



714 435 6624

January 14, 2000
Project: AA72



Mr. Tom Bauhs
Chevron Products Company
6001 Bollinger Canyon Rd., Building L
P.O. Box 6004
San Ramon, California 94583-0904

Re: *Third Quarter 1999 – Groundwater Monitoring Results*
Former Chevron Bulk Plant 100-1425
Second and Main Street, Craig, Alaska

Dear Mr. Bauhs:

This document, prepared on behalf of Chevron Products Company (Chevron), presents the results of groundwater monitoring activities conducted by RRM, Inc. (RRM) at the referenced Chevron site. Background information, the procedures used and the results of analytical laboratory analyses are reported below. A site plan is presented as Figure 1 and cumulative analytical results are presented in Table 1.

SITE BACKGROUND

Site Description and History

This former Chevron Facility is located on Main Street in Craig, Alaska, on the western shoreline of Prince of Wales Island (Figure 1). Records indicate that Chevron Products Company (Chevron) constructed the site bulk fuels facility in the 1930's, and operated the facility until 1986. The facility has been operated by various organizations since, and is now operated by Harbor Enterprises d.b.a. Petro Marine. Petro Marine is in the process of moving their facility across Bucareli Bay where they are constructing a new facility on False Island.

Various site investigations were performed, including the installation of twelve monitoring wells and numerous soil borings. A vapor extraction system operated on site from 1989 to 1992. In 1989, a water treatment unit consisting of an oil/water separator and an air stripper were also installed to treat ground water draining from the tank farm area. In 1989, separate phase hydrocarbons were noted in one monitoring well. Benzene and total recoverable petroleum hydrocarbons have been detected in ground water at up to 12,000 parts per billion (ppb) and 35,000,000 ppb, respectively.

Hydrogeologic Setting

The site subsurface is reported to consist of poorly graded gravel and sand. The site topography slopes north, from the tank farm toward Bucareli Bay. Ground water flow direction is anticipated to follow the site topography, and historical data reports ground water lying approximately 2 to 8 ft below grade.

Groundwater Sampling

RRM sampled site wells on July 20, 1999. Prior to sampling, monitor wells were measured for depth to water and total depth. Wells MW-4 and MW-10 were found to be dry. Well MW-5 could not be found and was reported, by James at the cannery, to have been destroyed during landscaping in the spring of 1999. All of the monitoring wells sampled (MW-1, MW-6, MW-7, MW-11, and MW-12) were purged and sampled manually using hand bailers.

Groundwater Analytical Program

RRM shipped groundwater samples under a chain of custody to North Creek Analytical, an Alaska-certified laboratory located in Bothell, Washington for analyses. North Creek analyzed the samples for GRO and BTEX by AK101 and for DRO and RRO by AK102 and AK103 with silica gel cleanup.

Groundwater Analyses

Groundwater analytical data are summarized in Table 1. In general, dissolved hydrocarbons are steady or decreasing with the exception of DRO in MW-1 and MW-12. Those values were within historic ranges but above the last few years' results.

Subsequent Work

RRM abandoned those remaining wells in the vicinity of the tank farm to accommodate the planned demolition of the existing facilities. Wells MW-1, MW-4, MW-7, and MW-10 were destroyed on October 2, 1999.

Should you have any questions regarding this report, please call Dave Reinsma at (831) 475-8141 or myself at 907-283-4109.

Sincerely,

RRM, Inc.

David Thomas

David Thomas, P.E.
Senior Engineer

Attachments: Table 1 - Groundwater Elevation and Analytical
Figure 1 - Site Plan
A - Certified Analytical Reports and Chain of Custody Documentation

cc: Ms Sally Schlichting, Project Manager
Division of Spill Prevention & Response
Contaminated Sites Remediation Program
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

**Ground Water Monitoring Data - Former Chevron Bulk Fuels Facility 100-1425,
Wards Cove Packing Company, Second & Main Street, Craig Alaska**

Well Number	Date Gauged	GRO (mg/l)	DRO (mg/l)	RRO (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Xylenes (mg/l)
MW-1	2/11/87	700	ND(<59)	NS	12	14	1.4	9.8
MW-1	8/3/88	NS	NS	4,710	0.564	2.72	0.317	3.610
MW-1	Jun-89	NS	NS	NS	ND	0.0029	ND	0.008
MW-1	Aug-89	NS	NS	NS	0.22	1.06	0.24	2.290
MW-1	Oct-89	NS	NS	37	NS	NS	NS	NS
MW-1	Jan-90	NS	NS	14,000	0.007	0.068	0.080	0.753
MW-1	4/16/90	NS	NS	222	0.020	0.780	ND(0.001)	0.191
MW-1	7/8/91	ND(5)	182	183	0.023	0.026	0.025	0.128
MW-1	10/9/91	ND	60	76	0.01	0.025	0.006	0.034
MW-1	6/26/92	ND	210	183	0.0263	0.026	0.008	0.035
MW-1	1/29/93	0.669	60	61	0.019	0.0032	0.0075	0.034
MW-1	7/7/93	0.75	NS	NS	0.0204	0.0027	0.0079	0.038
MW-1	5/10/95	0.15	6.5	NS	NS	NS	NS	NS
MW-1	7/17/98	0.664	7.5	ND(<0.75)	0.0229	0.00506	0.00838	0.045
MW-1	7/20/99	0.0847	66.5	ND(<8.25)	0.012	0.00319	ND(0.0005)	0.00763
MW-2	2/11/87	490	ND(<59)	NS	4.3	4.2	0.43	3.68
MW-2	8/3/88	NS	NS	35,000	0.651	1.4	0.223	2.546
MW-2	Jun-89	NS	NS	NS	0.57	0.46	0.016	1.190
MW-2	Aug-89	NS	NS	NS	0.08	0.02	0.018	0.324
MW-2	Oct-89	NS	NS	110	NS	NS	NS	NS
MW-2	Jan-90	NS	NS	215	0.013	0.023	ND	0.057
MW-2	4/16/90	NS	NS	25	0.018	0.004	0.001	0.017
MW-2	7/8/91	ND(5)	300	704	0.058	0.159	0.048	0.451
MW-2	10/9/91	ND	90	48	0.045	0.032	0.015	0.133
MW-2	6/26/92	ND	280	337	0.0354	0.062	0.015	0.111
MW-2	1/29/93	1.02	190	190	0.0407	0.0885	0.0163	0.103
MW-2	7/7/93	0.852	NS	NS	0.0061	0.0296	0.0054	0.0658
MW-3	2/11/87	800	ND(<59)		0.44	0.17	0.2	1.43
MW-3	8/3/88	NS	NS	2,611	0.067	0.0027	ND(0.004)	0.977
MW-3	Jun-89	NS	NS	NS	1.00	0.08	0.17	1.130
MW-3	Aug-89	NS	NS	NS	0.024	0.045	0.053	0.626
MW-3	Oct-89	NS	NS	135	NS	NS	NS	NS
MW-3	Jan-90	NS	NS	340	ND	0.006	ND	0.024
MW-3	4/16/90	NS	NS	92	0.006	0.002	0.002	0.024
MW-3	7/8/91	ND(5)	238	546	0.034	0.011	0.027	0.185
MW-3	10/9/91	ND	32	26	0.023	0.069	0.025	0.254
MW-3	6/26/92	Monitor Well Abandoned						

MW-4	2/11/87	ND(<9)	ND(<59)	NS	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.015)
MW-4	8/3/88	NS	NS	4,780	ND(0.001)	0.0014	0.005	0.0359
MW-4	Oct-89	NS	NS	18	NS	NS	NS	NS
MW-4	Jan-90	NS	NS	ND	ND	ND	ND	ND
MW-4	7/8/91	ND(5)	705	1,600	ND	ND	ND	0.003
MW-4	10/9/91	ND	180	190	ND	ND	ND	0.002
MW-4	6/26/92	ND	130	247	0.015	0.002	ND	0.007
MW-4	1/29/93	0.069	30.3	35	0.00097	0.0033	0.0008	0.0139
MW-4	7/17/98	0.194	2.71	ND(<0.75)	0.00335	0.000537	ND(0.0005)	0.00331
MW-5	2/11/87	ND(<9)	ND(<59)	NS	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.015)
MW-5	8/3/88	NS	NS	261	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-5	Oct-89	NS	NS	32	NS	NS	NS	NS
MW-5	4/16/90	NS	NS	ND(10)	0.006	0.001	ND(0.001)	ND(0.001)
MW-5	7/8/91	ND	14	9	0.01	ND	0.002	ND
MW-5	10/9/91	ND	33	4	0.002	ND	ND	ND
MW-5	6/26/92	ND	21	35	0.0063	ND	ND	0.001
MW-5	1/29/93	ND	22.4	39	0.00065	0.0019	ND	ND
MW-5	7/7/93	0.043	9.12	8.7	0.0029	0.0006	ND	ND
MW-5	5/10/95	NS	3	NS	NS	NS	NS	NS
MW-5	7/17/98	0.0792	0.669	ND(<0.75)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.001)
MW-5	MW-5 destroyed in Spring 1999							
MW-6	8/3/88	NS	NS	15.7	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-6	Oct-89	NS	NS	8	NS	NS	NS	NS
MW-6	4/16/90	NS	NS	16	ND(0.001)	0.002	ND(0.001)	ND(0.001)
MW-6	7/8/91	ND	1	ND	0.001	0.006	ND	ND
MW-6	10/9/91	ND	ND	ND	ND	0.004	ND	ND
MW-6	6/26/92	ND	1	ND	0.0011	ND	ND	0.001
MW-6	1/29/93	ND	ND	0.5	ND	ND	ND	ND
MW-6	7/7/93	0.045	1.31	ND	ND	0.0197	ND	ND
MW-6	5/10/95	NS	ND(0.05)	NS	NS	NS	NS	NS
MW-6	7/17/98	0.116	0.126	ND(<0.75)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.001)
MW-6	7/20/99	ND(0.050)	ND(0.10)	ND(<0.75)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.001)
MW-7	Oct-89	NS	NS	10	NS	NS	NS	NS
MW-7	4/16/90	NS	NS	4,492	ND(0.001)	0.01	0.186	1.090
MW-7	7/20/99	0.328	284	ND(<15.8)	0.00107	ND(0.0005)	0.000101	0.00785
MW-8	Oct-89	NS	NS	1,700	NS	NS	NS	NS
MW-9	8/3/88	NS	NS	630	NS	NS	NS	NS
MW-9	7/8/91	ND	11	7	ND	ND	ND	ND
MW-9	10/9/91	ND	4	1	ND	ND	ND	ND
MW-9	6/26/92	ND	14	6	0.0006	ND	ND	ND
MW-9	1/29/93	ND	1.83	2.1	ND	ND	ND	ND
MW-10	8/3/88	NS	NS	20	NS	NS	NS	NS
MW-10	1/29/93	ND	0.53	1.7	ND	ND	ND	ND

MW-11	4/16/90	NS	NS	ND(10)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-11	7/8/91	1	9	29	0.001	0.681	0.004	ND
MW-11	10/9/91	ND	4	1	0.001	0.345	0.002	ND
MW-11	6/26/92	ND	1	2	0.014	0.204	ND	0.002
MW-11	1/29/93	ND	ND	3.2	ND	0.0051	ND	ND
MW-11	7/7/93	0.20	1.54	ND	0.0009	0.11	ND	ND
MW-11	7/17/98	0.108	0.213	ND(<0.75)	ND(0.0005)	0.00101	ND(0.0005)	ND(0.001)
MW-11	7/20/99	ND(0.050)	0.286	ND(<0.75)	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.001)
MW-12	4/16/90	NS	NS	18	0.001	0.394	ND(0.001)	0.002
MW-12	7/8/91	ND	27	2.2	0.002	ND	ND	ND
MW-12	10/9/91	ND	4	13	0.002	0.003	ND	ND
MW-12	6/26/92	ND	8	22	0.001	ND	ND	ND
MW-12	1/29/93	ND	ND	3.2	0.0012	ND	ND	0.0008
MW-12	7/7/93	0.041	4.80	1.6	0.0054	ND	0.0008	ND
MW-12	5/10/95	ND(0.05)	2.2	NS	0.0006	ND(0.0005)	ND(0.0005)	0.0007
MW-12	7/17/98	0.108	0.213	ND(<0.75)	ND(0.0005)	0.00101	ND(0.0005)	ND(0.001)
MW-12	7/20/99	ND(0.050)	6.72	3.6	ND(0.0005)	ND(0.0005)	ND(0.0005)	ND(0.001)
MW-13	4/16/90	NS	NS	ND(10)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
MW-13	7/8/91	ND	ND	ND	ND	ND	ND	ND
MW-13	10/9/91	ND	ND	ND	ND	ND	ND	ND
MW-13	6/26/92	ND	1	ND	ND	ND	ND	0.002
MW-13	1/29/93	ND	ND	1.4	ND	ND	ND	ND
MW-13	7/7/93	ND	0.406	ND	ND	ND	ND	ND

Notes:

TOC = top of casing datum

GRO =gasoline range total petroleum hydrocarbons

DRO =diesel range total petroleum hydrocarbons

RRO =residual range total petroleum hydrocarbons

mg/l = parts per million

NS = not sampled

ND = not detected, detection limits in paratheses if known

BOLD = latest groundwater monitoring in bold type

2/11/87 samples analyzed by Farr, Friedman & Bruya, Inc. and reported by GeoEngineers, March 16, 1987

2/11/87 BTEX by EPA Method 602, TPH Method not identified

8/3/88 samples analyzed by AM test Inc. and reported by RZA, September 7, 1988

Jun 89 and Aug 89 results reported by RZA, November 7, 1989

Oct 89 samples analyzed by Sound Analytical Services, Inc. and reported by RZA, November 3, 1989

Oct 89 TPH by EPA SW-846 Method 8020

Jan 90 and Apr 90 samples analyzed by Sound Analytical Serv., Inc. and reported by RZA, October 10, 1990

Apr 90 BTEX by EPA SW-846 Modified Method 8020, TPH by EPA SW-846 Modified EPA Method 8015

7/8/91, 10/9/91, and 6/26/92 data reported by America North, Inc., July 1992

5/10/95 samples analyzed by Superior Precision Analytical, Inc. and reported by AGRA June 12, 1996

5/10/95 GRO/BTEX by EPA SW-846 5030/8015M/8020, TEPH by EPA W-846 Method 8015M

7/20/98 samples analyzed by North Creek Analytical and reported by Cambria August 26, 1998

BUCARELI BAY

APPROX. HIGH TIDE LINE

APPROX. GROUND WATER FLOW

WATER STORAGE TANK

MW-13

AIR STRIPPING TOWER

MW-12

MW-11

EXISTING BUILDING

MW-8

BURIED 4-INCH LINE

MW-6

MW-5

WALKWAY

CONCRETE SECONDARY CONTAINMENT WALL

MW-9

MW-10 *

PUMP HOUSE

EARTHEN BERM

MW-7 *

1

2

3

MW-3

4

5

6

MW-2

MW-4 *

12

7

MW-1 *

OVERHEAD FUEL LOADING RACK

WATER COLLECTION TRENCH

COLLECTED WATER OUTLET

APPROX. LOCATION OF PASSIVE DEWATERING TRENCH

TANK FARM EXPANSION

EXPLANATION

2 INCH DIAMETER MONITORING WELL LOCATION AND DESIGNATION.

DESTROYED MONITORING WELL LOCATION AND DESIGNATION.

* DESTROYED BY RRM ON 10/2/99

← Z →

SCALE IN FEET



PREPARED BY

RRM
engineering contracting firm

WELL LOCATION MAP

FORMER CHEVRON FUEL FACILITY # 1001425
302 Main Street
Craig, Alaska

FIGURE:
1
PROJECT:
AA72

ATTACHMENT A
CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY
DOCUMENTATION



Seattle 18939 120th Avenue NE, Suite 101, Bothell, WA 98011-9508
 425.420.9200 fax 425.420.9210
Spokane East 55 Montgomery, Suite 8, 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 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711
 541.383.9310 fax 541.382.7588

RRM, Inc. (Soldotna) 247 N. Fireweed, Suite A Soldotna, AK 99669	Project: Chevron 100-1425 Project Number: AA72 Project Manager: David Thomas	Sampled: 7/20/99 Received: 7/26/99 Reported: 8/4/99 13:52
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ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	B907595-01	Water	7/20/99
MW-6	B907595-02	Water	7/20/99
MW-7	B907595-03	Water	7/20/99
MW-11	B907595-04	Water	7/20/99
MW-12	B907595-05	Water	7/20/99
Trip Blank	B907595-06	Water	7/20/99



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 425.420.9200 fax 425.420.9210
 Spokane East 555 Montgomery, Suite B, Spokane, WA 99206-4776
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RRM, Inc. (Soldotna) 247 N. Fireweed, Suite A Soldotna, AK 99669	Project: Chevron 100-1425 Project Number: AA72 Project Manager: David Thomas	Sampled: 7/20/99 Received: 7/26/99 Reported: 8/4/99 13:52
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
 North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW-1</u>				<u>B907595-01</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/2/99		50.0	84.7	ug/l	1
Benzene	"	"	"		0.500	12.0	"	
Toluene	"	"	"		0.500	3.19	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	7.63	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		96.3	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		100	"	
<u>MW-6</u>				<u>B907595-02</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/2/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		93.3	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		103	"	
<u>MW-7</u>				<u>B907595-03</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/4/99		50.0	328	ug/l	1
Benzene	"	"	"		0.500	1.07	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	1.01	"	
Xylenes (total)	"	"	"		1.00	7.85	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		92.3	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		104	"	
<u>MW-11</u>				<u>B907595-04</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/3/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		95.2	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		103	"	
<u>MW-12</u>				<u>B907595-05</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/2/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	

North Creek Analytical - Bothell

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

Joy B Chang, Project Manager

North Creek Analytical, Inc.
Environmental Laboratory Network

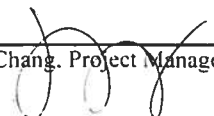


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RRM, Inc. (Soldotna) 247 N. Fireweed, Suite A Soldotna, AK 99669	Project: Chevron 100-1425 Project Number: AA72 Project Manager: David Thomas	Sampled: 7/20/99 Received: 7/26/99 Reported: 8/4/99 13:52
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Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101
North Creek Analytical - Bothell

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
<u>MW-12 (continued)</u>				<u>B907595-05</u>			<u>Water</u>	
Toluene	0890042	8/2/99	8/2/99		0.500	ND	ug/l	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		85.2	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		101	"	
<u>Trip Blank</u>				<u>B907595-06</u>			<u>Water</u>	
Gasoline Range Hydrocarbons	0890042	8/2/99	8/2/99		50.0	ND	ug/l	
Benzene	"	"	"		0.500	ND	"	
Toluene	"	"	"		0.500	ND	"	
Ethylbenzene	"	"	"		0.500	ND	"	
Xylenes (total)	"	"	"		1.00	ND	"	
Surrogate: 4-BFB (FID)	"	"	"	60.0-120		92.7	%	
Surrogate: 4-BFB (PID)	"	"	"	60.0-120		102	"	


 Joy B Chang, Project Manager



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RRM, Inc. (Soldotna) 247 N. Fireweed, Suite A Soldotna, AK 99669	Project: Chevron 100-1425 Project Number: AA72 Project Manager: David Thomas	Sampled: 7/20/99 Received: 7/26/99 Reported: 8/4/99 13:52
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**Diesel Hydrocarbons (C10-C25) and Heavy Oil (C25-C36) by AK102 and AK103 with Silica Gel Cleanup
North Creek Analytical - Bothell**

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1				B907595-01			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		1.10	66.5	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		8.25	ND	"	
Surrogate: 2-FBP	"	"	"	50.0-150		107	%	
Surrogate: Octacosane	"	"	"	50.0-150		101	"	
MW-6				B907595-02			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		0.100	ND	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	ND	"	
Surrogate: 2-FBP	"	"	"	50.0-150		76.6	%	
Surrogate: Octacosane	"	"	"	50.0-150		85.1	"	
MW-7				B907595-03			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		2.10	284	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		15.8	ND	"	
Surrogate: 2-FBP	"	"	"	50.0-150		86.4	%	
Surrogate: Octacosane	"	"	"	50.0-150		75.3	"	
MW-11				B907595-04			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		0.100	0.286	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	ND	"	
Surrogate: 2-FBP	"	"	"	50.0-150		62.1	%	
Surrogate: Octacosane	"	"	"	50.0-150		71.6	"	
MW-12				B907595-05			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		0.100	6.72	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	3.60	"	
Surrogate: 2-FBP	"	"	"	50.0-150		73.8	%	
Surrogate: Octacosane	"	"	"	50.0-150		93.0	"	
Trip Blank				B907595-06			Water	
Diesel Range Hydrocarbons	0790872	7/27/99	7/30/99		0.100	ND	mg/l	
Heavy Oil Range Hydrocarbons	"	"	"		0.750	ND	"	
Surrogate: 2-FBP	"	"	"	50.0-150		81.7	%	
Surrogate: Octacosane	"	"	"	50.0-150		97.9	"	

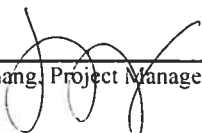


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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/Quality Control
 North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0890042			Date Prepared: 8/2/99		Extraction Method: EPA 5030B (P/T)				
Blank			0890042-BLK1						
Gasoline Range Hydrocarbons	8/2/99			ND	ug/l	50.0			
Benzene	"			ND	"	0.500			
Toluene	"			ND	"	0.500			
Ethylbenzene	"			ND	"	0.500			
Xylenes (total)	"			ND	"	1.00			
Surrogate: 4-BFB (FID)	"	48.0	45.5	"	"	60.0-120	94.8		
Surrogate: 4-BFB (PID)	"	48.0	48.2	"	"	60.0-120	100		
Blank			0890042-BLK2						
Gasoline Range Hydrocarbons	8/3/99			ND	ug/l	50.0			
Benzene	"			ND	"	0.500			
Toluene	"			ND	"	0.500			
Ethylbenzene	"			ND	"	0.500			
Xylenes (total)	"			ND	"	1.00			
Surrogate: 4-BFB (FID)	"	48.0	42.0	"	"	60.0-120	87.5		
Surrogate: 4-BFB (PID)	"	48.0	48.5	"	"	60.0-120	101		
LCS			0890042-BS1						
Gasoline Range Hydrocarbons	8/2/99	500	489	ug/l	60.0-120	97.8			
Surrogate: 4-BFB (FID)	"	48.0	50.6	"	60.0-120	105			
Duplicate			0890042-DUP1 B907473-01						
Gasoline Range Hydrocarbons	8/2/99		2050	1880	ug/l			20.0	8.65
Surrogate: 4-BFB (FID)	"	48.0	47.4	"	60.0-120	98.8			
Duplicate			0890042-DUP2 B907473-05						
Gasoline Range Hydrocarbons	8/2/99		1170	1240	ug/l			20.0	5.81
Surrogate: 4-BFB (FID)	"	48.0	44.9	"	60.0-120	93.5			
Matrix Spike			0890042-MS1 B907595-02						
Benzene	8/2/99	10.0	ND	10.3	ug/l	60.0-120	103		
Toluene	"	10.0	ND	10.0	"	60.0-120	100		
Ethylbenzene	"	10.0	ND	10.2	"	60.0-120	102		
Xylenes (total)	"	30.0	ND	30.4	"	60.0-120	101		
Surrogate: 4-BFB (PID)	"	48.0	50.6	"	60.0-120	105			


 Joy B Chang, Project Manager

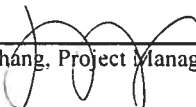


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RRM, Inc. (Soldotna) 247 N. Fireweed, Suite A Soldotna, AK 99669	Project: Chevron 100-1425 Project Number: AA72 Project Manager: David Thomas	Sampled: 7/20/99 Received: 7/26/99 Reported: 8/4/99 13:52
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**Gasoline Hydrocarbons (n-Hexane to <n-Decane) and BTEX by AK101/Quality Control
 North Creek Analytical - Bothell**

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Units	Reporting Limit Recov. Limits	Recov. %	RPD Limit	RPD %	Notes*
Matrix Spike Dup										
	0890042-MSD1	B907595-02								
Benzene	8/2/99	10.0	ND	10.4	ug/l	60.0-120	104	20.0	0.966	
Toluene	"	10.0	ND	10.3	"	60.0-120	103	20.0	2.96	
Ethylbenzene	"	10.0	ND	10.6	"	60.0-120	106	20.0	3.85	
Xylenes (total)	"	30.0	ND	30.9	"	60.0-120	103	20.0	1.96	
Surrogate: 4-BFB (PID)	"	48.0		51.1	"	60.0-120	106			


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

Analyte	Date Analyzed	Spike Level	Sample Result	QC Result	Reporting Limit Units	Recov. %	RPD Limit	RPD %	Notes*
Batch: 0790872		Date Prepared: 7/27/99		Extraction Method: EPA 3520C/600 Series					
Blank									
0790872-BLK1									
Diesel Range Hydrocarbons	7/30/99			ND	mg/l	0.100			
Heavy Oil Range Hydrocarbons	"			ND	"	0.750			
Surrogate: 2-FBP	"	0.321		0.233	"	50.0-150	72.6		
Surrogate: Octacosane	"	0.321		0.250	"	50.0-150	77.9		
LCS									
0790872-BS1									
Diesel Range Hydrocarbons	7/30/99	2.00		1.53	mg/l	60.0-120	76.5		
Surrogate: 2-FBP	"	0.321		0.252	"	50.0-150	78.5		
LCS									
0790872-BS2									
Heavy Oil Range Hydrocarbons	7/30/99	2.00		1.22	mg/l	60.0-100	61.0		
Surrogate: Octacosane	"	0.321		0.273	"	50.0-150	85.0		
LCS Dup									
0790872-BSD1									
Diesel Range Hydrocarbons	7/30/99	2.00		1.49	mg/l	60.0-120	74.5	20.0	2.65
Surrogate: 2-FBP	"	0.321		0.233	"	50.0-150	72.6		
LCS Dup									
0790872-BSD2									
Heavy Oil Range Hydrocarbons	7/30/99	2.00		1.35	mg/l	60.0-100	67.5	20.0	10.1
Surrogate: Octacosane	"	0.321		0.306	"	50.0-150	95.3		

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Notes and Definitions

#	Note
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- 1 The chromatogram for this sample does not resemble a typical gasoline pattern.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- Recov. Recovery
- RPD Relative Percent Difference


 Joy B Chang, Project Manager



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

5907595

CHEVRON INFORMATION

Facility Number: 100-1425

Site Address: Second + Main
City, State, ZIP: Craig, AK 99921

Service Code: Site Assessment
Service Order: Remediation
Cost Element: 75100100 O & M
Chevron Project Manager: Tom Baults GWM

CONSULTANT INFORMATION

Name: RRM Project# AA72
Address: 247 N. Firwood Suite A
Soldotna, AK 99669
Phone: 907-283-4109 Fax: 907-283
Project Manager: David Thomas Airbill#:
Sample Collection by: David Thomas

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. MW-1	7-20-99 17:20		
2. MW-6	15:30		
3. MW-7	18:20		
4. MW-11	16:00		
5. MW-12	16:40		
6. Trip Blank	19:00		
7.			
8.			
9.			
10.			

AK OR WA NW Series

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

NCA SAMPLE NUMBER

5907595-d AK
GRU, PRO, RRO w/SG
+ BTEX
on all samples

-02
-03
-04
-05
-06

1.	Relinquished by:	Firm:	Date & Time	Received by:	Firm:	Date & Time	Additional Comments:
1.	David B. Thomas	RRM	7-23 5:00pm	Tommy	NCA	7/26/99 17:00	
2.						-2.0°	
3.						w/o	