26	At Ground	FNCW6X
23	4926.0	4927.4			GPOST
24	4902.4	5004.1	112.82	At Ground	BLDSWX
25	4921.6	5023.9	112.84	At Ground	BLDNWX
26	4860.5	5083.2	112.89	At Ground	BLDNEX

NOTE:

The information shown is based on field surveys performed by R&M Consultants, Inc. on November 6, 2000 and February 7, 2001.

The horizontal coordinates are assumed.

The elevations are referenced to Municipality of Anchorage (MOA) Vertical Datum which approximates Mean Sea Level.

The elevations are based on MOA Bench Mark "TNH 11B" (Elevation=114.72 feet)

0125

ATTACHMENT E
HISTORICAL GROUNDWATER DATA
(PROVIDED BY GETTLER-RYAN)

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5414

5210 Old Seward Highway

Anchorage, Alaska

WELL ID/ TOC* (ft)	DATE	DTW (ft.)	GWE (msl)	SPHT (ft.)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1										
101.92	09/03/98	7.20	94.72	--	381	77.3	1.45	3.37	23.3	--
	05/20/00	7.30	94.62	295	441	58.0	6.41	<0.500	17.3	¹ 4.56/<2.00 ²
(D)	05/20/00	--	--	410	428	68.2	8.46	<0.500	15.6	¹ 4.74/<2.00 ²
	09/21/00	7.46	94.46	220	281	<10.2	<0.500	<0.500	6.39	<4.86
MW-2										
100.96	09/03/98	8.51	92.45	1,070	109	11.5	1.14	1.92	13.2	--
	05/20/00	8.55	92.41	<250	<80.0	<0.500	<0.500	<0.500	<1.00	<2.00/<2.00 ²
	09/21/00	8.67	92.29	⁻⁵	88.4	25.3	0.587	<0.500	3.07	<1.00
(D)	09/21/00	--	--	⁻⁵	73.7	13.5	<0.500	<0.500	2.33	<1.00
	09/26/00	--	--	176	--	--	--	--	--	--
(D)	09/26/00	--	--	177	--	--	--	--	--	--
MW-3										
100.55	09/03/98	8.60	91.95	--	18,700	1,770	2,840	370	1,870	--
(D)	09/03/98	--	--	--	17,700	1,770	2,870	369	1,660	--
	05/20/00	8.50	92.05	2,590	13,900	921	580	<10.0	2,390	³ <10.0/<50.0 ⁴
	09/21/00	8.83	91.72	1,670	22,300	1,390	1,750	168	2,910	<172
MW-4										
	08/16/00 ⁶	6.15	--	--	--	--	--	--	--	--
	09/21/00	6.30	--	⁻⁵	<50.0	<0.210	<0.500	<0.500	<1.00	<1.00
	09/26/00	--	--	332	--	--	--	--	--	--

0126

Table 1

Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5414

5210 Old Seward Highway

Anchorage, Alaska

WELL ID/ TOC* (ft)	DATE	BTW (ft.)	GWE (msf)	SPHT (ft.)	GRO (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5	08/16/00 ⁶	5.97	--	--	--	--	--	--	--	--
	09/21/00	6.25	--	296	122	2.15	<0.500	<0.500	2.45	4.74/.. ⁷
MW-6	08/16/00 ⁶	8.17	--	--	--	--	--	--	--	--
	09/21/00	8.28	--	141	<50.0	0.222	<5.00	<0.500	1.10	<1.00
Trip Blank TB-LB	09/03/98	--	--	--	<50.0	<0.500	<0.500	<0.500	<0.500	--
	05/20/00	--	--	--	--	--	--	--	--	--
	09/21/00	--	--	--	<50.0	<0.200	<0.500	<0.500	<1.00	<1.00

0127

Table 1

Groundwater Monitoring Data and Analytical Results
Chevron Service Station #9-5414
5210 Old Seward Highway
Anchorage, Alaska

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to May 20, 2000, were compiled from reports prepared by Blaine Tech Services, Inc.

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
msl = Mean sea level
DRO = Diesel Range Organics
GRO = Gasoline Range Organics

-- = Not Measured/Not Analyzed
(D) = Duplicate
(ppb) = Parts per billion

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

- * TOC elevations are referenced to msl.
- 1 Laboratory report indicates analyte not confirmed.
- 2 MTBE by EPA Method 8260.
- 3 Laboratory report indicates tentative analyte hit; did not confirm by GC/MS.
- 4 MTBE by EPA Method 8260. (Additional analysis was <10.0 ppb).
- 5 DRO sample (amber) received broken by laboratory. Resampled for DRO on 9/26/00.
- 6 Data provided by Secor International, Inc.
- 7 Laboratory omitted MTBE by 8260.

NOTE:

In order to plot data in the charts, all NDs have been assigned an arbitrary number consistent with the detection limit for each constituent analyzed. Please refer to table for specific results/detection limits.

TABLE 1
Groundwater Monitoring Data and Analytical Results
 Chevron Service Station #9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

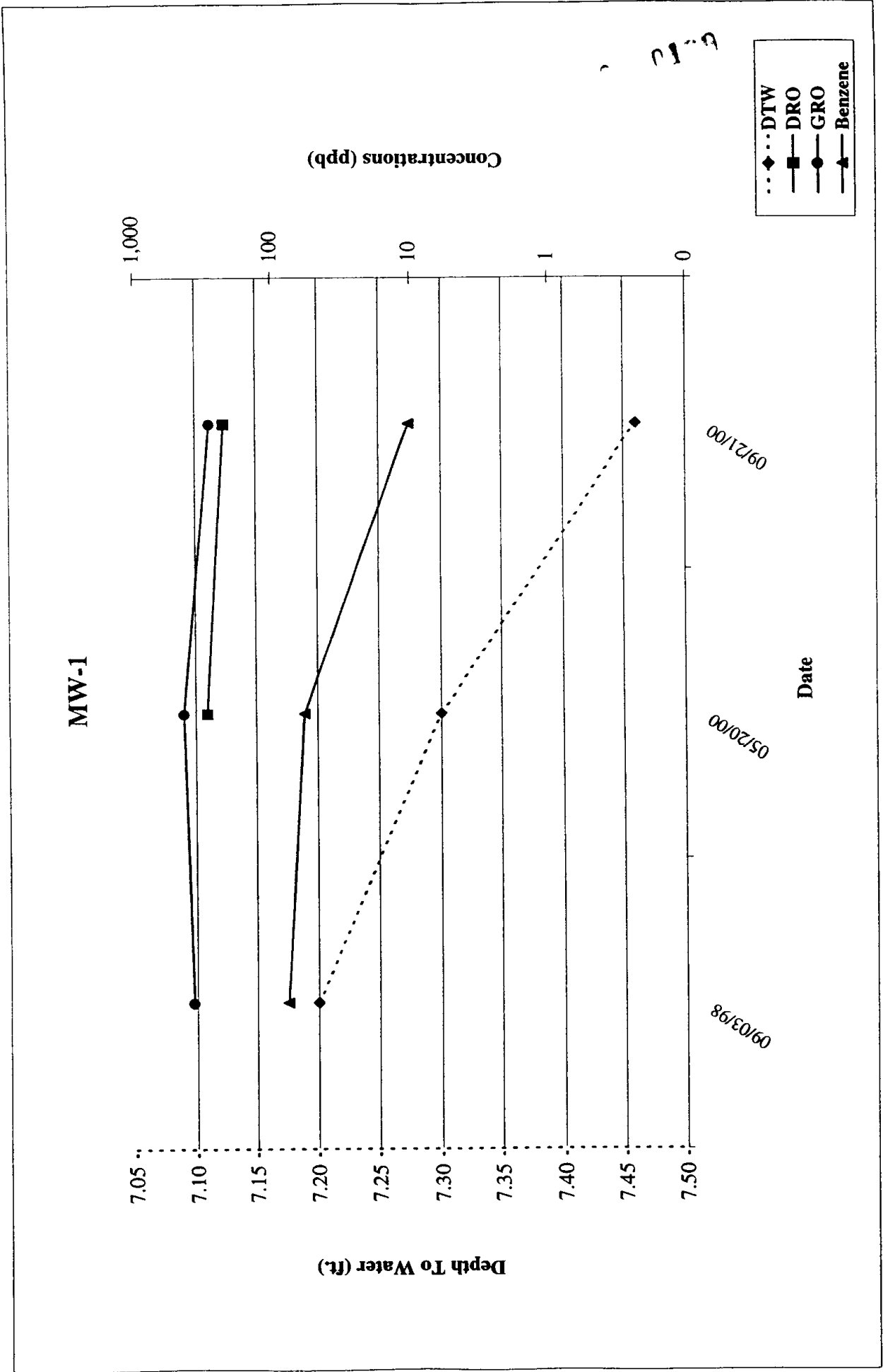
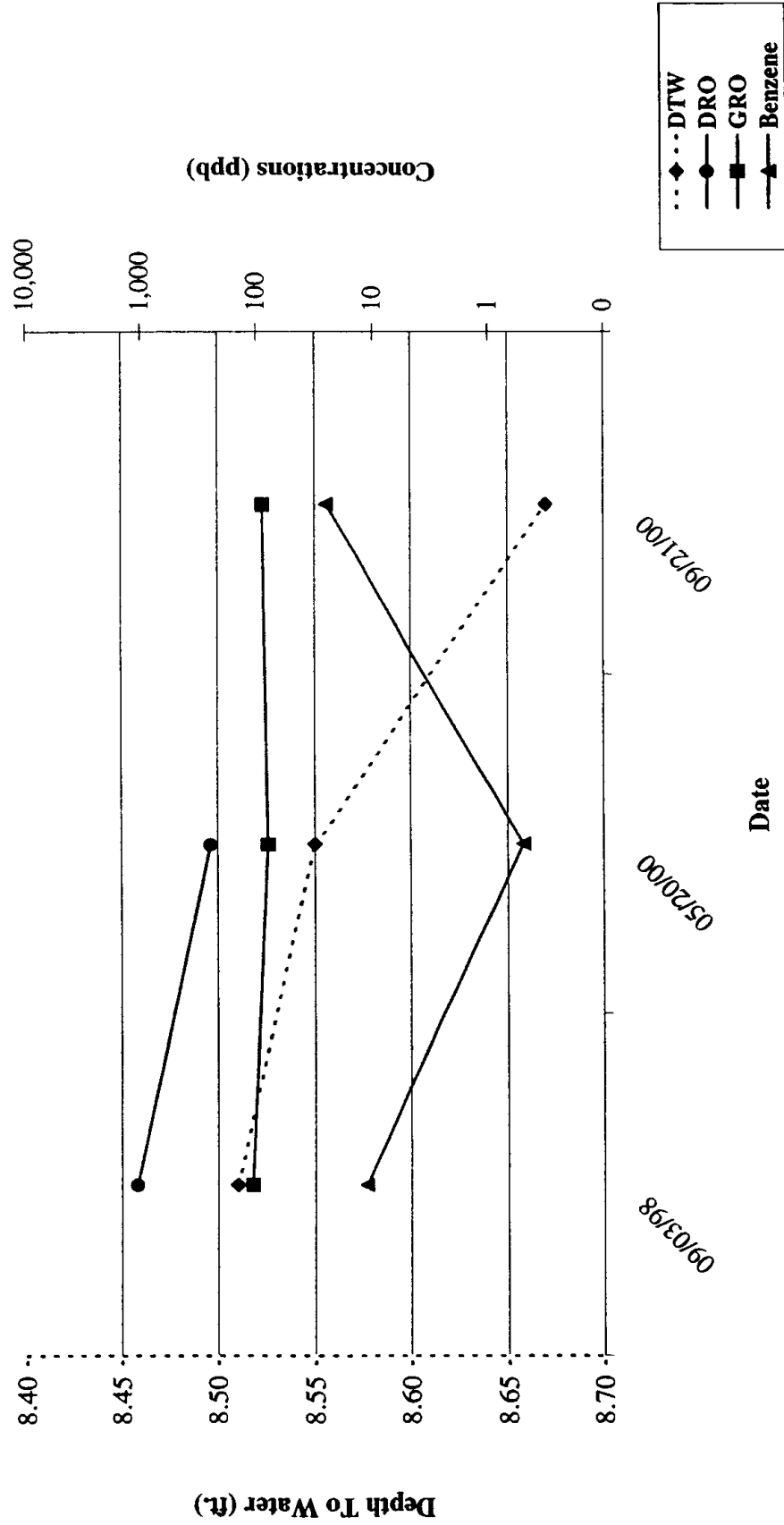


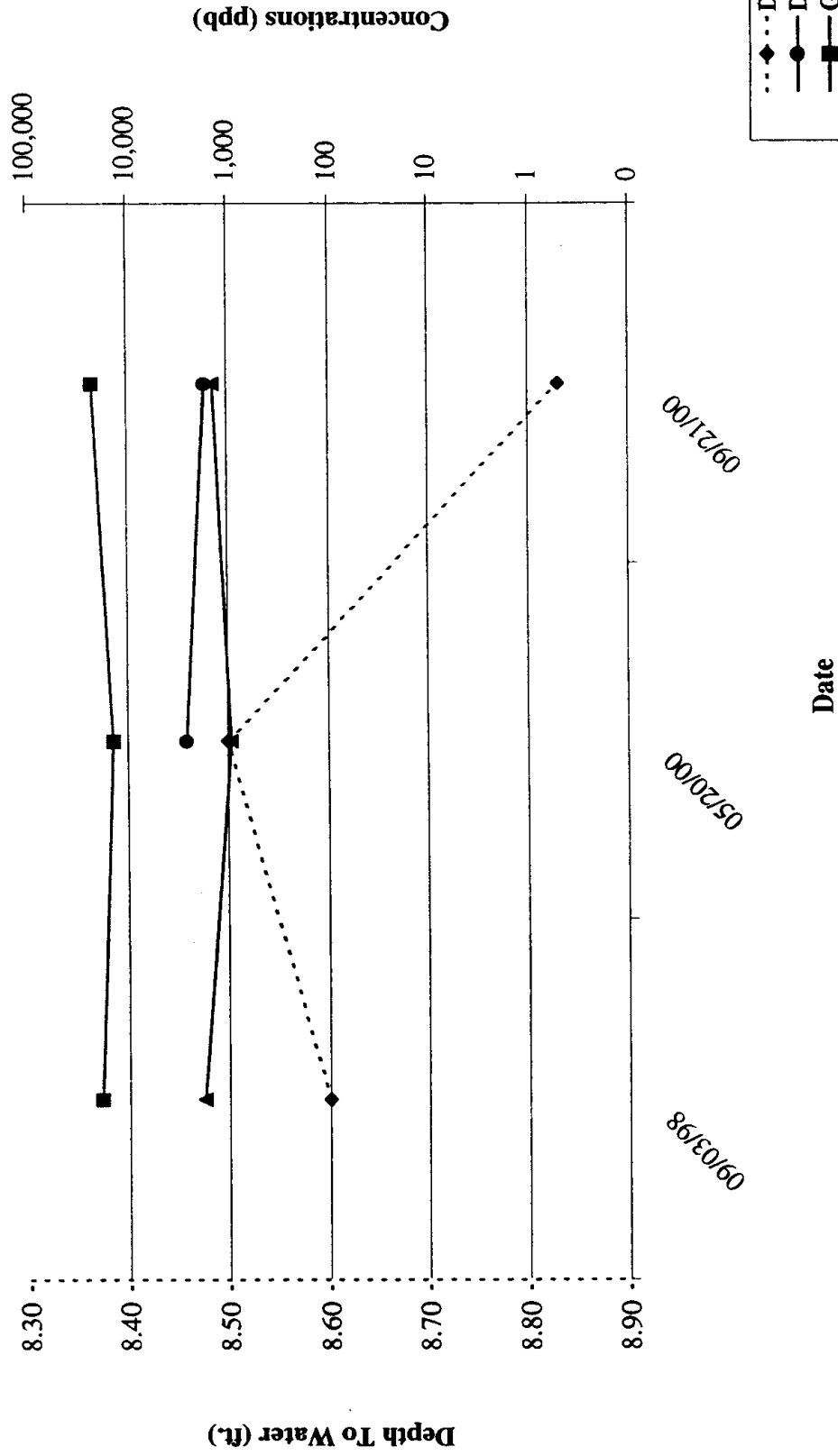
Table 1
Groundwater Monitoring Data and Analytical Results
 Chevron Service Station #9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

MW-2



Groundwater Monitoring Data and Analytical Results
Chevron Service Station #9-5414
5210 Old Seward Highway
Anchorage, Alaska

MW-3



00131

Table 2
Groundwater Analytical Results - Oxygenate Compounds
 Chevron Service Station #9-5414
 5210 Old Seward Highway
 Anchorage, Alaska

WELL ID	DATE	METHANOL (ppm)	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)
MW-1	05/20/00	<10.0	<1,000	<100	<2.00	<2.00	<2.00	<2.00
(D)	05/20/00	<10.0	<1,000	<100	<2.00	<2.00	<2.00	<2.00
MW-2	05/20/00	<10.0	<1,000	<100	<2.00	<2.00	<2.00	<2.00
MW-3	05/20/00	<10.0	<5,000	<500	<10.0	<10.0	<10.0	<10.0

EXPLANATIONS:

- TBA = Tertiary butyl alcohol
- MTBE = Methyl tertiary butyl ether
- DIPE = Di-isopropyl ether
- ETBE = Ethyl tertiary butyl ether
- TAME = Tertiary amyl methyl ether
- (ppm) = Parts per million
- (ppb) = Parts per billion
- (D) = Duplicate

ANALYTICAL METHOD:

- EPA Method 8260 for Oxygenate Compounds
- EPA Method 8015 for Methanol

0132