

December 5, 2001



Mr. Bob Cochran  
Chevron Products Company  
6001 Bollinger Canyon Road, Building. V  
San Ramon, California 94583

RECEIVED

**RE: Replacement Well Installation**  
Former Chevron Service Station No. 9-2609  
Mile 79, Seward Highway  
Portage, Alaska

DEC 12 2001

DEPT. OF ENVIRONMENTAL CONSERVATION

Dear Mr. Cochran:

SECOR International Incorporated (SECOR), is pleased to submit this Letter Report to Chevron Products Company (Chevron), documenting installation of a domestic water production well at former Chevron Service Station No. 9-2609, located at Mile 79, Seward Highway, Portage, Alaska (Figure 1). The domestic well was installed at the request of the property owner (Mr. Robert Hall), and is intended to replace an existing domestic well that was condemned by the Alaska Department of Environmental Conservation due to elevated concentrations of benzene. This Letter Report documents the drilling and groundwater sampling activities associated with installation of replacement water production well (SW-1) at the Site to provide a non-potable source of water for the current property owner.

## BACKGROUND

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

In August 1993, a total of eight borings, five onsite (TB-4 through TB-8) and three offsite across Seward Highway (TB-1 through TB-3) were drilled and sampled in an investigation completed for the Alaska Department of Transportation (ADOT). Hydrocarbon impact was reported in all eight borings (R&M Consultants, November 1993).

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

Quarterly groundwater monitoring was initiated at the site in 1995. Historical groundwater flow direction has varied from south to north. Depth to water at the site has ranged from approximately 3-1/2 to 11 feet below ground surface (bgs). Other than a single trace detection of toluene in Well MW-3 during the initial sampling in September 1995, no gasoline range organics (GRO) or benzene, toluene, ethylbenzene, or xylenes (BTEX) have been reported in Wells MW-1 or MW-3. During the September 1995 event, diesel range organics (DRO) were detected in all three wells at concentrations of 3,800 to 8,400 parts per billion (ppb). Reported concentrations of GRO and benzene in Well MW-2 have ranged from 50,800 and 290 ppb, respectively, to 25,800 and <50 ppb (non-detectable), respectively, and have generally declined over time (Blaine Tech Services, undated draft of Third Quarter 1998 Quarterly Groundwater Monitoring Report). On September 9, 1998, an initial mobilization was made to advance soil borings at the site using a Geoprobe® rig equipped with direct-push technology by Discovery Drilling Incorporated (Discovery) of Anchorage, Alaska. However, refusal was encountered in the first boring at 7 feet bgs due to very dense cobbles and gravelly conditions. Additionally, extreme difficulty was encountered in removing the geoprobe equipment from the boring. As a result of the refusal, no soil and groundwater samples were collected from this soil boring and the boring was backfilled to ground surface with hydrated bentonite pellets and matched to existing surface conditions.

On September 14 and 17, 1998, Discovery remobilized to the site utilizing a CME 75, truck-mounted drill rig and drilled 11 soil borings and installed groundwater monitoring wells (MW-4 through MW-8) in five of the 11 borings.

During September 2000, SECOR oversaw the excavation of approximately 3,000 cubic yards of petroleum impacted soils from the site. During this remedial excavation, four underground storage tanks (USTs), one septic tank, and two log cribs were discovered and removed. The four USTs included two 2,000-gallon gasoline tanks, one 2,000-gallon waste oil tank, and one 3,000-gallon diesel tank. The site was backfilled with clean fill upon completion of the excavation.

## **SCOPE OF WORK**

This report describes installation of replacement water production well SW-1 (see Figure 2), to restore a non-potable source of water at the Site and to provide a preliminary evaluation of groundwater quality.

## **PRELIMINARY FIELD ACTIVITIES**

Prior to beginning field activities, SECOR prepared a Site-specific Health and Safety Plan (HASP) to address the proposed scope of work. The proposed boring location was cleared by notifying Locate Call Center (LCC) and by contacting Alaska Chugach Electric, Land Services Dept., Anchorage, Alaska. The boring location was marked out clearly in white, 48 hours before the start of drilling.

## **WATER PRODUCTION WELL INSTALLATION**

Water production well SW-1 was installed as shown on attached Figure 2. The location was selected based upon analytical results obtained from a previous characterization of the Site (Gettler

Ryan Inc. (GR) Groundwater Monitoring and Sample Report, May 2, 2001). The well was placed directly cross-gradient to the previously removed USTs and in proximity to monitoring well MW-7, a location with a history of non-detectable concentrations of petroleum hydrocarbons in groundwater. The well boring was advanced to a total depth of 100 feet bgs using a truck mounted air rotary drill rig, by Alpine Drilling, of Anchorage, AK, and under the supervision of a SECOR field geologist.

During advancement of the boring, soil samples were collected continuously for descriptive purposes only. The soils encountered were logged by a SECOR geologist according to the Unified Soil Classification System (USCS), and soil samples were screened in the field for the presence of volatile organic compounds (VOCs) using a photo-ionization detector (PID). Soil samples were logged for geologic and chemical classification based on lithologic conditions and PID readings.

As the soil boring was advanced to the desired depth, a 6-inch steel casing was installed in the boring, and at depth, the casing was left in place and perforated at a depth of 40-43 feet bgs, to convert the casing to a water production well. The wellhead was completed to 2.5 feet above ground surface as a continuation of the 6-inch well casing. Groundwater was collected from the well as a "grab" sample and transferred to 40 mL laboratory glassware, and stored in an ice filled cooler and shipped to North Creek Analytical, Inc. of Bothell Washington, a certified testing laboratory under chain-of-custody protocol. The wellhead was welded shut to provide a barrier to possible contamination to groundwater until the current land-owner can provide a secure enclosure for the production system.

Water production quantities were estimated at time of drilling to be approximately 5 gallons per minute (gpm). Soil generated during drilling activities is considered to be non-hazardous and was stored on Site pending analysis.

## **RESULTS**

### **Geology and Hydrogeology**

The soils observed during the installation of monitoring well SW-1, are characterized by silty gravels and higher permeability sandy gravels, and gravely sands to a depth of 73 feet bgs, and lower permeability silty clays from 73-100 feet bgs the total depth explored (see Boring log, included in Appendix A). Groundwater was encountered during drilling at a depth of approximately 3 feet bgs. The clay layers seen in well SW-1 at 73 feet bgs correspond with those seen in previous soil borings detailed by Clemson Drilling (November 1975). Based on review of United States Geologic Survey (USGS) topographic quadrangle maps, and regional groundwater data, groundwater is expected to flow in a north-northwesterly direction beneath and in the vicinity of the Site.

### **Groundwater Analytical Results**

On October 9, 2001, North Creek Analytical Inc. analyzed the sampled groundwater from well SW-1. Samples were tested for Gasoline Range Hydrocarbons (GRO), BTEX compounds, and MtBE by AK 101 method and Volatile Organic Compounds by EPA method 8260B. No petroleum

hydrocarbons were detected in the groundwater sample. Groundwater analytical results are presented on Table 1. Laboratory analytical reports and Chain-of-Custody documentation are included in Appendix B.

## SUMMARY

- SECOR supervised the advancement of one soil boring and subsequent construction of water-production well SW-1 at the Site. Groundwater samples were collected to determine water quality and suitability of use as a non-potable water supply.
- Groundwater samples were tested for Gasoline Range Hydrocarbons (GRO), BTEX compounds, and MtBE by method AK 101 and Volatile Organic Compounds by EPA method 8260B. No petroleum hydrocarbons were detected in the groundwater sample.

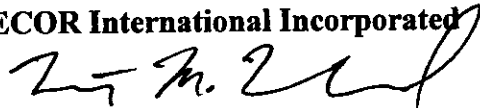
## CONCLUSIONS AND RECOMMENDATIONS


- Analytical results of a grab groundwater sample collected from the newly installed domestic production well SW-1 indicate that no petroleum hydrocarbons are present at concentrations above detection limits.
- Groundwater production for SW-1 was estimated at approximately 5 gpm or better.
- The well casing has been completed to approximately 2.5 feet above ground surface, and welded shut to reduce or eliminate tampering with the well until the land-owner can provide a secure enclosure for well. SECOR recommends that the owner sample and analyze groundwater in the well prior to use to evaluate suitability for whatever application he intends.

SECOR appreciates the opportunity to submit this Letter Report to Chevron and trust that this document meets with your approval. Please do not hesitate to contact us at (650) 691-0131 with any questions regarding this Letter Report.

Sincerely,

**SECOR International Incorporated**

  
Forrest McFarland  
Staff Geologist

  
Ronald D. Chinn  
Associate Engineer

CC: Mr. Robert Hall  
Mr. Roger Hoffmore, SECOR Sacramento  
Ms. Eileen Olson, Alaska ADEC

Attachments:

Table 1      Summary of Groundwater Analytical Results

Figure 1     Site Location Map

Figure 2     Site Map with Soil Boring Location

Appendix A   Boring Log

Appendix B   Certified Analytical Reports

**TABLE 1**  
**GROUNDWATER ANALYTICAL RESULTS**  
 Former Chevron Service Station No. 9-2609  
 Mile 79 Seward Highway  
 Portage, Alaska

Monitoring Well	Date Collected	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MtBE	1,2-DBA	1,2-DCA
SW-1W	10/8/01	<50.0	<0.200	<0.500	<0.500	<1.00	<1.00	<1.0	<1.0

**Notes:**

(1) all concentrations are reported in parts per billion (micrograms per liter)

**Abbreviations:**

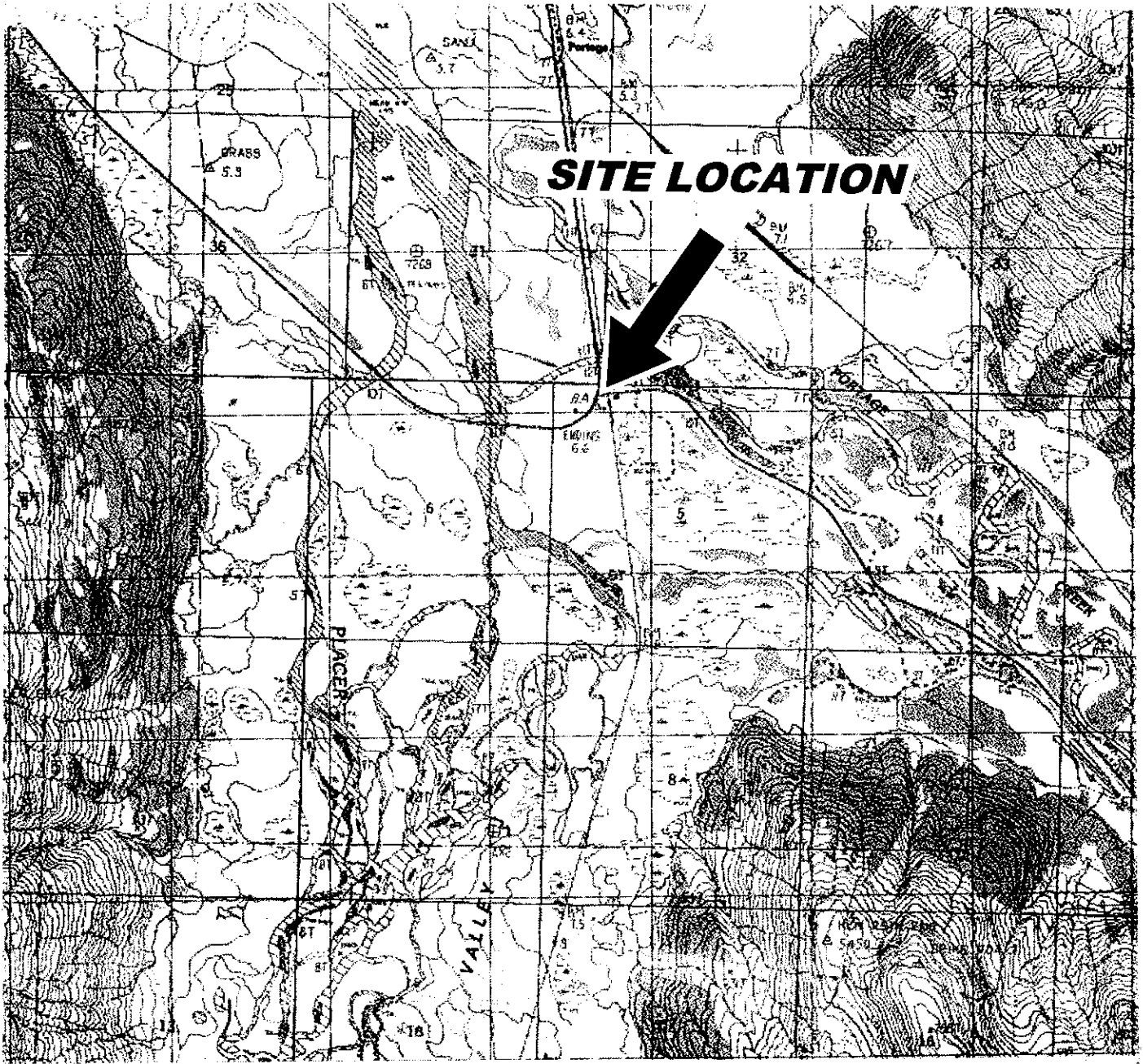
TPHg = Total petroleum hydrocarbons as gasoline

MtBE = Methyl tertiary butyl ether

1,2-DBA = 1,2-Dibromoethane

1,2-DCA = 1,2-Dichloroethane

< 50.0 = Not detected above specified laboratory reporting limit



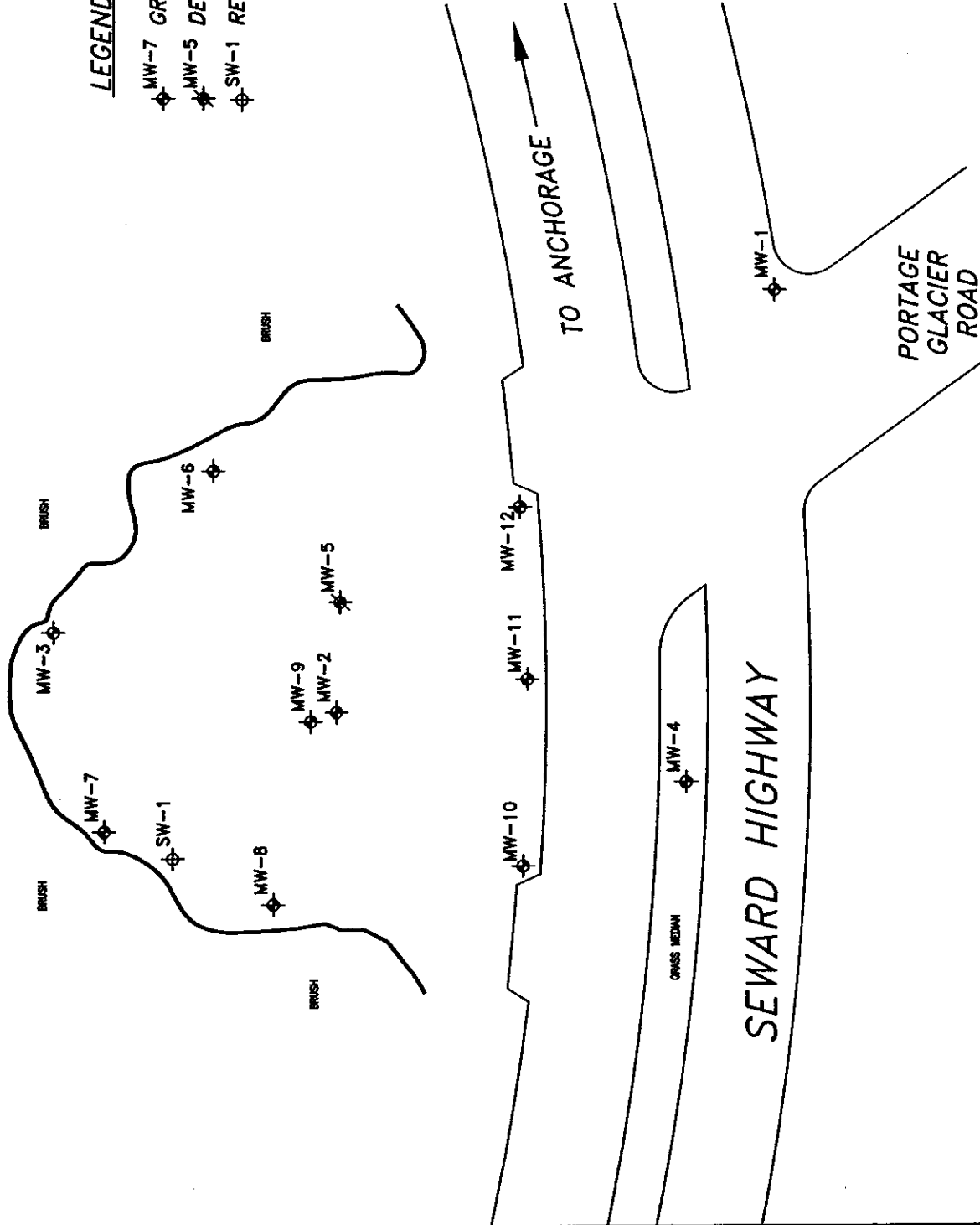
**SECOR**  
*International Incorporated*

DRAWN BY:	LG	APP. BY:	RC
DATE:	12-05-01		
JOB NO.:	006.03798.003		
DRAWING NO.	9-2609-1-A	REV.	A

**FIGURE 1**  
 FORMER CHEVRON SERVICE STATION #9-2609  
 SEWARD HIGHWAY, MILE 79  
 PORTAGE, ALASKA  
**SITE LOCATION MAP**

**LEGEND:**

- ◆ MW-7 GROUNDWATER MONITORING WELL
- ◆ MW-5 DESTROYED WELL
- ◆ SW-1 REPLACEMENT WATER PRODUCTION WELL



**FIGURE 2**  
 FORMER CHEVRON SERVICE STATION #9-2609  
 SEWARD HIGHWAY, MILE 79  
 PORTAGE, ALASKA  
**SITE MAP WITH BORING LOCATION**

DRAWN BY:	LG	APP. BY:	RC
DATE:	11-07-01		
JOB NO.:	006.03798.003		
DRAWING NO.:	9-2609-2-A	REV.:	A

**SECOR**  
 International Incorporated



**APPENDIX A**  
**Boring Log**

# SECOR

International Incorporated.

Logged By: <b>FM</b>	Date Drilled: <b>10/8/01</b>	Drilling Contractor: <b>Alpine Drilling</b>	Project Name: <b>Chevron 9-2609 Portage, Alaska</b>	Method/Equipment: <b>Air Rotary</b>	Well Number: <b>SW-1</b>
See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.): <b>6.75</b>	Surface Elev.(ft. 3): <b>8.40</b>	Groundwater Elevation (ft.): ∇ <b>5.31</b>	Total Depth (ft.): <b>100.0</b>	Drive wt.(lbs.): <b>N/A</b>
Drop Dist.(in.): <b>N/A</b>					

Well Construction	Depth, (ft.)	Sample Recovery	Lithologic Description	PID
Casing Elev.: 10.9				
Casing rises to 2.5 feet above ground surface. ∇  6 inch steel casing, 20 foot sections, welded  No annulus	0		BLACK (5Y 2.5/2) SANDY GRAVEL (GM) with silt (fill), fine angular gravel, fine- to coarse- grained sand, medium dense, moist, (45,35,20,0)	
	5		BLACK (5Y 2.5/2) SILT (ML), with fine grained sand, soft, wet, (0,10,90,0)	
	10		VERY DARK GRAY (5Y 3/1), SILTY SAND (SM), loose, wet, low plasticity, (0,75,25,0)	0.1
	20			0
	25		BLACK (5Y 3/1) GRAVELLY SAND (SW), with silt, fine angular gravel, fine- to coarse- grained sand, medium dense, wet, (20,70,10,0)	0.1

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. 006.03978.002

Date 10-8-2001

Log of Well: SW-1

CHEV2609.GPJ  
LOG OF BOREHOLE

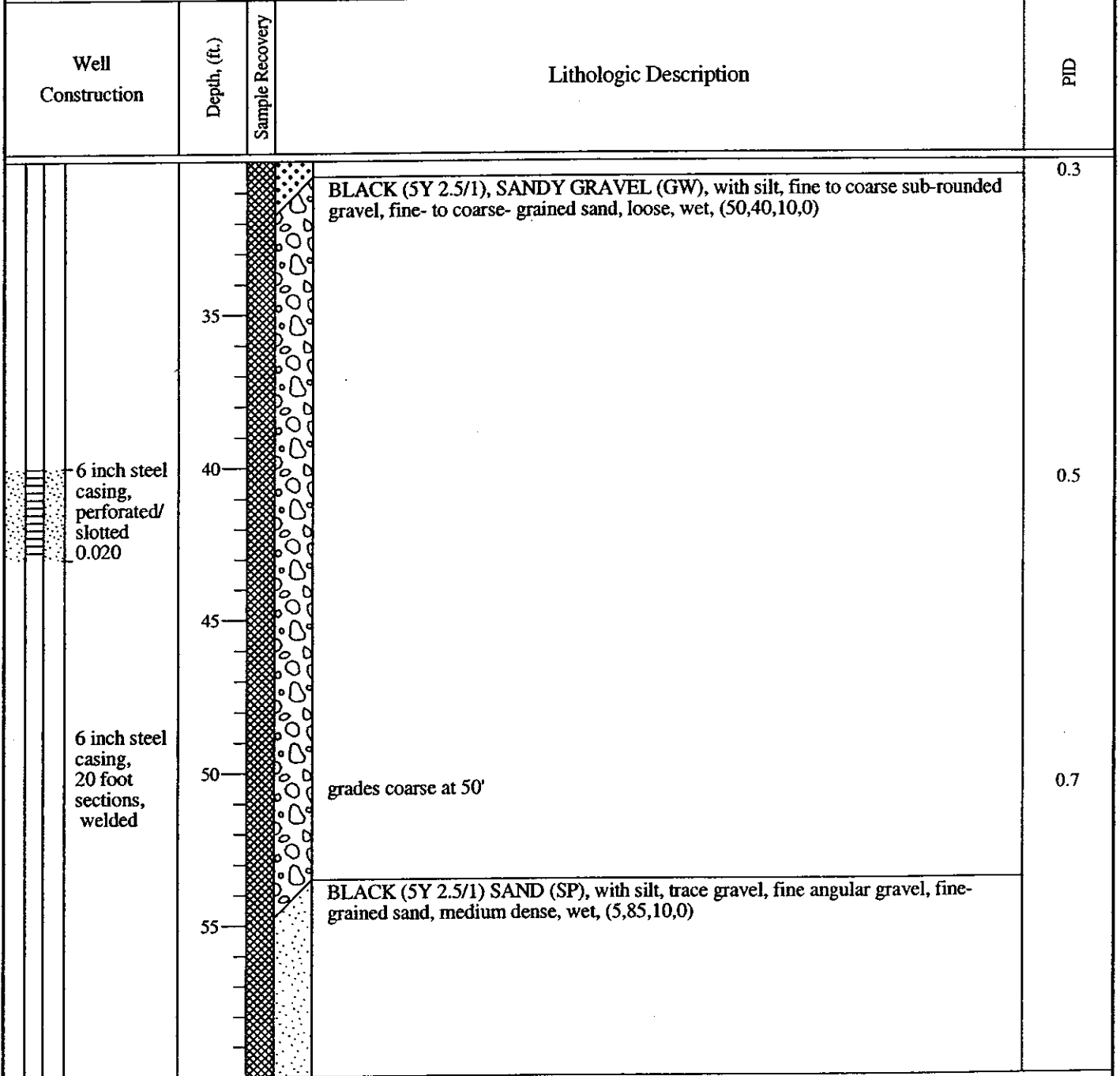
Approved by \_\_\_\_\_

Figure (sheet 1 of 4)

# SECOR

International Incorporated

Logged By: <b>FM</b>	Date Drilled: <b>10/8/01</b>	Drilling Contractor: <b>Alpine Drilling</b>	Project Name: <b>Chevron 9-2609 Portage, Alaska</b>	Method/Equipment: <b>Air Rotary</b>	Well Number: <b>SW-1</b>	
See "Soil Classification Chart" for USCS Soil Classifications	Boring Diam.(in.): <b>6.75</b>	Surface Elev.(ft. 3): <b>8.40</b>	Groundwater Elevation (ft.): <b>5.31</b>	Total Depth (ft.): <b>100.0</b>	Drive wt.(lbs.): <b>N/A</b>	Drop Dist.(in.): <b>N/A</b>



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.

# SECOR

International Incorporated.

Logged By: <b>FM</b>	Date Drilled: <b>10/8/01</b>	Drilling Contractor: <b>Alpine Drilling</b>	Project Name: <b>Chevron 9-2609 Portage, Alaska</b>	Method/Equipment: <b>Air Rotary</b>	Well Number: <b>SW-1</b>		
See "Soil Classification Chart" for USCS Soil Classifications		Boring Diam.(in.): <b>6.75</b>	Surface Elev.(ft. 3): <b>8.40</b>	Groundwater Elevation (ft.): ∇ <b>5.31</b>	Total Depth (ft.): <b>100.0</b>	Drive wt.(lbs.): <b>N/A</b>	Drop Dist.(in.): <b>N/A</b>

Well Construction	Depth, (ft.)	Sample Recovery	Lithologic Description	PID
6 inch steel casing, 20 foot sections, welded	65		BLACK (5Y 2.5/1) SAND (SP), with silt, trace gravel, fine angular gravel, fine-grained sand, medium dense, wet, (5,85,10,0)	1.4
	70			1.4
	75		VERY DARK GRAY (5Y 3/1), SILTY CLAY (CL), with fine-grained sand, moderately stiff, moist, low to medium plasticity, strong methane/sulfur odor (0,10,40,50)	0.4
	80			
	85			

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. 006.03978.002

Date 10-8-2001

Log of Well: SW-1

CHEV2609.GPJ  
LOG OF BOREHOLE

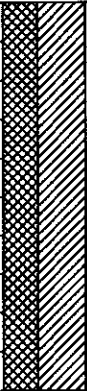
Approved by \_\_\_\_\_

Figure (sheet 3 of 4)

# SECOR

International Incorporated

Logged By: <b>FM</b>	Date Drilled: <b>10/8/01</b>	Drilling Contractor: <b>Alpine Drilling</b>	Project Name: <b>Chevron 9-2609 Portage, Alaska</b>	Method/Equipment: <b>Air Rotary</b>	Well Number: <b>SW-1</b>		
See "Soil Classification Chart" for USCS Soil Classifications		Boring Diam.(in.): <b>6.75</b>	Surface Elev.(ft. 3): <b>8.40</b>	Groundwater Elevation (ft.): ▽ <b>5.31</b>	Total Depth (ft.): <b>100.0</b>	Drive wt.(lbs.): <b>N/A</b>	Drop Dist.(in.): <b>N/A</b>

Well Construction	Depth, (ft.)	Sample Recovery	Lithologic Description	PID
6 inch steel casing, 20 foot sections, welded  End cap	95		<b>VERY DARK GRAY (5Y 3/1), SILTY CLAY (CL), with fine- grained sand, moderately stiff, moist, low to medium plasticity, strong methane/sulfur odor (0,10,40,50)</b>	2.5
	100		End of boring at 100 feet below ground surface	
	105			
	110			
	115			

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. 006.03978.002

Date 10-8-2001

Log of Well: SW-1

CHEV2609.GPJ  
LOG OF BOREHOLE

Approved by \_\_\_\_\_

Figure (sheet 4 of 4)

**APPENDIX B**  
**Certified Analytical Reports and Chain-of-Custody Documentation**

23 October 2001

Forrest McFarland  
Secor - Mountain View  
2301 Leghorn St.  
Mountain View, CA/USA 94043  
RE: Chevron #9-2609

Enclosed are the results of analyses for samples received by the laboratory on 10/09/01 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to be 'Amar Gill', written over a horizontal line.

Amar Gill For Jeanne Garthwaite  
Project Manager

Secor - Mountain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

**Reported:**  
10/23/01 16:40

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1- A thru D	B1J0292-01	Soil	10/08/01 13:31	10/09/01 15:30
SW-1W	B1J0292-02	Water	10/08/01 14:41	10/09/01 15:30

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

*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.*



Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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								
<b>SP1- A thru D (B1J0292-01) Soil Sampled: 10/08/01 13:31 Received: 10/09/01 15:30</b>										
MTBE	ND	0.100		mg/kg dry	1	1J19003	10/19/01	10/19/01	AK 101	
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)	104 %	60-120				"	"	"	"	
Surrogate: 4-BFB (PID)	108 %	54-123				"	"	"	"	
<b>SW-1W (B1J0292-02) Water Sampled: 10/08/01 14:41 Received: 10/09/01 15:30</b>										
Gasoline Range Hydrocarbons	ND	50.0		ug/l	1	1J17011	10/17/01	10/17/01	AK 101	
Benzene	ND	0.200		"	"	"	"	"	"	
Toluene	ND	0.500		"	"	"	"	"	"	
Ethylbenzene	ND	0.500		"	"	"	"	"	"	
Xylenes (total)	ND	1.00		"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.00		"	"	"	"	"	"	
Surrogate: 4-BFB (FID)	87.9 %	60-120				"	"	"	"	
Surrogate: 4-BFB (PID)	96.5 %	60-120				"	"	"	"	

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Moutain View 2301 Leghorn St. Mountain View CA/USA, 94043	Project: Chevron #9-2609 Project Number: na Project Manager: Forrest McFarland	Reported: 10/23/01 16:40
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**Diesel Hydrocarbons (C10-C25) by AK102**  
**North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP1- A thru D (B1J0292-01) Soil</b> <b>Sampled: 10/08/01 13:31</b> <b>Received: 10/09/01 15:30</b>									
<b>Diesel Range Hydrocarbons</b>	<b>9.21</b>	<b>4.00</b>	<b>mg/kg dry</b>	<b>1</b>	<b>1J17021</b>	<b>10/17/01</b>	<b>10/22/01</b>	<b>AK 102</b>	<b>D-09</b>
<i>Surrogate: 2-FBP</i>	<i>67.7 %</i>	<i>50-150</i>			<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Moutain View 2301 Leghorn St. Mountain View CA/USA, 94043	Project: Chevron #9-2609 Project Number: na Project Manager: Forrest McFarland	Reported: 10/23/01 16:40
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**Total Metals by EPA 6000/7000 Series Methods  
North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>SP1- A thru D (B1J0292-01) Soil Sampled: 10/08/01 13:31 Received: 10/09/01 15:30</b>									
Lead	7.95	0.446	mg/kg dry	1	1J11024	10/11/01	10/14/01	EPA 6020	

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>SW-1W (B1J0292-02) Water Sampled: 10/08/01 14:41 Received: 10/09/01 15:30</b>										
Acetone	ND	25.0		ug/l	1	IJ16047	10/16/01	10/16/01	EPA 8260B	
Benzene	ND	1.00		"	"	"	"	"	"	
Bromobenzene	ND	1.00		"	"	"	"	"	"	
Bromochloromethane	ND	1.00		"	"	"	"	"	"	
Bromodichloromethane	ND	1.00		"	"	"	"	"	"	
Bromoform	ND	1.00		"	"	"	"	"	"	
Bromomethane	ND	2.00		"	"	"	"	"	"	
2-Butanone	ND	10.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.00		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.00		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.00		"	"	"	"	"	"	
Carbon disulfide	ND	1.00		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.00		"	"	"	"	"	"	
Chlorobenzene	ND	1.00		"	"	"	"	"	"	
Chloroethane	ND	1.00		"	"	"	"	"	"	
Chloroform	ND	1.00		"	"	"	"	"	"	
Chloromethane	ND	5.00		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.00		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.00		"	"	"	"	"	"	
Dibromochloromethane	ND	1.00		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.00		"	"	"	"	"	"	
1,2-Dibromoethane	ND	1.00		"	"	"	"	"	"	
Dibromomethane	ND	1.00		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.00		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.00		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.00		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.00		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.00		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.00		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.00		"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.00		"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.00		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.00		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.00		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.00		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.00		"	"	"	"	"	"	

North Creek Analytical - Bothell

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Amar Gill For Jeanne Garthwaite, Project Manager

Secor - Moutain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>SW-1W (B1J0292-02) Water Sampled: 10/08/01 14:41 Received: 10/09/01 15:30</b>										
cis-1,3-Dichloropropene	ND	1.00		ug/l	1	1J16047	10/16/01	10/16/01	EPA 8260B	
trans-1,3-Dichloropropene	ND	1.00		"	"	"	"	"	"	
Ethylbenzene	ND	1.00		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.00		"	"	"	"	"	"	
2-Hexanone	ND	10.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.00		"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.00		"	"	"	"	"	"	
Methylene chloride	ND	5.00		"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10.0		"	"	"	"	"	"	
Naphthalene	ND	1.00		"	"	"	"	"	"	
n-Propylbenzene	ND	1.00		"	"	"	"	"	"	
Styrene	ND	1.00		"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.00		"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.00		"	"	"	"	"	"	
Tetrachloroethene	ND	1.00		"	"	"	"	"	"	
Toluene	ND	1.00		"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00		"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00		"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.00		"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.00		"	"	"	"	"	"	
Trichloroethene	ND	1.00		"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.00		"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.00		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.00		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.00		"	"	"	"	"	"	
Vinyl chloride	ND	1.00		"	"	"	"	"	"	
m,p-Xylene	ND	2.00		"	"	"	"	"	"	
o-Xylene	ND	1.00		"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4	96.8 %	73-137				"	"	"	"	
Surrogate: Toluene-d8	105 %	75-124				"	"	"	"	
Surrogate: 4-BFB	102 %	77-120				"	"	"	"	

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

Reported:  
10/23/01 16:40

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

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								

**SP1- A thru D (B1J0292-01) Soil** **Sampled: 10/08/01 13:31** **Received: 10/09/01 15:30**

Dry Weight	82.7	1.00	%	1	1J16007	10/16/01	10/17/01	BSOPSP003R07
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North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J17011: Prepared 10/17/01 Using EPA 5030B (P/T)**

**Blank (1J17011-BLK1)**

Gasoline Range Hydrocarbons	ND	50.0	ug/l							
Benzene	ND	0.200	"							
Toluene	ND	0.500	"							
Ethylbenzene	ND	0.500	"							
Xylenes (total)	ND	1.00	"							
Methyl tert-butyl ether	ND	1.00	"							
Surrogate: 4-BFB (FID)	40.8		"	48.0		85.0	60-120			
Surrogate: 4-BFB (PID)	44.7		"	48.0		93.1	60-120			

**LCS (1J17011-BS1)**

Gasoline Range Hydrocarbons	453	50.0	ug/l	500		90.6	60-120			
Surrogate: 4-BFB (FID)	48.6		"	48.0		101	60-120			

**LCS (1J17011-BS2)**

Benzene	9.06	0.200	ug/l	10.0		90.6	60-120			
Toluene	9.57	0.500	"	10.0		95.7	60-120			
Ethylbenzene	9.84	0.500	"	10.0		98.4	60-120			
Xylenes (total)	30.0	1.00	"	30.0		100	60-120			
Methyl tert-butyl ether	8.29	1.00	"	10.0		82.9	60-140			
Surrogate: 4-BFB (PID)	46.2		"	48.0		96.2	60-120			

**LCS Dup (1J17011-BSD1)**

Gasoline Range Hydrocarbons	455	50.0	ug/l	500		91.0	60-120	0.441	20	
Surrogate: 4-BFB (FID)	48.6		"	48.0		101	60-120			

**LCS Dup (1J17011-BSD2)**

Benzene	8.91	0.200	ug/l	10.0		89.1	60-120	1.67	20	
Toluene	9.36	0.500	"	10.0		93.6	60-120	2.22	20	
Ethylbenzene	9.68	0.500	"	10.0		96.8	60-120	1.64	20	
Xylenes (total)	29.3	1.00	"	30.0		97.7	60-120	2.36	20	
Methyl tert-butyl ether	8.37	1.00	"	10.0		83.7	60-140	0.960	40	
Surrogate: 4-BFB (PID)	45.9		"	48.0		95.6	60-120			

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J17011: Prepared 10/17/01 Using EPA 5030B (P/T)**

**Matrix Spike (1J17011-MS1)**

Source: B1J0286-02

Gasoline Range Hydrocarbons	435	50.0	ug/l	500	ND	82.0	60-120			
Surrogate: 4-BFB (FID)	47.3		"	48.0		98.5	60-120			

**Matrix Spike (1J17011-MS2)**

Source: B1J0286-03

Benzene	8.96	0.200	ug/l	10.0	ND	89.6	60-120			
Toluene	9.34	0.500	"	10.0	ND	92.1	60-120			
Ethylbenzene	9.42	0.500	"	10.0	ND	94.2	60-120			
Xylenes (total)	28.2	1.00	"	30.0	ND	94.0	60-120			
Methyl tert-butyl ether	8.67	1.00	"	10.0	ND	86.7	60-140			
Surrogate: 4-BFB (PID)	46.9		"	48.0		97.7	60-120			

**Matrix Spike Dup (1J17011-MSD1)**

Source: B1J0286-02

Gasoline Range Hydrocarbons	458	50.0	ug/l	500	ND	86.6	60-120	5.15	20	
Surrogate: 4-BFB (FID)	47.6		"	48.0		99.2	60-120			

**Matrix Spike Dup (1J17011-MSD2)**

Source: B1J0286-03

Benzene	9.07	0.200	ug/l	10.0	ND	90.7	60-120	1.22	20	
Toluene	9.39	0.500	"	10.0	ND	92.6	60-120	0.534	20	
Ethylbenzene	9.54	0.500	"	10.0	ND	95.4	60-120	1.27	20	
Xylenes (total)	28.3	1.00	"	30.0	ND	94.3	60-120	0.354	20	
Methyl tert-butyl ether	8.56	1.00	"	10.0	ND	85.6	60-140	1.28	40	
Surrogate: 4-BFB (PID)	47.5		"	48.0		99.0	60-120			

**Batch 1J19003: Prepared 10/19/01 Using EPA 5030B (MeOH)**

**Blank (1J19003-BLK1)**

MTBE	ND	0.100	mg/kg							
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)	3.68		"	4.00		92.0	60-120			
Surrogate: 4-BFB (PID)	3.81		"	4.00		95.2	54-123			

North Creek Analytical - Bothell

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Amar Gill For Jeanne Garthwaite, Project Manager



Secor - Moutain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J19003: Prepared 10/19/01 Using EPA 5030B (MeOH)**

**LCS (1J19003-BS1)**

Gasoline Range Hydrocarbons	19.8	5.00	mg/kg	25.0		79.2	60-120			
Surrogate: 4-BFB (FID)	3.59		"	4.00		89.8	60-120			

**LCS (1J19003-BS2)**

MTBE	0.486	0.100	mg/kg				70-130			
Benzene	0.450	0.0200	"	0.500		90.0	80-120			
Toluene	0.471	0.0500	"	0.500		94.2	80-120			
Ethylbenzene	0.487	0.0500	"	0.500		97.4	80-120			
Xylenes (total)	1.49	0.100	"	1.50		99.3	80-120			
Surrogate: 4-BFB (PID)	3.78		"	4.00		94.5	54-123			

**LCS Dup (1J19003-BSD1)**

Gasoline Range Hydrocarbons	19.6	5.00	mg/kg	25.0		78.4	60-120	1.02	20	
Surrogate: 4-BFB (FID)	3.60		"	4.00		90.0	60-120			

**LCS Dup (1J19003-BSD2)**

MTBE	0.493	0.100	mg/kg				70-130	1.43	40	
Benzene	0.464	0.0200	"	0.500		92.8	80-120	3.06	40	
Toluene	0.484	0.0500	"	0.500		96.8	80-120	2.72	40	
Ethylbenzene	0.494	0.0500	"	0.500		98.8	80-120	1.43	40	
Xylenes (total)	1.51	0.100	"	1.50		101	80-120	1.33	40	
Surrogate: 4-BFB (PID)	3.79		"	4.00		94.8	54-123			

**Matrix Spike (1J19003-MS1)**

Source: B1J0280-28

Gasoline Range Hydrocarbons	23.0	5.00	mg/kg dry	25.6	ND	89.8	60-120			
Surrogate: 4-BFB (FID)	4.20		"	4.09		103	60-120			

**Matrix Spike (1J19003-MS2)**

Source: B1J0292-01

MTBE	0.567	0.100	mg/kg dry		ND		50-150			
Benzene	0.533	0.0200	"	0.605	ND	88.1	64-130			
Toluene	0.577	0.0500	"	0.605	ND	95.4	66-130			
Ethylbenzene	0.598	0.0500	"	0.605	ND	98.8	72-130			
Xylenes (total)	1.83	0.100	"	1.81	ND	101	73-130			
Surrogate: 4-BFB (PID)	5.02		"	4.84		104	54-123			

North Creek Analytical - Bothell

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Amar Gill For Jeanne Garthwaite, Project Manager

Secor - Moutain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

Reported:  
10/23/01 16:40

**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 1J19003: Prepared 10/19/01 Using EPA 5030B (MeOH)**

**Matrix Spike Dup (1J19003-MSD1)**

**Source: B1J0280-28**

Gasoline Range Hydrocarbons	22.0	5.00	mg/kg dry	25.6	ND	85.9	60-120	4.44	20	
Surrogate: 4-BFB (FID)	4.04		"	4.09		98.8	60-120			

**Matrix Spike Dup (1J19003-MSD2)**

**Source: B1J0292-01**

MTBE	0.612	0.100	mg/kg dry		ND		50-150	7.63	40	
Benzene	0.588	0.0200	"	0.605	ND	97.2	64-130	9.81	40	
Toluene	0.623	0.0500	"	0.605	ND	103	66-130	7.67	40	
Ethylbenzene	0.656	0.0500	"	0.605	ND	108	72-130	9.25	40	
Xylenes (total)	2.01	0.100	"	1.81	ND	111	73-130	9.37	40	
Surrogate: 4-BFB (PID)	5.07		"	4.84		105	54-123			

North Creek Analytical - Bothell

Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Moutain View  
230I Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

Reported:  
10/23/01 16:40

**Diesel Hydrocarbons (C10-C25) by AK102 - 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 1J17021: Prepared 10/17/01 Using EPA 3550B**

**Blank (1J17021-BLK1)**

Diesel Range Hydrocarbons	ND	4.00	mg/kg							
Surrogate: 2-FBP	9.75		"	12.8		76.2	50-150			

**LCS (1J17021-BS1)**

Diesel Range Hydrocarbons	77.6	4.00	mg/kg	80.0		97.0	75-125			
Surrogate: 2-FBP	10.9		"	12.8		85.2	50-150			

**LCS Dup (1J17021-BSD1)**

Diesel Range Hydrocarbons	70.6	4.00	mg/kg	80.0		88.2	75-125	9.45	20	
Surrogate: 2-FBP	10.9		"	12.8		85.2	50-150			

North Creek Analytical - Bothell

Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Moutain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**Total Metals by EPA 6000/7000 Series Methods - Quality Control  
 North Creek Analytical - Bothell**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1J11024: Prepared 10/11/01 Using EPA 3050B</b>										
<b>Blank (1J11024-BLK1)</b>										
Lead	ND	0.500	mg/kg							
<b>LCS (1J11024-BS1)</b>										
Lead	35.6	0.500	mg/kg	38.8		91.8	80-120			
<b>LCS Dup (1J11024-BSD1)</b>										
Lead	34.5	0.500	mg/kg	37.7		91.5	80-120	3.14	20	
<b>Matrix Spike (1J11024-MS1) Source: B1J0289-01</b>										
Lead	49.8	0.321	mg/kg dry	31.7	24.6	79.5	70-130			
<b>Matrix Spike Dup (1J11024-MSD1) Source: B1J0289-01</b>										
Lead	56.3	0.394	mg/kg dry	38.9	24.6	81.5	70-130	12.3	20	

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

Reported:  
10/23/01 16:40

**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 1J16047: Prepared 10/16/01 Using EPA 5030B**

**Blank (1J16047-BLK1)**

Acetone	ND	25.0	ug/l							
Benzene	ND	1.00	"							
Bromobenzene	ND	1.00	"							
Bromochloromethane	ND	1.00	"							
Bromodichloromethane	ND	1.00	"							
Bromoform	ND	1.00	"							
Bromomethane	ND	2.00	"							
2-Butanone	ND	10.0	"							
n-Butylbenzene	ND	1.00	"							
sec-Butylbenzene	ND	1.00	"							
tert-Butylbenzene	ND	1.00	"							
Carbon disulfide	ND	1.00	"							
Carbon tetrachloride	ND	1.00	"							
Chlorobenzene	ND	1.00	"							
Chloroethane	ND	1.00	"							
Chloroform	ND	1.00	"							
Chloromethane	ND	5.00	"							
2-Chlorotoluene	ND	1.00	"							
4-Chlorotoluene	ND	1.00	"							
Dibromochloromethane	ND	1.00	"							
1,2-Dibromo-3-chloropropane	ND	5.00	"							
1,2-Dibromoethane	ND	1.00	"							
Dibromomethane	ND	1.00	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,3-Dichlorobenzene	ND	1.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
Dichlorodifluoromethane	ND	1.00	"							
1,1-Dichloroethane	ND	1.00	"							
1,2-Dichloroethane	ND	1.00	"							
1,1-Dichloroethene	ND	1.00	"							
cis-1,2-Dichloroethene	ND	1.00	"							
trans-1,2-Dichloroethene	ND	1.00	"							
1,2-Dichloropropane	ND	1.00	"							
1,3-Dichloropropane	ND	1.00	"							

North Creek Analytical - Bothell

Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J16047: Prepared 10/16/01 Using EPA 5030B**

**Blank (1J16047-BLK1)**

2,2-Dichloropropane	ND	1.00	ug/l							
1,1-Dichloropropene	ND	1.00	"							
cis-1,3-Dichloropropene	ND	1.00	"							
trans-1,3-Dichloropropene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Hexachlorobutadiene	ND	1.00	"							
2-Hexanone	ND	10.0	"							
Isopropylbenzene	ND	1.00	"							
p-Isopropyltoluene	ND	1.00	"							
Methylene chloride	ND	5.00	"							
4-Methyl-2-pentanone	ND	10.0	"							
Naphthalene	ND	1.00	"							
n-Propylbenzene	ND	1.00	"							
Styrene	ND	1.00	"							
1,1,1,2-Tetrachloroethane	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
Toluene	ND	1.00	"							
1,2,3-Trichlorobenzene	ND	1.00	"							
1,2,4-Trichlorobenzene	ND	1.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	1.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
1,2,3-Trichloropropane	ND	1.00	"							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	"							
Vinyl chloride	ND	1.00	"							
m,p-Xylene	ND	2.00	"							
o-Xylene	ND	1.00	"							
Surrogate: 1,2-DCA-d4	38.2		"	40.0		95.5	73-137			
Surrogate: Toluene-d8	41.6		"	40.0		104	75-124			
Surrogate: 4-BFB	40.5		"	40.0		101	77-120			

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J16047: Prepared 10/16/01 Using EPA 5030B**

**LCS (1J16047-BS1)**

Benzene	19.8	1.00	ug/l	20.0		99.0	80-120			
Chlorobenzene	20.4	1.00	"	20.0		102	77-120			
1,1-Dichloroethene	19.9	1.00	"	20.0		99.5	80-120			
Toluene	20.3	1.00	"	20.0		102	80-120			
Trichloroethene	19.1	1.00	"	20.0		95.5	80-120			
Surrogate: 1,2-DCA-d4	39.0		"	40.0		97.5	73-137			
Surrogate: Toluene-d8	41.3		"	40.0		103	75-124			
Surrogate: 4-BFB	41.1		"	40.0		103	77-120			

**LCS Dup (1J16047-BSD1)**

Benzene	18.9	1.00	ug/l	20.0		94.5	80-120	4.65	20	
Chlorobenzene	20.0	1.00	"	20.0		100	77-120	1.98	20	
1,1-Dichloroethene	17.9	1.00	"	20.0		89.5	80-120	10.6	20	
Toluene	19.5	1.00	"	20.0		97.5	80-120	4.02	20	
Trichloroethene	17.9	1.00	"	20.0		89.5	80-120	6.49	20	
Surrogate: 1,2-DCA-d4	38.7		"	40.0		96.8	73-137			
Surrogate: Toluene-d8	42.2		"	40.0		106	75-124			
Surrogate: 4-BFB	40.8		"	40.0		102	77-120			

**Matrix Spike (1J16047-MS1)**

Source: B1J0239-01

Benzene	19.5	1.00	ug/l	20.0	ND	97.5	75-125			
Chlorobenzene	19.8	1.00	"	20.0	ND	99.0	75-125			
1,1-Dichloroethene	19.7	1.00	"	20.0	ND	98.5	40-154			
Toluene	20.1	1.00	"	20.0	ND	100	72-125			
Trichloroethene	19.0	1.00	"	20.0	ND	95.0	73-131			
Surrogate: 1,2-DCA-d4	38.2		"	40.0		95.5	73-137			
Surrogate: Toluene-d8	42.3		"	40.0		106	75-124			
Surrogate: 4-BFB	41.3		"	40.0		103	77-120			

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
 2301 Leghorn St.  
 Mountain View CA/USA, 94043

Project: Chevron #9-2609  
 Project Number: na  
 Project Manager: Forrest McFarland

Reported:  
 10/23/01 16:40

**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 1J16047: Prepared 10/16/01 Using EPA 5030B**

**Matrix Spike Dup (1J16047-MSD1)**

**Source: B1J0239-01**

Benzene	18.8	1.00	ug/l	20.0	ND	94.0	75-125	3.66	20	
Chlorobenzene	19.5	1.00	"	20.0	ND	97.5	75-125	1.53	20	
1,1-Dichloroethene	18.7	1.00	"	20.0	ND	93.5	40-154	5.21	30	
Toluene	19.6	1.00	"	20.0	ND	98.0	72-125	2.52	20	
Trichloroethene	18.1	1.00	"	20.0	ND	90.5	73-131	4.85	20	
Surrogate: 1,2-DCA-d4	38.3		"	40.0		95.8	73-137			
Surrogate: Toluene-d8	41.7		"	40.0		104	75-124			
Surrogate: 4-BFB	40.8		"	40.0		102	77-120			

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

Reported:  
10/23/01 16:40

**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 1J16007: Prepared 10/16/01 Using Dry Weight**

**Blank (1J16007-BLK1)**

Dry Weight	100	1.00	%							
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North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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Secor - Mountain View  
2301 Leghorn St.  
Mountain View CA/USA, 94043

Project: Chevron #9-2609  
Project Number: na  
Project Manager: Forrest McFarland

**Reported:**  
10/23/01 16:40

#### Notes and Definitions

D-09 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

North Creek Analytical - Bothell



Amar Gill For Jeanne Garthwaite, Project Manager

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 9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132  
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(425) 420-9200 FAX 420-9210  
 (509) 924-9200 FAX 924-9290  
 (503) 906-9200 FAX 906-9210  
 (541) 383-9310 FAX 382-7588

### CHAIN OF CUSTODY REPORT

Work Order #: **6150292**

CLIENT: <b>SECOR Intl. Inc</b>	INVOICE TO:	TURNAROUND REQUEST in Business Days*			
REPORT TO: <b>Forrest McFarland</b>		Organic & Inorganic Analyses	<input checked="" type="checkbox"/> 7 <input type="checkbox"/> 5 <input type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1		
ADDRESS: <b>2301 Keybank Mountain View, CA</b>		Petroleum Hydrocarbon Analyses	<input checked="" type="checkbox"/> 4 <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> <1		
PHONE: <b>(650) 691-0151</b>	PROJECT NUMBER: <b>691-9837</b>	<input checked="" type="checkbox"/> STD. <input type="checkbox"/> OTHER: _____ Please Specify			
PROJECT NAME: <b>Chevron 8-2609</b>	PO. NUMBER:	*Turnaround Requests less than standard may incur Rush Charges.			
PROJECT NUMBER:	REQUESTED ANALYSES	MATRIX (W, S, O)	# OF CONT.	COMMENTS	NCA WO ID
SAMPLED BY: <b>Forrest McFarland</b>					
CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME				
1. <b>SP1-A rdD</b>	<b>10-8 1351</b>	<b>S</b>	<b>4</b>	<b>Composit</b>	<b>-01</b>
2. <b>SW-1W</b>	<b>10-8 1441</b>	<b>W</b>	<b>6</b>		<b>-02</b>
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					

RELINQUISHED BY: **Forrest McFarland** DATE: **1715** RECEIVED BY: **Martin Hank** DATE: **10/10/01**  
 PRINT NAME: **Forrest McFarland** FIRM: **NCA** PRINT NAME: **Martin Hank** TIME: **17:00** FIRM: **NCA** TIME: **19:30**  
 RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PRINT NAME: \_\_\_\_\_ FIRM: \_\_\_\_\_ PRINT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ FIRM: **NCA-B** TIME: **19:30**  
 ADDITIONAL REMARKS: **W/O 2.90**