Soil Vapor Assessment Report

Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska
ADEC File ID: 102.26.015

Chevron Environmental Management Company

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Acronyms and Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	air sparge
BTEX	benzene, toluene, ethylbenzene, and xylenes
CSM	conceptual site model
COPCs	contaminants of potential concern
DRO	diesel range organics
EPA	Environmental Protection Agency
fbg	feet below grade
GRO	gasoline range organics
GHD	GHD Services Inc.
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
mL/min	milliliters per minute
ug/m^3	micrograms per meter cubed
No	number
P.G.	Professional Geologist
SVE	soil vapor extraction
UST	underground storage tank
VOC	volatile organic compounds

1. Introduction

GHD Services Inc. (GHD) is submitting this *Soil Vapor Evaluation and Assessment Report* to the Alaska Department of Environmental Conservation (ADEC) on behalf of Chevron Environmental Management Company (Chevron) for Chevron Site 211079. GHD evaluated site conditions to determine if additional vapor intrusion pathway investigation is required based on the ADEC October 2012 *Vapor Intrusion Guidance for Contaminated Sites*. The site background, site conditions, vapor intrusion pathway evaluation, and conclusions and recommendations are presented below.

1.1 Site Description and Background

The site is located at 1501 South Cushman Street in Fairbanks, Alaska (Figure 1). The property's legal description is UMB01 BLK3 Gateway. The site latitude and longitude are approximately 64.833988° north and 147°716887° west. The site is a former Texaco service station currently occupied by the Friendship Korean Baptist Church. The station operated from 1963 to 1986. Station facilities included six underground storage tanks (USTs), dispenser islands, product piping, a station building and a car wash. The USTs were removed in 1988 and 1993. An air sparge/soil vapor extraction (AS/SVE) system operated onsite from 1993 until 2000. GHD decommissioned the AS/SVE remediation system on July 29, 2013. The surrounding area is mixed commercial and residential land use. Businesses are located south of the site and west across Cushman Street. Residences border the site on the north and east. Site photographs are included in Appendix A. The site environmental history is included in Appendix B.

1.2 Regional and Site Geology

The site is located in central Alaska between the northern Brooks Range and the southern Alaska Range. Fairbanks area bedrock consists of Paleozoic metasedimentary and metaigneous rocks overlain by glaciofluvial sediments. During the last glacial period the maximum extent of glaciers reached within approximately 50 miles of the Fairbanks area. Glaciofluvial sediments produced by the retreating glaciers dominate the local subsurface.

Surface soil in the area of the site primarily consists of Tanana Series sediments. Subsurface site sediments consists primarily of sand with gravel to approximately 5 feet below grade (fbg) underlain by poorly graded sand and silty sand to the total explored depth of approximately 19 fbg.

1.3 Hydrogeology

The site is located in central Alaska approximately 0.5 miles southwest of the Chena River in the Tanana River Valley. Historical static groundwater depths have ranged between 9.8 to 17.12 feet below grade (fbg) according to groundwater data from 1995 to present. Static groundwater depths ranged from 11.11 (MW-9) to 12.65 fbg (MW-1) on September 14, 2015. Groundwater flow was to the west with a gradient of 0.09, which is consistent with historical data.

1.4 Conceptual Site Model

GHD submitted a conceptual site mode (CSM) to the ADEC on June 21, 2011. The CSM includes information on sources, affected media and exposure pathways. GHD prepared this CSM in accordance with ADEC's *Draft Guidance on Developing Conceptual Site Models.* Potentially complete exposure

pathways include incidental soil ingestion and ingestion of groundwater. An updated CSM is presented in Appendix C.

1.5 Contaminants of Potential Concern - Cleanup Levels

Site contaminants of potential concern (COPCs) are diesel range organics (DRO), gasoline range organics (GRO), and benzene, toluene, ethylbenzene, and xylene (BTEX). ADEC Table C Groundwater Cleanup Levels (Title 18 Alaska Administrative Code (AAC) 75.345) and ADEC Method Two Soil Cleanup Levels, Tables B1 and B2, under 40-inch zone, migration to groundwater (Title 18 AAC 75.341), and ADEC Target Levels for Shallow and Deep Soil Gas (*Vapor Intrusion Guidance, Appendix E & F)* establish site cleanup levels for groundwater, soil, and soil gas.

2. Petroleum Hydrocarbon Extent

2.1 Soil Quality

COPCs have historically been detected in soil above regulatory cleanup levels. In 2010, CRA advanced four confirmatory soil borings to evaluation hydrocarbon attenuation in areas of previous exceedances. No DRO, GRO or benzene was detected above ADEC soil cleanup levels in any collected sample. No COPCs in onsite soil currently exceed ADEC Method Two Soil Cleanup Levels. No benzene was detected above ADEC cleanup levels in soil samples collected from offsite well MW-9. The soil sample collected from offsite well MW-6 at 10 fbg contained benzene at 0.33 milligrams per kilogram (mg/kg) in 1993. Benzene in soil near MW-6 could not be confirmed in 2010 due to lack of site access. Attenuation of COPCs in soil near MW-6 is currently unknown. Historical soil analytical results are presented in Appendix D.

2.2 Groundwater Quality

During the September 2015 sampling event, no DRO, GRO or benzene was detected above ADEC Table C Groundwater cleanup levels in wells MW-1, MW-2, MW-4, MW-10 and MW-11. MW-5 contained the highest DRO (2.6 milligrams per liter (mg/L)) and GRO (4.3 mg/L). MW-14R contained the highest benzene (0.062 mg/L). Historical groundwater analytical data is presented in Table 1. Hydrocarbon concentrations in groundwater are presented on Figure 2.

3. Soil Vapor Sampling

3.1 Soil Vapor Sampling Method

GHD sampled soil vapor probe VP-2 on September 15, 2015 and February 4, 2016 in accordance with CRA's September, 2014 *Soil Vapor Sampling Plan*. Soil vapor samples were collected from VP-2 at 5.0 fbg and 8.5 fbg using 100 percent (%) laboratory certified 6-liter Summa™ canisters. Prior to collecting a sample, a closed circuit sampling train was created by attaching the sample Summa™ canister in series with the purge Summa™ canister via a steam-cleaned, stainless-steel manifold. VP-1 was not sampled due to access issues.

A shut-in test was performed prior to connecting the sampling equipment to the vapor probe tubing to reduce the potential for ambient air to dilute the soil vapor samples. This test was performed by sealing all openings to ambient air, and purging all remaining air present in the sample train using a Gilian™ GilAir-3 sampling pump to establish a vacuum inside the sampling train, and waiting to ensure the vacuum

remained stable over time. Following a successful shut-in test, the sample train and vapor probe were purged of ambient air using the Gilian™ GilAir-3 sampling pump. Soil vapor samples were collected at a flow rate of approximately 167 milliliters per minute (mL/min) until a negative pressure of approximately 5 inches of mercury was observed on the vacuum gauge.

Leak testing was performed during sampling using helium as a tracer gas. The vapor probe vault, probe tubing, and entire sampling train was enclosed in a rigid shroud. The helium concentration inside the shroud was maintained above 10% helium and quantified using a Dielectric MGD 2002 gas detector. Soil vapor samples were submitted for laboratory analysis under chain-of-custody to Eurofins Lancaster Laboratories of Pennsylvania.

Soil gas sampling was conducted by a Qualified Environmental Professional as defined by*18 AAC 75.325 – 75.390, and 18 AAC 78* in accordance with ADEC's October 2012 *Vapor Intrusion Guidance for Contaminated Sites.* GHD soil vapor sampling data sheets are presented as Appendix E. No deviations from the work plan occurred during the September 2015 or February 2016 sampling events.

3.2 Soil Vapor Analytical Methods

Soil vapor samples were analyzed by the laboratory for the following:

- Benzene, toluene, ethylbenzene and xylenes (BTEX) by Environmental Protection Agency (EPA) Method TO-15
- Oxygen, carbon dioxide and helium by ASTM Method D-1946
- Methane by EPA Method 18 modified/EPA 25 modified

3.3 Soil Vapor Analytical Results

No benzene, toluene, ethylbenzene, or xylenes were detected above ADEC Target Levels for Deep Soil Gas (Residential or Commercial) in any analyzed soil vapor sample. Soil vapor analytical results are presented in Table 2. Eurofins Lancaster Laboratories Analytical Report for soil vapor samples is presented as Appendix F. A GHD chemist reviewed all laboratory analytical results. Based on the quality assurance/quality control review, the data submitted were judged to be acceptable for use without qualification. The ADEC Laboratory Review Checklist and memorandum are presented as Appendix G. Soil Vapor Probe Stratigraphic Log is presented as Appendix H. Historical soil vapor analytical results are presented in Appendix I.

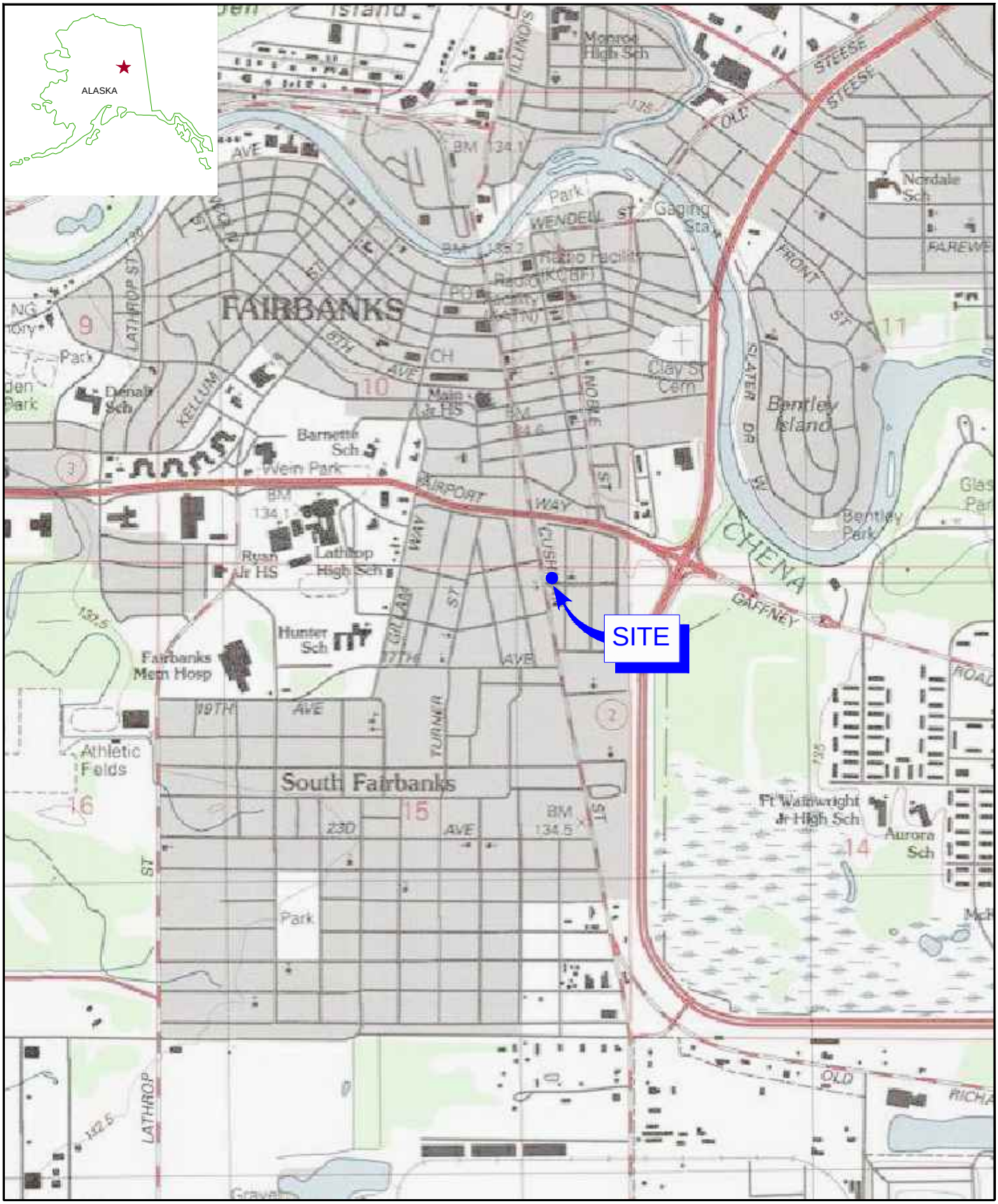
3.4 Soil Vapor Evaluation

Soil vapor probes VP-1 and VP-2 have been sampled several times since 2007. No benzene has been detected above ADEC target levels in any collected soil vapor samples. Current site conditions indicate there is no benzene present in soil or groundwater onsite or on the offsite property north of the site. No benzene was detected in soil during the installation of MW-14R. Low benzene concentrations in groundwater at MW-14R indicate the presence of a de minimus quantity of benzene in the subsurface within 30 feet of structures. Based on low benzene concentrations in soil, groundwater, and soil vapor, further assessment of the inhalation exposure pathway is not warranted.

4. Conclusions and Recommendations

No benzene was detected above ADEC target levels in soil samples collected from VP-2 during the September 2015 and February 2016 sampling events. No benzene was detected above target levels in historical samples collected from 2007 through 2009 in probes VP-1 and VP-2. Based on current and historical soil vapor, soil and groundwater analytical data, GHD concludes that the inhalation of indoor and outdoor air exposure pathways are considered incomplete and no further vapor intrusion assessment is warranted. GHD will collect one additional soil vapor sample from VP-1 pending executed offsite access and prior to vapor probe decommissioning. GHD further recommends decommissioning soil vapor probes VP-1 and VP-2.

Figures



Source: TOPO! CA

0 500 1500ft

FORMER TEXACO SERVICE STATION 211079
1501 CUSHMAN STREET
FAIRBANKS, ALASKA

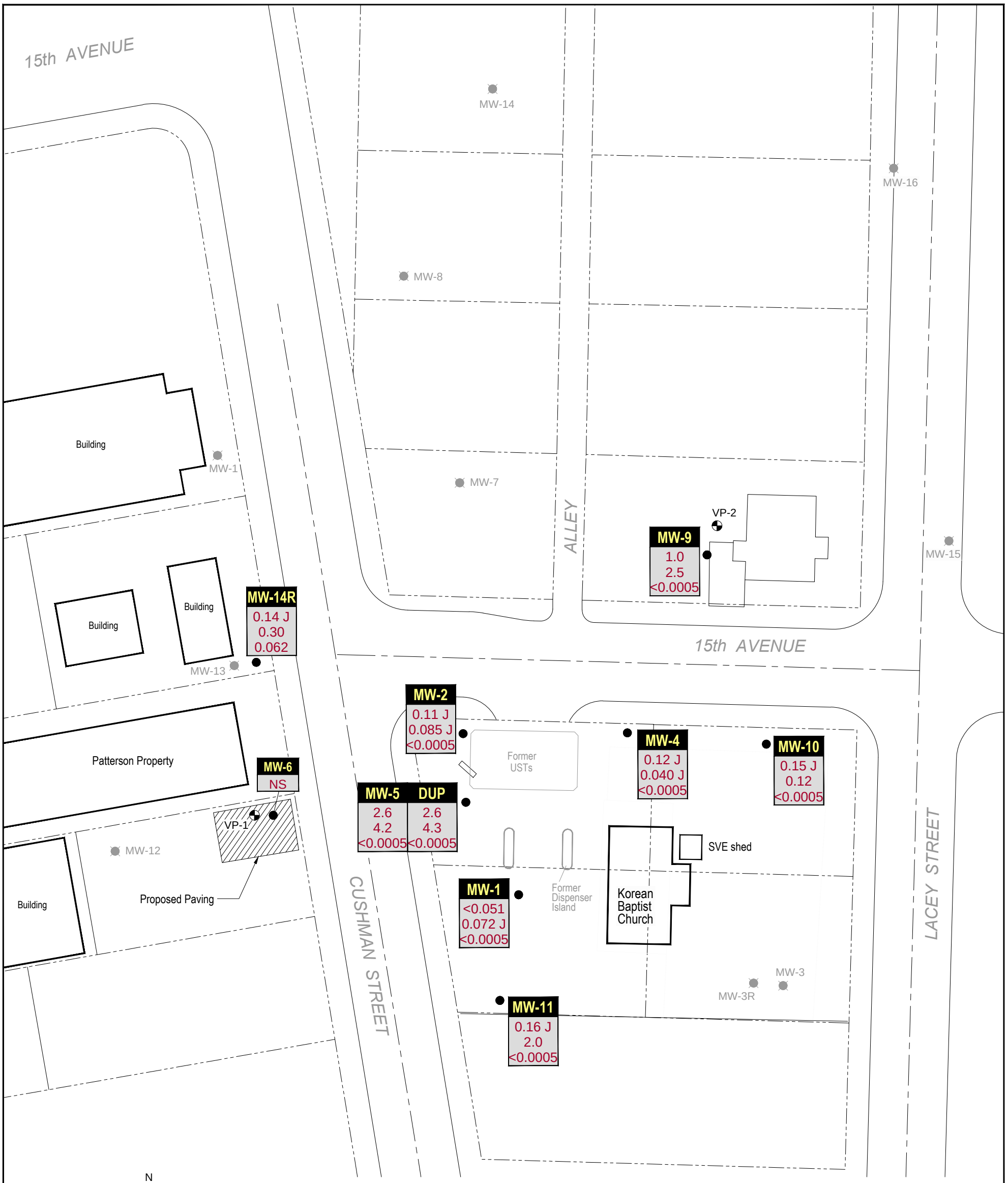
065003

Mar 29, 2016

VICINITY MAP

Figure 1

CAD File: I:\Chevron\0650--\065003 21-1079 Fairbanks\065003 FIGURES\065003 RPTs\065003 RPT-019\065003-2015(019)GN-EM001.dwg



Source: Basemap modified from a July 29, 2014 survey performed by McLane Consulting Inc.

0 20 40ft

FORMER TEXACO SERVICE STATION 211079
1501 CUSHMAN STREET
FAIRBANKS, ALASKA

HYDROCARBON CONCENTRATIONS IN GROUNDWATER CONCENTRATION MAP - SEPTEMBER 14-15, 2015

065003-2015

Apr 6, 2016

Figure 2

CAD File: I:\Chevron\0650--\065003 21-1079 Fairbanks\065003 FIGURES\065003 RPTs\065003 RPT-021\065003-2015(021)GN-EM002.dwg

Tables

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-1	06/20/1994	440.92	15.25	425.67	-	**49**	-	**0.75**	**11**	**1.8**	10	-	-	-
MW-1	09/27/1994	440.92	14.83	426.09	-	**52**	-	**0.81**	**11.7**	**2.7**	**13.4**	-	-	-
MW-1	11/21/1994	440.92	15.48	425.44	-	**51**	-	**1.1**	**13**	**3.1**	**14**	-	-	-
MW-1	03/29/1995	440.92	16.13	424.79	-	**49**	-	**0.54**	**14**	**2.4**	10	-	-	-
MW-1	06/29/1995	440.94	14.45	426.49	**1.8**	**58**	-	**0.38**	**14**	**2.6**	**13**	-	-	-
MW-1	09/18/1995	440.94	13.12	427.82	-	**24**	-	**0.055**	**3.7**	**1.3**	6.9	-	-	-
MW-1	12/13/1995	440.94	15.00	425.94	0.39	**42**	-	**0.29**	**4**	**16**	7.7	-	-	-
MW-1	03/08/1996	440.94	16.10	424.84	1.1	**110**	-	**0.62**	**26**	**3.2**	**16**	-	-	-
MW-1	05/31/1996	440.94	15.13	425.81	-	**91.5**	-	**0.394**	**20.1**	**2.37**	**13.9**	-	-	-
MW-1	09/19/1996	440.94	15.18	425.76	-	**59.4**	-	**0.135**	**9.7**	**1.7**	**10.3**	-	-	-
MW-1	12/11/1996	440.96	15.73	425.23	-	**43.6**	-	**0.15**	**8.16**	**1.56**	7.93	-	-	-
MW-1	03/13/1997	440.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	06/18/1997	440.96	15.40	425.56	-	**37.3**	-	<0.025	**3.53**	**1.49**	6.91	-	-	-
MW-1	09/19/1997	440.96	14.97	425.99	-	**17.2**	-	<0.025	**1.7**	**0.919**	5.3	-	-	-
MW-1	12/10/1997	440.96	15.80	425.16	-	**32.1**	-	<0.05	**2.77**	**1.86**	9.46	-	-	-
MW-1	03/30/1998	440.96	16.54	424.42	-	**16.8** / **9.34**	-	**0.0142** / <0.025	0.925 / 0.531	**0.98** / 0.569	4.53 / 2.66	-	-	-
MW-1	06/08/1998	440.96	15.94	425.02	-	**7.79**	-	<0.01	0.408	0.476	2.39	-	-	-
MW-1	09/16/1998	440.96	14.32	426.64	-	**12.2** / **13.8**	-	**0.0153** / **0.0197**	0.356 / 0.469	0.593 / **0.719**	3.2 / 3.68	-	-	-
MW-1	12/28/1998	440.96	15.61	425.35	-	**14.3** / **16.3**	-	<0.05 / **0.0252**	0.865 / 0.987	**0.855** / **0.979**	3.8 / 4.29	-	-	-
MW-1	03/13/1999	440.96	16.54	424.42	-	**9.1**	-	<0.025	0.351	**0.751**	3.26	-	-	-
MW-1	06/22/1999	440.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	09/28/1999	440.96	14.92	426.04	-	**8.9**	-	<0.02	0.079	0.59	2.31	-	-	-
MW-1	12/15/1999	440.96	15.84	425.12	-	**8.83**	-	**0.00888**	0.139	0.505	2.11	-	-	-
MW-1	03/21/2000	440.96	16.30	424.66	-	**8.95** / **11.5**	-	<0.01 / <0.005	0.107 / 0.0917	0.346 / 0.34	1.47 / 1.44	-	-	-
MW-1	06/20/2000	440.96	13.97	426.99	-	**4.69**	-	**0.00885**	0.019	0.15	0.565	-	-	-
MW-1	09/13/2000	440.96	12.99	427.97	-	**3.84** / **5.96**	-	<0.005 / <0.005	0.0135 / 0.023	0.147 / 0.216	0.535 / 0.848	-	-	-
MW-1	12/13/2000	440.96	14.79	426.17	-	**6.29** / **5.14**	-	<0.004 / <0.004	0.0249 / 0.0142	0.178 / 0.125	0.631 / 0.452	-	-	-
MW-1	03/20/2001	440.96	15.64	425.32	-	**6.39** / **6.69**	-	<0.0132 / <0.014	0.0133 / 0.0172	0.218 / 0.21	0.793 / 0.754	-	-	-
MW-1	06/20/2001	440.96	14.76	426.20	-	**4.16** / **6.18**	-	**0.00516** / 0.00295	0.00613 / 0.0107	0.194 / 0.197	0.756 / 0.785	-	-	-
MW-1	09/18/2001	440.96	14.03	426.93	-	**4.88** / **5.73**	-	**0.00726** / **0.0078**	0.00718 / <0.005	0.189 / 0.186	0.706 / 0.627	-	-	-
MW-1	03/25/2002	440.96	16.12	424.84	-	**5.07** / **5.31**	-	**0.00747** / **0.00528**	<0.005 / <0.005	0.151 / 0.17	0.692 / 0.812	-	-	-
MW-1	09/15/2002	440.96	13.02	427.94	-	**4.53** / **4.03**	-	0.00369 / 0.00419	0.000738 / <0.005	0.0813 / 0.107	0.424 / 0.394	-	-	-
MW-1	04/10/2003	440.96	15.55	425.41	-	**4.8** / **4.9**	-	<0.01 / <0.02	<0.002 / <0.002	0.072 / 0.073	0.33 / 0.33	-	-	-
MW-1	09/05/2003	440.96	12.56	428.40	-	**2.6** / **2.9**	-	<0.005 / <0.01	0.0006 / 0.0006	0.037 / 0.042	0.16 / 0.18	-	-	-
MW-1	03/03/2004	440.96	15.85	425.11	-	**3.6** / **3.3**	-	<0.01 / <0.02	<0.002 / <0.002	0.046 / 0.043	0.22 / 0.2	-	-	-
MW-1	09/20/2004	440.96	15.32	425.64	-	**3.5** / **2.6**	-	<0.01 / <0.01	<0.0005 / <0.002	0.033 / 0.037	0.17 / 0.19	-	-	-
MW-1	04/04/2005	440.96	16.20	424.76	-	**2.8** / **2.5**	-	0.0023 / 0.0021	<0.0005 / <0.0005	0.022 / 0.024	0.11 / 0.13	-	-	-
MW-1	09/29/2005	440.91	14.16	426.75	-	**2.5** / 1.8	-	<0.005 / <0.005	<0.0005 / <0.0005	0.02 / 0.017	0.099 / 0.066	-	-	-
MW-1	03/24/2006	440.91	16.25	424.66	-	1.8 / 2	-	<0.01 / <0.01	<0.0005 / <0.0005	0.0088 / 0.011	0.049 / 0.06	-	-	-
MW-1	04/02/2008	440.91	16.48	424.43	0.325 / 0.466	**3.25** / **2.83**	<0.758 / <0.75	**0.00676** / **0.00564**	0.000652 / <0.0005	0.0023 / 0.00187	0.0123 / 0.0101	-	-	-
MW-1	07/20/2009	-	-	-	<0.056	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-1	07/26/2010	440.91	15.30	425.61	0.11 J / 0.097 J	1.0 / 1.1	-	0.0032 / 0.0032	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	-	-
MW-1	06/14/2011	440.91	15.26	425.65	-	-	-	-	-	-	-	-	-	-
MW-1	06/16/2011	-	-	-	<0.048	0.23	-	<0.0020	<0.0005	<0.0005	<0.0015	-	-	-
MW-1	08/20/2012	440.91	14.75	426.16	0.085 J	0.99	-	**0.0074**	0.0016 J	<0.0005	<0.0015	-	-	-
MW-1	07/26/2013	440.91	14.91	426.00	-	-	-	-	-	-	-	-	-	-
MW-1	07/27/2013	-	-	-	0.20 J	1.0 J	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
MW-1	01/29/2014	440.91	14.95	425.96	<0.20	<0.050	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
MW-1	09/24/2014	446.51	12.75	433.76	-	-	-	-	-	-	-	-	-	-
MW-1	09/25/2014	-	-	-	0.092 J	0.056 J	-	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-
MW-1	9/14/2015	446.51	12.65	433.86	<0.051	0.072 J	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-2	06/22/1994	439.45	13.61	425.84	-	**37**	-	**11**	**9.3**	**1.2**	4.9	-	-	-
MW-2	09/28/1994	439.45	13.50	425.95	-	**67**	-	**18.8**	**13.8**	**1.4**	6.7	-	-	-
MW-2	11/21/1994	439.45	14.07	425.38	-	**140**	-	**38**	**33**	**4**	**14**	-	-	-
MW-2	03/29/1995	439.45	14.73	424.72	-	**110**	-	**29**	**26**	**2.1**	10	-	-	-
MW-2	06/29/1995	439.42	13.08	426.34	-	**42**	-	**8.3**	**8.1**	**1.1**	4.7	-	-	-
MW-2	09/19/1995	439.42	11.75	427.67	-	**26**	-	**5.4**	**6.1**	0.65	2.3	-	-	-
MW-2	12/13/1995	439.42	13.60	425.82	-	**170 / 150**	-	**24 / 24**	**29 / 28**	**1.3 / 1.3**	7.5 / 7.7	-	-	-
MW-2	03/08/1996	439.42	14.70	424.72	-	**91 / 100**	-	**18 / 22**	**14 / 22**	**1 / 1.7**	5.5 / 9.8	-	-	-
MW-2	06/01/1996	439.42	13.72	425.70	-	**83.9 / 80.1**	-	**17.1 / 16.6**	**14.4 / 13.8**	**1.03 / 1.01**	4.97 / 4.85	-	-	-
MW-2	09/18/1996	439.42	13.79	425.63	-	**12.4**	-	**1.26**	**1.25**	0.132	0.925	-	-	-
MW-2	12/11/1996	439.42	14.20	425.22	-	**26 / 24.8**	-	**1.86 / 1.9**	**5.52 / 5.36**	0.473 / 0.459	3.47 / 3.24	-	-	-
MW-2	03/13/1997	439.42	14.59	424.83	-	0.741	-	**0.0788**	0.159	0.00954	0.134	-	-	-
MW-2	06/18/1997	439.42	15.15	424.27	-	0.067 / 0.0652	-	0.00221 / 0.00266	0.00631 / 0.00751	0.00293 / 0.00245	0.0182 / 0.0162	-	-	-
MW-2	09/19/1997	439.42	14.28	425.14	-	<0.5	-	<0.0005	0.000797	<0.0005	0.00145	-	-	-
MW-2	12/10/1997	439.42	13.84	425.58	-	<0.5	-	0.000529	0.000801	0.00102	0.00472	-	-	-
MW-2	03/30/1998	439.42	14.65	424.77	-	0.15	-	<0.0005	0.00684	0.00728	0.0536	-	-	-
MW-2	06/09/1998	439.42	17.12	422.30	-	<0.5	-	<0.0005	0.00149	0.000726	0.00356	-	-	-
MW-2	09/16/1998	439.42	14.81	424.61	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-2	12/28/1998	439.42	13.19	426.23	-	<0.5	-	<0.001	<0.001	<0.001	<0.002	-	-	-
MW-2	03/13/1999	439.42	14.75	424.67	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-2	06/22/1999	439.42	15.36	424.06	-	<0.5	-	0.00203	<0.0005	0.0012	0.00723	-	-	-
MW-2	09/28/1999	439.42	14.29	425.13	-	0.063 / 0.077	-	0.00314 / 0.00333	0.000887 / <0.0005	0.00483 / 0.00544	0.0049 / 0.00485	-	-	-
MW-2	12/15/1999	439.42	14.59	424.83	-	0.0802	-	**0.00736**	<0.0005	0.00286	0.00451	-	-	-
MW-2	03/21/2000	439.42	15.04	424.38	-	0.0516	-	**0.00648**	<0.0005	0.00148	0.00213	-	-	-
MW-2	06/20/2000	439.42	12.77	426.65	-	<0.8	-	0.00189	<0.0005	<0.0005	0.00302	-	-	-
MW-2	09/13/2000	439.42	11.74	427.68	-	<0.5	-	0.00169	<0.0005	0.000807	0.00345	-	-	-
MW-2	12/13/2000	439.42	13.59	425.83	-	1.08	-	**0.00594**	<0.00103	0.0564	0.195	-	-	-
MW-2	03/20/2001	439.42	14.39	425.03	-	0.427	-	**0.00507**	<0.0005	0.0272	0.0686	-	-	-
MW-2	06/20/2001	439.42	13.58	425.84	-	0.147	-	0.00203	<0.0005	0.00999	0.0209	-	-	-
MW-2	09/18/2001	439.42	12.83	426.59	-	0.431	-	0.00251	0.0005	0.0264	0.102	-	-	-
MW-2	03/25/2002	439.42	14.97	424.45	-	1.16	-	0.00373	0.00487	0.0986	0.315	-	-	-
MW-2	09/15/2002	439.42	11.76	427.66	-	1.34	-	**0.00747**	<0.005	0.0759	0.319	-	-	-
MW-2	04/10/2003	439.42	13.91	425.51	-	**2.7**	-	**0.0064**	<0.0005	0.2	0.62	-	-	-
MW-2	09/05/2003	439.42	11.28	428.14	-	1.6	-	0.0043	<0.0005	0.11	0.43	-	-	-
MW-2	03/01/2004	439.42						**Well Beneath snowbank, no access**						
MW-2	09/20/2004	439.42	14.03	425.39	-	**2.3**	-	**0.0051**	<0.0005	0.15	0.41	-	-	-
MW-2	04/04/2005	439.42	14.75	424.67	-	1.9	-	0.0026	<0.0005	0.072	0.55	-	-	-
MW-2	09/29/2005	439.39	12.76	426.66	-	**2.6**	-	**0.0058**	0.0007	0.14	0.6	-	-	-
MW-2	03/26/2006	439.39	14.79	424.60	-	**2.7**	-	0.0038	<0.0005	0.096	0.68	-	-	-
MW-2	04/02/2008	439.39	14.90	424.49	-	-	-	-	-	-	-	-	-	-
MW-2	04/05/2008	-	-	-	0.674	1.81	<0.714	0.00317	<0.0005	0.0471	0.456	-	-	-
MW-2	07/21/2009	-	-	-	0.68	0.54	-	<0.0005	<0.0005	0.0077	0.12	-	-	-
MW-2	07/25/2010	439.39	13.70	425.69	0.64	1.7	-	0.0031	0.0006 J	0.027	0.28	-	-	-
MW-2	06/14/2011	439.39	13.61	425.78	-	-	-	-	-	-	-	-	-	-
MW-2	08/02/2011	439.39	12.51	426.88	0.19 J / 0.22 J	0.55 / 0.53	-	0.0032 / 0.0031	<0.0005 / <0.0005	0.010 / 0.0098	0.086 / 0.079	-	-	-
MW-2	08/20/2012	439.39	13.40	425.99	0.85	1.4	-	0.0032	0.0005 J	0.014	0.16	-	-	-
MW-2	07/26/2013	439.39	13.49	425.90	-	-	-	-	-	-	-	-	-	-
MW-2	07/27/2013	-	-	-	0.71	0.72	-	0.0015	<0.00023	0.011	0.17	-	-	-
MW-2	01/29/2014	439.39	14.38	425.01	1.2	<0.050	-	0.00063 J	<0.00023	<0.00024	0.0038	-	-	-
MW-2	09/14/2015	439.39	11.71	427.68	0.11 J	0.085 J	-	<0.0005	<0.0005	<0.0005	0.0008 J	-	-	-
MW-3	06/22/1994	439.84	14.25	425.59	-	ND	-	ND	ND	ND	ND	-	-	-

Table 1

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Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-3	09/27/1994	439.84	13.75	426.09	-	ND	-	0.0016	0.002	ND	0.001	-	-	-
MW-3	11/22/1994	439.84	14.38	425.46	-	ND	-	0.0013	ND	ND	ND	-	-	-
MW-3	03/29/1995	439.84	15.07	424.77	-	ND	-	0.0021	0.002	ND	0.006	-	-	-
MW-3	06/29/1995	439.93	13.40	426.53	-	ND	-	0.0006	ND	ND	ND	-	-	-
MW-3	09/18/1995	439.93	12.08	427.85	-	ND	-	0.0006	ND	ND	ND	-	-	-
MW-3	12/12/1995	439.93	14.10	425.83	-	ND	-	ND	ND	ND	ND	-	-	-
MW-3	03/08/1996	439.93	15.12	424.81	ND	ND	-	ND	ND	ND	ND	-	-	-
MW-3	05/30/1996	439.93	14.16	425.77	-	ND	-	ND	ND	ND	ND	-	-	-
MW-3	09/18/1996	439.93	14.20	425.73	-	ND	-	ND	ND	ND	ND	-	-	-
MW-3	12/11/1996	439.93	15.10	424.83	-	ND	-	ND	ND	ND	ND	-	-	-
MW-3	03/13/1997	439.93	15.61	424.32	-	ND	-	ND	ND	ND	ND	-	-	-
MW-3	06/18/1997	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/19/1997	439.93	14.32	425.61	-	<0.5	-	<0.0005	<0.0005	<0.0005	0.0011	-	-	-
MW-3	12/10/1997	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	06/09/1998	439.93	15.30	424.63	-	<0.5 / <0.5	-	<0.0005 / <0.0005	<0.0005 / <0.0005	0.000592 / <0.0005	0.0022 / 0.00176	-	-	-
MW-3	09/16/1998	439.93	13.69	426.24	-	0.178	-	<0.0005	0.00504	0.00805	0.0687	-	-	-
MW-3	12/28/1998	439.93	15.26	424.67	-	<0.5	-	<0.001	<0.001	<0.001	<0.002	-	-	-
MW-3	03/13/1999	439.93	15.89	424.04	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-3	06/22/1999	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/28/1999	439.93	14.32	425.61	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-3	12/15/1999	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/21/2000	439.93	15.04	424.89	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.0001	-	-	-
MW-3	06/20/2000	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/13/2000	439.93	12.42	427.51	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.0001	-	-	-
MW-3	12/13/2000	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/20/2001	439.93	15.10	424.83	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.0001	-	-	-
MW-3	06/20/2001	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/18/2001	439.93	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/25/2002	439.93	15.74	424.19	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
MW-3	04/09/2003	439.93	15.13	424.80	-	0.012	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3	09/01/2004	439.93						Well decommissioned due to damage on 8/19/2004.						
MW-3R	09/29/2005	440.14	13.38	426.76	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3R	03/24/2006	440.14	15.31	424.83	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3R	04/02/2008	440.14	15.45	424.69	-	-	-	-	-	-	-	-	-	-
MW-3R	04/05/2008	-	-	-	0.506	<0.05	<0.735	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-3R	07/21/2009	-	-	-	0.12	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3R	07/26/2010	440.14	14.19	425.95	0.12 J	0.012 J	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3R	06/14/2011	440.14	14.14	426.00	-	-	-	-	-	-	-	-	-	-
MW-3R	06/15/2011	-	-	-	0.24 J	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-3R	08/20/2012	440.14	13.95	426.19	<0.049	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-4	06/20/1994	439.23	13.51	425.72	-	**140**	-	**7.7**	**56**	**4.6**	**20**	-	-	-
MW-4	09/27/1994	439.23	13.15	426.08	-	**98**	-	**5.51**	**35**	**3.8**	**17.8**	-	-	-
MW-4	11/21/1994	439.23	13.74	425.49	-	**120**	-	**5.2**	**42**	**5**	**28**	-	-	-
MW-4	03/29/1995	439.23	14.44	424.79	-	**60**	-	**1**	**17**	**2.6**	**15**	-	-	-
MW-4	06/29/1995	439.16	12.76	426.40	**1.9**	**79**	-	**0.79**	**20**	**3.3**	**16**	-	-	-
MW-4	09/18/1995	439.16	11.35	427.81	-	**47**	-	**0.4**	**11**	**1.8**	**12**	-	-	-
MW-4	12/13/1995	439.16	13.30	425.86	-	**87**	-	**0.45**	**12**	**2.3**	**14**	-	-	-
MW-4	03/08/1996	439.16	14.39	424.77	-	**130**	-	**0.66**	**33**	**5.3**	**30**	-	-	-
MW-4	05/31/1996	439.16	13.38	425.78	-	**102**	-	**0.407**	**15.9**	**3.45**	**22.3**	-	-	-
MW-4	09/19/1996	439.16	13.45	425.71	-	**92.1**	-	**0.332**	**11**	**3.37**	**22.2**	-	-	-

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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-4	12/12/1996	439.16	14.22	424.94	-	**39.8**	-	**0.164**	**3.81**	**1.33**	**10.3**	-	-	-
MW-4	03/13/1997	439.16	14.81	424.35	-	**37.2**	-	**0.141**	**3.15**	**1.21**	**10.1**	-	-	-
MW-4	06/18/1997	439.16	13.81	425.35	-	**33.8**	-	<0.1	**2.76**	**1.27**	9.77	-	-	-
MW-4	09/19/1997	439.16	13.42	425.74	-	**34**	-	<0.1	**3.5**	**1.62**	**12.3**	-	-	-
MW-4	12/10/1997	439.16	14.33	424.83	-	**38.7**	-	**0.0506**	**1.82**	**1.33**	**11.3**	-	-	-
MW-4	03/30/1998	439.16	15.03	424.13	-	**20.5**	-	<0.05	**1.27**	**0.849**	6.66	-	-	-
MW-4	06/09/1998	439.16	14.34	424.82	-	**18.7**	-	<0.05	0.771	0.673	6.53	-	-	-
MW-4	09/16/1998	439.16	12.74	426.42	-	**29.1**	-	**0.0338**	0.818	**1.15**	9.45	-	-	-
MW-4	12/28/1998	439.16	14.43	424.73	-	**25.9**	-	**0.00803**	0.275	**0.939**	7.03	-	-	-
MW-4	03/13/1999	439.16	15.02	424.14	-	**13.6**	-	<0.05	0.122	0.644	4.82	-	-	-
MW-4	06/22/1999	439.16	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	09/28/1999	439.16	13.49	425.67	-	**22.7**	-	<0.04	0.095	**0.766**	4.89	-	-	-
MW-4	12/15/1999	439.16	14.29	424.87	-	**17.5**	-	**0.0225**	0.0454	**0.71**	3.7	-	-	-
MW-4	03/21/2000	439.16	14.75	424.41	-	**12.5**	-	<0.025	0.0276	0.366	1.99	-	-	-
MW-4	06/20/2000	439.16	12.47	426.69	-	**14.9**	-	**0.0235**	0.0475	0.395	1.79	-	-	-
MW-4	09/13/2000	439.16	11.45	427.71	-	**12.4**	-	<0.01	0.0278	0.386	2.01	-	-	-
MW-4	12/13/2000	439.16	13.24	425.92	-	**11.5**	-	<0.01	<0.025	0.442	1.91	-	-	-
MW-4	03/20/2001	439.16	14.10	425.06	-	**9.26**	-	<0.0042	<0.01	0.326	1.34	-	-	-
MW-4	06/20/2001	439.16	13.27	425.89	-	**7.96**	-	**0.0125**	0.0114	0.36	**13.91**	-	-	-
MW-4	09/18/2001	439.16	12.51	426.65	-	**9.65**	-	**0.0129**	<0.01	0.373	1.53	-	-	-
MW-4	03/25/2002	439.16	14.65	424.51	-	**8.38 / 4.2**	-	**0.00919 / 0.00646**	0.00536 / <0.005	0.259 / 0.115	0.94 / 0.342	-	-	-
MW-4	09/15/2002	439.16	11.46	427.70	-	**8.69**	-	**0.00693**	<0.005	0.315	1.17	-	-	-
MW-4	04/10/2003	439.16	13.96	425.20	-	**5.6**	-	<0.01	0.0013	0.15	0.52	-	-	-
MW-4	09/05/2003	439.16	10.88	428.28	-	**6.3**	-	<0.02	0.0015	0.17	0.43	-	-	-
MW-4	03/03/2004	439.16	14.09	425.07	-	**3.8**	-	<0.02	0.001	0.11	0.3	-	-	-
MW-4	09/20/2004	439.16	13.72	425.44	-	**6.1**	-	<0.02	<0.0025	0.12	0.28	-	-	-
MW-4	04/04/2005	439.16	14.48	424.68	-	**4**	-	0.0032	0.0007	0.056	0.13	-	-	-
MW-4	09/29/2005	438.98	12.50	426.66	-	**3.2**	-	<0.01	<0.005	0.029	0.083	-	-	-
MW-4	03/24/2006	438.98	14.30	424.68	-	2.1	-	0.0041	<0.0005	0.023	0.045	-	-	-
MW-4	04/02/2008	438.98	14.47	424.51	-	-	-	-	-	-	-	-	-	-
MW-4	04/05/2008	-	-	-	0.511	**2.5**	<0.773	**0.00581**	0.000569	0.0113	0.0219	-	-	-
MW-4	07/21/2009	-	-	-	0.13	0.18	-	0.0005	<0.0005	0.0021	0.0033	-	-	-
MW-4	07/25/2010	438.98	13.20	425.78	0.092 J	0.049 J	-	<0.0005	<0.0005	0.0005 J	0.0021 J	-	-	-
MW-4	06/14/2011	438.98	13.11	425.87	-	-	-	-	-	-	-	-	-	-
MW-4	08/02/2011	438.98	12.04	426.94	0.087 J	0.031 J	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-4	08/20/2012	438.98	12.93	426.05	<0.049	0.049 J	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-4	07/26/2013	438.98	13.03	425.95	-	-	-	-	-	-	-	-	-	-
MW-4	07/27/2013	-	-	-	0.14 J	<0.050	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
MW-4	01/29/2014	438.98	13.46	425.52	0.46	<0.050	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
MW-4	09/24/2014	444.83	10.76	434.07	-	-	-	-	-	-	-	-	-	-
MW-4	09/25/2014	-	-	-	0.28 J	<0.050	-	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-
MW-4	09/14/2015	444.83	11.32	433.51	-	-	-	-	-	-	-	-	-	-
MW-4	09/15/2015	-	-	-	0.12 J	0.040 J	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-
MW-5	06/22/1994	439.90	13.95	426.99	-	**150**	-	**33**	**45**	**3.8**	**16**	-	-	-
MW-5	09/27/1994	439.90	13.82	427.12	-	**103**	-	**22.8**	**24.1**	**2.9**	**13.9**	-	-	-
MW-5	11/21/1994	439.90	14.44	426.50	-	**150**	-	**29**	**39**	**5**	**30**	-	-	-
MW-5	03/29/1995	439.90	15.10	425.84	-	**160**	-	**12**	**25**	**5**	**50**	-	-	-
MW-5	06/29/1995	439.82	13.45	426.37	-	**19**	-	**17**	**37**	**5.2**	**33**	-	-	-
MW-5	09/19/1995	439.82	12.10	427.72	-	**170**	-	**26**	**48**	**4**	**26**	-	-	-
MW-5	12/13/1995	439.82	13.85	425.97	-	**420**	-	**43**	**60**	**56**	**35**	-	-	-
MW-5	03/08/1996	439.82	14.90	424.92	**2**	**240**	-	**37**	**46**	**3.2**	**15**	-	-	-

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-5	06/01/1996	439.82	14.07	425.75	-	**124**	-	**15.4**	**25.4**	**2.11**	9.89	-	-	-
MW-5	09/17/1996	439.82	14.11	425.71	-	**176**	-	**22.4**	**36.2**	**2.83**	**14.4**	-	-	-
MW-5	12/11/1996	439.82	14.81	425.01	-	**175**	-	**17.2**	**34.5**	**3.21**	**18.2**	-	-	-
MW-5	03/13/1997	439.82	15.46	424.36	-	**54**	-	**3.12**	**12.9**	**0.986**	8.43	-	-	-
MW-5	06/18/1997	439.82	14.61	425.21	-	**7.15**	-	**0.23**	0.953	0.259	1.21	-	-	-
MW-5	09/19/1997	439.82	14.20	425.62	-	2.15 / **3.05**	-	**0.0261** / <0.0125	0.402 / 0.613	0.108 / 0.158	0.551 / 0.769	-	-	-
MW-5	12/10/1997	439.82	15.00	424.82	-	**7.7** / **6.39**	-	**0.16** / **0.138**	0.427 / 0.418	0.336 / 0.34	1.94 / 1.72	-	-	-
MW-5	03/30/1998	439.82	16.72	423.10	-	1.69	-	**0.00589**	0.389	0.062	0.322	-	-	-
MW-5	06/09/1998	439.82	15.14	424.68	-	1.28	-	<0.005	0.281	0.0452	0.213	-	-	-
MW-5	09/16/1998	439.82	13.53	426.29	-	**2.82** / **2.45**	-	<0.0125 / <0.01	0.13 / 0.132	0.141 / 0.145	0.796 / 0.814	-	-	-
MW-5	12/28/1998	439.82	15.09	424.73	-	**3.33**	-	0.0021	0.06	0.218	0.881	-	-	-
MW-5	03/13/1999	439.82	15.67	424.15	-	**4.49** / **5.37**	-	**0.0267** / **0.03**	0.065 / 0.079	0.391 / 0.45	1.22 / 1.41	-	-	-
MW-5	06/22/1999	439.82	14.72	425.10	-	**5.66**	-	**0.0307**	0.539	0.207	0.991	-	-	-
MW-5	09/28/1999	439.82	14.18	425.64	-	**8.47**	-	<0.025	0.052	0.282	1.46	-	-	-
MW-5	12/15/1999	439.82	14.95	424.87	-	**7.58** / **5.9**	-	**0.0305** / **0.0238**	0.0454 / 0.0318	0.411 / 0.307	1.92 / 1.38	-	-	-
MW-5	03/21/2000	439.82	15.40	424.42	-	**5.38**	-	**0.013**	0.0707	0.179	0.708	-	-	-
MW-5	06/20/2000	439.82	13.13	426.69	-	**5.47** / **4.79**	-	**0.0143** / **0.0142**	0.153 / 0.14	0.184 / 0.171	0.875 / 0.74	-	-	-
MW-5	09/13/2000	439.82	12.16	427.66	-	**9.57**	-	**0.0117**	0.134	0.38	2.19	-	-	-
MW-5	12/13/2000	439.82	13.89	425.93	-	**13**	-	<0.01	0.251	0.576	3.73	-	-	-
MW-5	03/20/2001	439.82	14.74	425.08	-	**15.1**	-	<0.021	0.338	0.637	3.71	-	-	-
MW-5	06/20/2001	439.82	13.98	425.84	-	**11.8**	-	**0.00715**	0.325	0.455	2.9	-	-	-
MW-5	09/18/2001	439.82	13.13	426.69	-	**11.5**	-	**0.013**	0.223	0.485	3.26	-	-	-
MW-5	03/25/2002	439.82	15.30	424.52	-	**9.63**	-	**0.00552**	0.0291	0.448	3.24	-	-	-
MW-5	09/15/2002	439.82	12.13	427.69	-	**15.3**	-	**0.00898**	0.0296	0.577	4.59	-	-	-
MW-5	04/10/2003	439.82	14.49	425.33	-	**23**	-	<0.01	0.021	**0.85**	6.8	-	-	-
MW-5	09/05/2003	439.82	11.64	428.18	-	**18**	-	**0.03**	0.037	0.57	4.6	-	-	-
MW-5	03/03/2004	439.82	14.83	424.99	-	**24**	-	<0.02	0.0058	0.68	5.6	-	-	-
MW-5	09/20/2004	439.82	14.37	425.45	-	**20**	-	<0.02	0.0042	0.5	4.5	-	-	-
MW-5	04/04/2005	439.82	15.13	424.69	-	**11**	-	0.0044	0.0022	0.24	2.4	-	-	-
MW-5	09/29/2005	439.82	13.15	426.67	1.4	**13**	<0.1	<0.01	<0.0025	0.27	2.3	-	-	-
MW-5	03/26/2006	439.82	15.15	424.67	**2.8**	**11**	<0.42	**0.0095**	0.0019	0.21	1.9	-	-	-
MW-5	04/02/2008	439.82	15.58	424.24	0.359	<0.05	<0.765	<0.0005	0.000647	<0.0005	<0.001	-	-	-
MW-5	07/20/2009	-	-	-	**3.9**	**12**	-	**0.0096**	0.0014	0.067	0.48	-	-	-
MW-5	07/25/2010	439.82	14.09	425.73	1.1 J	**5.1**	-	**0.0067**	0.0006 J	0.0090	0.059	-	-	-
MW-5	09/09/2010	439.82	13.91	425.91	-	-	-	-	-	-	-	-	-	<0.010 / <0.010
MW-5	06/14/2011	439.82	13.97	425.85	-	-	-	-	-	-	-	-	-	-
MW-5	06/16/2011	-	-	-	**3.7**	**5.9**	-	**0.0078 J**	<0.0025	0.0089 J	0.058	-	-	-
MW-5	08/20/2012	439.82	13.76	426.06	**4.3** / **4.3**	**8.0** / **7.2**	-	**0.013** / **0.0094 J**	0.0036 J / 0.0028 J	0.0046 J / 0.0038 J	0.020 J / 0.019 J	<0.0000097 / <0.0000097	<0.001 / <0.003	-
MW-5	07/26/2013	439.82	13.83	425.99	-	-	-	-	-	-	-	-	-	-
MW-5	07/27/2013	-	-	-	**2.5** / **2.2**	1.6 / 1.6 J	-	0.00049 J / 0.00051 J	<0.00023 / <0.00023	0.0014 / 0.0013	0.0076 / 0.0071	-	-	-
MW-5	01/29/2014	439.82	14.76	425.06	**4.0 J** / **2.2 J**	**3.0** / **3.0**	-	0.00080 J / <0.0024	0.00036 J / <0.0023	0.0012 / <0.0024	0.0055 / <0.0072	-	-	-
MW-5	09/14/2015	439.82	12.10	427.72	**2.6** / **2.6**	**4.2** / **4.3**	-	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / 0.0005 J	0.002 / 0.002	-	-	-
MW-6	06/20/1994	439.39	13.88	425.51	-	**13**	-	**2.3**	0.65	**0.85**	2.6	-	-	-
MW-6	09/28/1994	439.39	13.44	425.95	-	**9**	-	**2.43**	0.9	0.7	1.8	-	-	-
MW-6	11/21/1994	439.39	14.03	425.36	-	**28**	-	**5.8**	**7.8**	**1.6**	5.2	-	-	-
MW-6	03/29/1995	439.39	14.69	424.70	-	**32**	-	**3.4**	**7**	**1.7**	6.5	-	-	-
MW-6	06/29/1995	439.37	13.06	426.31	-	**4.2**	-	**0.23**	0.008	0.51	0.96	-	-	-
MW-6	09/18/1995	439.37	11.69	427.68	-	**2.4**	-	**0.19**	0.017	0.3	0.39	-	-	-
MW-6	12/13/1995	439.37	13.65	425.72	-	**39**	-	**3.6**	**7.3**	**1.2**	4	-	-	-
MW-6	03/08/1996	439.37	14.67	424.70	-	**58**	-	**3.6**	**17**	**2.1**	7.9	-	-	-
MW-6	05/31/1996	439.37	13.66	425.71	-	**15.3**	-	**0.377**	**1.02**	**0.972**	3.38	-	-	-

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Former Texaco Service Station 211079
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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-6	09/17/1996	439.37	13.74	425.63	-	**15.4**	-	**0.848**	**2.08**	**0.84**	2.5	-	-	-
MW-6	12/12/1996	439.37	14.55	424.82	-	**31.7**	-	**2.08**	**7.24**	**1.16**	3.39	-	-	-
MW-6	03/13/1997	439.37	15.10	424.27	-	**22.4**	-	**0.773**	**4.51**	**1.17**	3.95	-	-	-
MW-6	06/18/1997	439.37	14.23	425.14	-	**8.06**	-	**0.124**	0.05	**0.846**	1.68	-	-	-
MW-6	09/20/1997	439.37	13.85	425.52	-	**2.46**	-	**0.0724**	0.0331	0.387	0.39	-	-	-
MW-6	12/10/1997	439.37	14.63	424.74	-	**5.13**	-	**0.728**	**5.13**	**1.13**	2.64	-	-	-
MW-6	03/31/1998	439.37	15.37	424.00	-	**12.2**	-	**0.174**	0.638	**1.31**	3.47	-	-	-
MW-6	06/08/1998	439.37	14.77	424.60	-	**4.55**	-	**0.0649**	0.21	0.665	1.23	-	-	-
MW-6	09/16/1998	439.37	13.16	426.21	-	0.87	-	**0.0144**	<0.0025	0.173	0.159	-	-	-
MW-6	12/29/1998	439.37	14.70	424.67	-	**16.9**	-	**0.249**	**4.21**	**1.11**	2.71	-	-	-
MW-6	03/14/1999	439.37	15.35	424.02	-	**23**	-	**0.176**	**4.55**	**1.82**	5.84	-	-	-
MW-6	06/22/1999	439.37	14.36	425.01	-	**5.91**	-	**0.0271**	<0.01	**0.769**	1.78	-	-	-
MW-6	09/28/1999	439.37	13.78	425.59	-	0.698	-	**0.0095**	<0.0025	0.117	0.142	-	-	-
MW-6	12/16/1999	439.37	14.59	424.78	-	**4.24** / **4.55**	-	**0.102** / **0.0971**	0.24 / 0.226	0.562 / 0.522	0.964 / 0.903	-	-	-
MW-6	03/21/2000	439.37	15.04	424.33	-	**10.4**	-	**0.0599**	**1.41**	**0.907**	1.91	-	-	-
MW-6	06/20/2000	439.37	12.77	426.60	-	**2.99**	-	**0.0135**	0.00408	0.407	0.585	-	-	-
MW-6	09/13/2000	439.37	11.80	427.57	-	0.439	-	0.0042	<0.0005	0.0457	0.0888	-	-	-
MW-6	12/13/2000	439.37	13.45	425.92	-	0.655	-	**0.00841**	0.00103	0.049	0.0695	-	-	-
MW-6	03/20/2001	439.37	14.42	424.95	-	**24.9**	-	**0.238**	**2.52**	**1.77**	6.26	-	-	-
MW-6	06/20/2001	439.37	13.56	425.81	-	**7.54**	-	**0.0543**	0.0153	**0.967**	2.22	-	-	-
MW-6	09/18/2001	439.37	12.84	426.53	-	0.976	-	**0.0134**	<0.25	0.171	0.233	-	-	-
MW-6	03/25/2002	439.37	14.98	424.39	-	**13.8**	-	**0.42**	0.0788	**1.41**	3.3	-	-	-
MW-6	04/16/2002	439.37	-	-	-	**24.6**	-	**0.198**	**1.41**	**1.68**	6.16	-	-	-
MW-6	09/15/2002	439.37	11.79	427.58	-	0.34	-	0.00415	<0.0005	0.0116	0.0755	-	-	-
MW-6	04/09/2003	439.37	14.25	425.12	-	**23** / **24**	-	**0.25** / **0.27**	0.83 / 0.95	**1.5** / **1.6**	5.5 / 5.8	-	-	-
MW-6	09/05/2003	439.37	11.34	428.03	-	1.8	-	**0.023**	<0.0005	0.15	0.38	-	-	-
MW-6	03/03/2004	439.37	14.55	424.82	-	**25**	-	**0.34**	0.18	**1.4**	6.2	-	-	-
MW-6	09/20/2004	439.37	14.06	425.31	-	**3.8**	-	**0.094**	0.012	0.23	0.7	-	-	-
MW-6	04/04/2005	439.37	14.82	424.55	-	**5.9** / **6.1**	-	**0.078** / **0.078**	0.0006 / 0.0006	0.46 / 0.47	1.5 / 1.6	-	-	-
MW-6	09/29/2005	439.47							Well Inaccessible					
MW-6	03/24/2006	439.47	14.85	424.62	-	**16** / **17**	-	**0.25** / **0.25**	0.0087 / 0.0097	**1.3** / **1.3**	4 / 4.2	-	-	-
MW-6	04/02/2008	439.47	15.01	424.46	1.04 / 1.15	**7.56** / **7.28**	<0.773 / <0.781	**0.0438** / **0.0432**	0.00106 / 0.00108	0.56 / 0.534	1.8 / 1.75	-	-	-
MW-6	07/21/2009	-	-	-	0.16	0.73	-	**0.0063**	<0.0005	0.023	0.18	-	-	-
MW-6	07/26/2010	439.47	13.81	425.66	0.13 J / 0.15 J	0.33 / 0.31	-	0.0028 / 0.0028	<0.0005 / <0.0005	<0.0005 / <0.0005	0.0037 J / 0.0034 J	-	-	-
MW-6	07/26/2013	439.47							No Access					
MW-7	06/22/1994	439.72	13.97	425.75	-	**44**	-	**11**	**6.2**	**1.6**	5.5	-	-	-
MW-7	09/28/1994	439.72	13.90	425.82	-	**38**	-	**11.4**	**5.9**	**1.8**	5.8	-	-	-
MW-7	11/22/1994	439.72	14.46	425.26	-	**41**	-	**12**	**8.6**	**1.9**	6.9	-	-	-
MW-7	03/29/1995	439.72	15.12	424.60	-	**39**	-	**8.6**	**6.8**	**1.6**	6.1	-	-	-
MW-7	06/29/1995	439.70	13.45	426.25	-	**18**	-	**5.1**	**2.5**	**0.9**	2.6	-	-	-
MW-7	09/18/1995	439.70	12.08	427.62	-	**2.7**	-	**0.75**	0.005	0.25	0.286	-	-	-
MW-7	12/13/1995	439.70	14.00	425.70	-	**26**	-	**4.8**	0.53	**1**	3.8	-	-	-
MW-7	03/08/1996	439.70	15.10	424.60	-	**25**	-	**5.1**	0.25	**0.96**	2.4	-	-	-
MW-7	06/01/1996	439.70	14.11	425.59	-	**13.2**	-	**3.36**	0.0381	0.649	1.03	-	-	-
MW-7	09/18/1996	439.70	14.19	425.51	-	**15.8**	-	**4.06**	0.0526	**0.807**	1.12	-	-	-
MW-7	12/11/1996	439.70	14.98	424.72	-	**12.3**	-	**3.34**	0.0529	**0.715**	0.884	-	-	-
MW-7	03/13/1997	439.70	15.52	424.18	-	**13.6**	-	**3.37**	0.162	**0.785**	1.17	-	-	-
MW-7	06/18/1997	439.70	14.66	425.04	-	**4.63**	-	**1.43**	<0.0125	0.371	0.257	-	-	-
MW-7	09/20/1997	439.70	14.27	425.43	-	**3.23**	-	**1.25**	<0.01	0.305	0.181	-	-	-
MW-7	12/10/1997	439.70	14.95	424.75	-	**2.31**	-	**0.818**	<0.01	0.253	0.112	-	-	-
MW-7	03/31/1998	439.70	15.79	423.91	-	0.798	-	**0.28**	<0.0025	0.145	0.0127	-	-	-

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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-7	06/09/1998	439.70	15.19	424.51	-	0.473	-	**0.157**	0.00101	0.117	0.00789	-	-	-
MW-7	09/16/1998	439.70	13.57	426.13	-	0.264	-	**0.0553**	0.00217	0.0422	0.0323	-	-	-
MW-7	12/28/1998	439.70	15.15	424.55	-	0.186	-	**0.045**	0.00122	0.0343	0.02006	-	-	-
MW-7	03/13/1999	439.70	15.75	423.95	-	0.203 / 0.181	-	**0.061** / **0.0607**	<0.0005 / <0.0005	0.043 / 0.0426	<0.001 / <0.001	-	-	-
MW-7	06/22/1999	439.70	14.77	424.93	-	0.0859	-	**0.0243**	<0.0005	0.0075	<0.001	-	-	-
MW-7	09/28/1999	439.70	14.19	425.51	-	0.119 / 0.149	-	**0.0186** / **0.0218**	<0.0005 / 0.00082	0.0062 / 0.0073	0.0175 / 0.0217	-	-	-
MW-7	12/16/1999	439.70	14.97	424.73	-	0.0503	-	**0.0162**	<0.0005	0.00117	<0.001	-	-	-
MW-7	03/21/2000	439.70	15.42	424.28	-	0.0516	-	**0.0163**	<0.0005	<0.0005	<0.001	-	-	-
MW-7	06/20/2000	439.70	13.14	426.56	-	0.0516	-	**0.0156**	<0.0005	<0.0005	<0.001	-	-	-
MW-7	09/13/2000	439.70	12.17	427.53	-	<0.8	-	0.00499	<0.0005	<0.0005	<0.001	-	-	-
MW-7	12/13/2000	439.70	13.92	425.78	-	<0.8	-	0.00483	<0.0005	<0.0005	<0.001	-	-	-
MW-7	03/21/2001	439.70	14.79	424.91	-	<0.5 / <0.5	-	0.00309 / **0.0135**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	-	-	-
MW-7	06/20/2001	439.70	13.96	425.74	-	<0.5 / <0.5	-	**0.00702** / 0.00474	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	-	-	-
MW-7	09/18/2001	439.70	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/25/2002	439.70	15.31	424.39	-	1.16	-	0.00153	<0.0005	<0.0005	<0.001	-	-	-
MW-7	04/10/2003	439.70	14.66	425.04	-	0.015	-	0.0008	<0.0005	<0.0005	<0.0005	-	-	-
MW-7	03/03/2004	439.70	14.89	424.81	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	04/04/2005	439.70	14.90	424.50	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	03/24/2006	439.70	15.21	424.49	-	0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	04/02/2008	439.70	15.33	424.37	0.208	<0.05	<0.773	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-7	07/20/2009	-	-	-	0.072	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	07/25/2010	439.70	14.12	425.58	0.056 J	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	06/14/2011	439.70	14.05	425.65	-	-	-	-	-	-	-	-	-	-
MW-7	08/02/2011	439.70	12.95	426.75	<0.049	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-7	08/20/2012	439.70	13.85	425.85	<0.050	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	06/27/1995	439.58	13.39	426.19	0.1	1.65	-	**0.711**	0.001	0.03	0.019	-	-	-
MW-8	09/19/1995	439.58	12.03	427.55	-	**4.4**	-	**2.2**	0.015	0.102	0.154	-	-	-
MW-8	12/13/1995	439.58	13.96	425.62	**2.4**	**7.2**	-	**0.24**	ND	0.0028	0.0017	-	-	-
MW-8	03/08/1996	439.58	15.03	424.55	-	**2.6**	-	ND	ND	0.013	0.0035	-	-	-
MW-8	05/31/1996	439.58	14.03	425.55	0.478	1.94	-	**0.726**	ND	0.00442	0.0101	-	-	-
MW-8	09/16/1996	439.58	14.11	425.47	-	1.36	-	**0.593**	ND	0.00107	ND	-	-	-
MW-8	12/11/1996	439.58	14.93	424.65	-	1.31	-	**0.592**	0.000518	0.00309	0.00105	-	-	-
MW-8	03/13/1997	439.58	15.41	424.17	-	0.362	-	**0.126**	ND	0.00167	ND	-	-	-
MW-8	06/18/1997	439.58	14.58	425.00	-	1.71	-	**0.673**	<0.005	<0.005	<0.01	-	-	-
MW-8	09/20/1997	439.58	14.19	425.39	-	0.114	-	**0.0529**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	12/10/1997	439.58	14.95	424.63	-	0.0787	-	**0.0334**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	03/20/1998	439.58	15.72	423.86	-	-	-	-	-	-	-	-	-	-
MW-8	06/09/1998	439.58	15.11	424.47	-	0.427	-	**0.299**	<0.0025	0.00302	0.00814	-	-	-
MW-8	09/16/1998	439.58	13.49	426.09	-	1.87	-	**1.53**	<0.01	0.0367	0.0517	-	-	-
MW-8	12/29/1998	439.58	15.10	424.48	-	0.485	-	**0.257**	<0.0025	<0.0025	<0.005	-	-	-
MW-8	03/14/1999	439.58	15.68	423.90	-	<0.5	-	**0.019**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	06/22/1999	439.58	14.70	424.88	-	1.13	-	**0.534**	<0.01	<0.01	<0.02	-	-	-
MW-8	09/28/1999	439.58	14.12	425.46	-	1.4	-	**0.637**	<0.01	<0.01	<0.02	-	-	-
MW-8	12/16/1999	439.58	14.89	424.69	-	0.0775	-	**0.04**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	03/21/2000	439.58	15.35	424.23	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-8	06/20/2000	439.58	13.06	426.52	-	1.13	-	**0.436**	<0.005	0.00504	<0.01	-	-	-
MW-8	09/14/2000	439.58	12.06	427.52	-	0.242	-	**0.106**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	12/14/2000	439.58	13.84	425.74	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
MW-8	03/21/2001	439.58	14.71	424.87	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
MW-8	06/20/2001	439.58	13.89	425.69	-	0.296	-	**0.141**	<0.0005	<0.0005	<0.001	-	-	-
MW-8	09/18/2001	439.58	-	-	-	-	-	-	-	-	-	-	-	-

Table 1

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Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-8	03/25/2002	439.58	15.30	424.28	-	<0.05	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
MW-8	04/10/2003	439.58	14.58	425.00	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	03/03/2004	439.58	14.80	424.78	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	04/04/2005	439.58	15.11	424.47	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	03/24/2006	439.58	15.13	424.45	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	04/02/2008	439.58	15.44	424.14					Ice in well casing prevented access					
MW-8	07/20/2009	-	-	-	<0.052	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	07/25/2010	439.58	14.09	425.49	<0.049	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	06/14/2011	439.58	13.90	425.68	-	-	-	-	-	-	-	-	-	-
MW-8	06/15/2011	-	-	-	<0.052	<0.010	-	0.0014 J	<0.0005	<0.0005	<0.0015	-	-	-
MW-8	08/20/2012	439.58	13.79	425.79	<0.049	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
MW-9	06/30/1995	438.76	12.51	426.25	-	**87**	-	**3.7**	**2.1**	**3.8**	**16**	-	-	-
MW-9	09/19/1995	438.76	11.10	427.66	-	**78**	-	**3.2**	**37**	**3.1**	**14**	-	-	-
MW-9	12/13/1995	438.76	13.00	425.76	-	**91**	-	**2.9**	**18**	**2.3**	**11**	-	-	-
MW-9	03/08/1996	438.76	14.10	424.66	-	**110 / 110**	-	**3.7 / 3.8**	**34 / 35**	**3.6 / 3.7**	**17 / 17**	-	-	-
MW-9	05/30/1996	438.76	13.10	425.66	-	**104**	-	**2.53**	**22.8**	**3.52**	**15.9**	-	-	-
MW-9	09/16/1996	438.76	13.19	425.57	-	**72.4**	-	**1.67**	**16**	**2.4**	**10.9**	-	-	-
MW-9	12/12/1996	438.76	13.96	424.80	-	**111**	-	**2.29**	**24.9**	**4.44**	**18.3**	-	-	-
MW-9	03/13/1997	438.76	14.52	424.24	-	**84.7 / 79.3**	-	**1.62 / 1.58**	**19.3 / 19.1**	**2.94 / 2.84**	**13.8 / 13.5**	-	-	-
MW-9	06/18/1997	438.76	13.66	425.10	-	**74.4 / 74.6**	-	**1.12 / 1.13**	**14.7 / 14.8**	**3.34 / 3.24**	**14.3 / 13.9**	-	-	-
MW-9	09/20/1997	438.76	13.27	425.49	-	**59.2**	-	**0.84**	**15.9**	**2.87**	**12.6**	-	-	-
MW-9	12/10/1997	438.76	14.00	424.76	-	**66.8 / 69.8**	-	**0.76 / 0.804**	**16.7 / 17**	**2.99 / 3.57**	**16 / 16.6**	-	-	-
MW-9	03/30/1998	438.76	14.80	423.96	-	**57.9**	-	**0.508**	**13.9**	**2.71**	**12.5**	-	-	-
MW-9	06/09/1998	438.76	14.21	424.55	-	**52.9**	-	**0.513**	**12**	**2.61**	**12.1**	-	-	-
MW-9	09/17/1998	438.76	12.59	426.17	-	**29.7**	-	**0.332**	**5.52**	**1.3**	7.06	-	-	-
MW-9	12/29/1998	438.76	14.15	424.61	-	**52.9**	-	**0.238**	**9.92**	**2.32**	**12.83**	-	-	-
MW-9	03/13/1999	438.76	14.78	423.98	-	**56.4**	-	**0.272**	**11.2**	**3.24**	**16.7**	-	-	-
MW-9	08/09/1999	438.76	-	-	-	**56.2**	-	**0.11**	**6.64**	**2.61**	**11.8**	-	-	-
MW-9	09/28/1999	438.76	13.22	425.54	-	**36.3**	-	<0.2	**4.61**	**1.92**	9.24	-	-	-
MW-9	12/15/1999	438.76	13.98	424.78	-	**45.8**	-	<0.125	**6.67**	**2.53**	**13.9**	-	-	-
MW-9	03/22/2000	438.76	14.43	424.33	-	**54.1**	-	**0.0598**	**4.77**	**2.05**	**10.9**	-	-	-
MW-9	06/20/2000	438.76	12.16	426.60	-	**44.2**	-	**0.062**	**3.54**	**2.02**	**10.4**	-	-	-
MW-9	09/14/2000	438.76	11.20	427.56	-	**41.9**	-	**0.0346**	**3.45**	**1.97**	**10.6**	-	-	-
MW-9	12/14/2000	438.76	12.94	425.82	-	**26.2**	-	<0.02	**1.92**	**1.3**	7.29	-	-	-
MW-9	03/21/2001	438.76	13.81	424.95	-	**37.7**	-	<0.046	**2.52**	**1.98**	**11**	-	-	-
MW-9	06/20/2001	438.76	12.98	425.78	-	**35.6**	-	**0.0408**	**2.3**	**1.83**	**11.4**	-	-	-
MW-9	09/18/2001	438.76	12.24	426.52	-	**19.4**	-	<0.02	0.567	**1.1**	6.01	-	-	-
MW-9	03/25/2002	438.76	14.37	424.39	-	**42.4**	-	**0.0189**	**1.47**	**2.01**	**12.5**	-	-	-
MW-9	09/15/2002	438.76	11.17	427.59	-	**24.5**	-	**0.0125**	0.175	**1.28**	5.81	-	-	-
MW-9	04/10/2003	438.76	13.64	425.12	-	**41**	-	<0.05	0.43	**1.7**	**11**	-	-	-
MW-9	09/05/2003	438.76	10.71	428.05	-	**35**	-	<0.05	0.22	**1.5**	9.3	-	-	-
MW-9	03/03/2004	438.76	13.87	424.89	-	**34**	-	<0.05	0.13	**1.3**	7.3	-	-	-
MW-9	09/20/2004	438.76	13.45	425.31	-	**27**	-	<0.05	0.053	**1.1**	5.9	-	-	-
MW-9	04/04/2005	438.76	14.18	424.58	-	**26**	-	<0.01	0.11	**1.2**	6.6	-	-	-
MW-9	09/29/2005	438.75	12.25	426.51	1.4	**20**	<0.19	<0.01	0.041	**0.86**	4.6	-	-	-
MW-9	03/26/2006	438.75	14.21	424.54	**2.4**	**24**	<0.39	<0.1	0.075	**0.96**	5.8	-	-	-
MW-9	04/02/2008	438.75	14.33	424.42	**4.06**	**19.6**	<0.773	**0.01**	0.0232	**0.72**	3.85	-	-	-
MW-9	07/22/2009	-	-	-	**1.9**	**8.8**	-	<0.015	0.0057	0.33	1.4	-	-	-
MW-9	07/25/2010	438.75	13.16	425.59	1.3 J	**9.2**	-	<0.050	0.0061 J	0.30	1.4	-	-	-
MW-9	09/09/2010	438.75	12.96	425.79	-	-	-	-	-	-	-	-	-	<10.0
MW-9	06/14/2011	438.75	13.04	425.71	-	-	-	-	-	-	-	-	-	-

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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-9	06/15/2011	-	-	-	**1.7 / 1.6**	**4.8 / 4.9**	-	<0.030 / <0.030	0.0043 J / 0.0046 J	0.14 / 0.15	0.64 / 0.66	-	-	-
MW-9	08/20/2012	438.75	12.85	425.90	**1.5 / 1.5**	**5.7 / 5.6**	-	<0.033 / <0.034	0.0045 J / 0.0040 J	0.14 / 0.14	0.52 / 0.51	-	-	-
MW-9	07/26/2013	438.75	12.91	425.84	-	-	-	-	-	-	-	-	-	-
MW-9	07/27/2013	-	-	-	**1.6**	**4.2**	-	0.00058 J	0.0019	0.12	0.49	-	-	-
MW-9	01/29/2014	438.75	13.74	425.01	**1.6**	**5.0**	-	<0.0024	0.0047 J	0.14	0.59	-	-	-
MW-9	09/24/2014	444.34	10.56	433.78	-	-	-	-	-	-	-	-	-	-
MW-9	09/25/2014	-	-	-	0.077 J/<0.060 J	0.075 J/0.058 J	-	<0.00015/<0.00015	<0.00011/<0.00011	0.00094 J/0.00055 J	0.0027 J/<0.00040	-	-	-
MW-9	09/14/2015	444.34	11.11	433.23	-	-	-	-	-	-	-	-	-	-
MW-9	09/15/2015	-	-	-	1.0	**2.5**	-	<0.0005	<0.0005	0.050	0.13	-	-	-
MW-10	06/30/1995	439.22	12.78	426.44	-	**23**	-	**0.0212**	**2.5**	**1.5**	7	-	-	-
MW-10	09/19/1995	439.22	11.45	427.77	-	**13**	-	**0.021**	0.89	**0.98**	3.8	-	-	-
MW-10	12/12/1995	439.22	13.30	425.92	-	**19**	-	**0.088**	0.13	**1.4**	3.4	-	-	-
MW-10	03/08/1996	439.22	14.38	424.84	-	**13**	-	**0.099**	0.015	**1**	1.8	-	-	-
MW-10	06/01/1996	439.22	13.42	425.80	-	**17.4**	-	**0.108**	0.0493	**1.23**	2.34	-	-	-
MW-10	09/19/1996	439.22	13.48	425.74	-	**20.4**	-	**0.224**	0.292	**1.52**	3.61	-	-	-
MW-10	12/11/1996	439.22	14.25	424.97	-	**14.3**	-	**0.107**	0.0538	**1.15**	1.89	-	-	-
MW-10	03/13/1997	439.22	14.80	424.42	-	**3.38**	-	**0.0237**	ND	0.462	0.491	-	-	-
MW-10	06/10/1997	439.22	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	09/19/1997	439.22	13.54	425.68	-	**21.3**	-	**0.302**	**1.06**	**1.86**	6.63	-	-	-
MW-10	12/10/1997	439.22	14.33	424.89	-	**8.57**	-	**0.0548**	0.025	**0.953**	1.3	-	-	-
MW-10	03/30/1998	439.22	15.06	424.16	-	1.68	-	**0.0109**	ND	0.281	0.255	-	-	-
MW-10	06/09/1998	439.22	14.49	424.73	-	2.2	-	<0.02	<0.0025	0.313	0.23	-	-	-
MW-10	09/17/1998	439.22	12.88	426.34	-	2.2	-	**0.0167**	<0.005	0.373	0.347	-	-	-
MW-10	12/28/1998	439.22	14.42	424.80	-	**2.95**	-	**0.00829**	<0.001	0.503	0.481	-	-	-
MW-10	03/13/1999	439.22	15.03	424.19	-	2	-	**0.0133**	<0.005	0.424	0.443	-	-	-
MW-10	08/09/1999	439.22	-	-	-	**13.2**	-	**0.061**	0.549	**0.991**	3.47	-	-	-
MW-10	09/28/1999	439.22	13.48	425.74	-	**8.17**	-	**0.04**	0.0984	**0.836**	2.5	-	-	-
MW-10	12/15/1999	439.22	14.27	424.95	-	**5.14**	-	**0.0206**	0.00248	**0.947**	0.988	-	-	-
MW-10	03/21/2000	439.22	14.72	424.50	-	**2.43**	-	**0.00778**	<0.005	0.403	0.378	-	-	-
MW-10	06/20/2000	439.22	12.47	426.75	-	0.413	-	0.00195	0.000632	0.0475	0.0337	-	-	-
MW-10	09/14/2000	439.22	11.51	427.71	-	0.838 / 0.666	-	<0.0033 / <0.00275	<0.0025 / <0.0025	0.135 / 0.12	0.0923 / 0.0804	-	-	-
MW-10	12/14/2000	439.22	13.23	425.99	-	**3.26 / 3.03**	-	<0.005 / <0.001	<0.0025 / <0.0025	0.405 / 0.425	0.285 / 0.316	-	-	-
MW-10	03/21/2001	439.22	-	-	-	**7.15**	-	<0.022	<0.0025	**0.821**	1.13	-	-	-
MW-10	06/21/2001	439.22	13.27	425.95	-	**6.04**	-	**0.0101**	0.122	0.637	1.15	-	-	-
MW-10	09/18/2001	439.22	12.53	426.69	-	**6.41**	-	**0.0131**	0.063	0.7	1.07	-	-	-
MW-10	03/25/2002	439.22	14.55	424.67	-	**4.14**	-	**0.00788**	0.0499	0.524	0.681	-	-	-
MW-10	09/15/2002	439.22	12.46	426.76	-	1.75	-	0.00248	0.00216	0.16	0.172	-	-	-
MW-10	04/10/2003	439.22	13.92	425.30	-	**10**	-	<0.02	0.13	0.7	1.6	-	-	-
MW-10	09/05/2003	439.22	10.97	428.25	-	**3.1**	-	<0.005	0.014	0.19	0.37	-	-	-
MW-10	03/03/2004	439.22	14.16	425.06	-	**4.1**	-	<0.01	0.0089	0.3	0.52	-	-	-
MW-10	09/20/2004	439.22	13.71	425.51	-	**13**	-	<0.02	0.12	0.64	2	-	-	-
MW-10	04/04/2005	439.22	14.45	424.77	-	**3.8**	-	<0.005	0.011	0.19	0.45	-	-	-
MW-10	09/29/2005	439.19	12.53	426.69	-	**6.5**	-	<0.005	0.099	0.37	1.3	-	-	-
MW-10	03/24/2006	439.19	14.45	424.74	-	**4.7**	-	<0.025	0.0027	0.22	0.53	-	-	-
MW-10	04/02/2008	439.19	14.66	424.53	-	-	-	-	-	-	-	-	-	-
MW-10	04/05/2008	-	-	-	0.803	**4.14**	<0.735	**0.00583**	<0.0005	0.161	0.308	-	-	-
MW-10	07/21/2009	-	-	-	0.77	**3.1**	-	**0.0052**	<0.0005	0.17	0.42	-	-	-
MW-10	07/25/2010	-	-	-	0.33	**2.9**	-	<0.020	<0.0005	0.12	0.32	-	-	-

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Former Texaco Service Station 211079
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					HYDROCARBONS			PRIMARY VOCS						
Location	Date	TOC	DTW	GWE	DRO	GRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	EDB	1,2-DCA	Sulfolane
	Units	ft msl	fbg	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-10	06/14/2011	439.19	13.30	425.89	-	-	-	-	-	-	-	-	-	-
MW-10	06/16/2011	-	-	-	0.42	1.2	-	0.0034	0.001 J	0.069	0.16	-	-	-
MW-10	08/20/2012	439.19	13.04	426.15	0.56	2.1	-	**0.0062**	0.0013 J	0.12	0.24	-	-	-
MW-10	07/26/2013	439.19	13.17	426.02	-	-	-	-	-	-	-	-	-	-
MW-10	07/27/2013	-	-	-	1.0	1.2	-	<0.00024	0.00037 J	0.083	0.21	-	-	-
MW-10	01/29/2014	439.19	14.08	425.11	0.47	0.094 J	-	<0.00024	<0.00023	0.0065	<0.00072	-	-	-
MW-10	09/24/2014	444.89	10.88	434.01	-	-	-	-	-	-	-	-	-	-
MW-10	09/25/2014	-	-	-	0.33 J	0.074 J	-	<0.00015	<0.00011	0.00080 J	<0.00040	-	-	-
MW-10	09/14/2015	444.89	11.42	433.47	-	-	-	-	-	-	-	-	-	-
MW-10	09/15/2015	-	-	-	0.15 J	0.12	-	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-
MW-11	06/30/1995	440.42	13.96	426.46	**14.9**	**34**	-	**0.01**	0.102	**8**	**28**	-	-	-
MW-11	09/18/1995	440.42	12.60	427.82	-	-	-	-	-	-	-	-	-	-
MW-11	12/12/1995	440.42	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	03/08/1996	440.42	15.55	424.87	ND	**35**	-	**0.23**	0.012	**1.4**	2.6	-	-	-
MW-11	05/30/1996	440.42	14.55	425.87	**3.4**	**17.6**	-	**0.111**	ND	**0.883**	2.07	-	-	-
MW-11	09/17/1996	440.42	14.64	425.78	-	**37.9**	-	**0.224**	0.0104	**1.13**	2.45	-	-	-
MW-11	12/11/1996	440.42	15.42	425.00	-	**28.8**	-	**0.222**	ND	**0.892**	1.88	-	-	-
MW-11	03/13/1997	440.42	16.05	424.37	-	**29.5**	-	**0.165**	ND	**0.923**	2.31	-	-	-
MW-11	06/18/1997	440.42	15.16	425.26	-	-	-	-	-	-	-	-	-	-
MW-11	09/19/1997	440.42	14.72	425.70	-	**23.4**	-	<0.1	<0.1	**0.742**	2.06	-	-	-
MW-11	12/10/1997	440.42	15.60	424.82	-	**19.6**	-	**0.0342**	0.0132	0.667	1.49	-	-	-
MW-11	03/30/1998	440.42	16.34	424.08	-	**14.5**	-	**0.0234**	ND	0.301	0.795	-	-	-
MW-11	06/09/1998	440.42	15.74	424.68	-	**14.4**	-	<0.025	<0.01	0.352	0.741	-	-	-
MW-11	09/15/1998	440.42	14.12	426.30	-	**12.7**	-	<0.034	<0.01	0.319	0.603	-	-	-
MW-11	12/28/1998	440.42	15.75	424.67	-	**9.97**	-	<0.001	<0.001	0.202	0.35715	-	-	-
MW-11	03/13/1999	440.42	16.34	424.08	-	**9.11**	-	**0.0539**	0.022	0.29	0.523	-	-	-
MW-11	06/22/1999	440.42	15.37	425.05	-	**5.6** / **5.14**	-	<0.03 / <0.0255	<0.0071 / <0.0075	0.173 / 0.197	0.342 / 0.303	-	-	-
MW-11	09/28/1999	440.42	14.75	425.67	-	**3.15**	-	<0.01	<0.005	0.082	0.143	-	-	-
MW-11	12/15/1999	440.42	15.63	424.79	-	**8.09**	-	<0.02	<0.0075	0.162	0.276	-	-	-
MW-11	03/21/2000	440.42	16.09	424.33	-	**9.01**	-	<0.005	<0.0085	0.128	0.252	-	-	-
MW-11	06/21/2000	440.42	13.84	426.58	-	**8.7**	-	**0.0192**	<0.0025	0.126	0.253	-	-	-
MW-11	09/14/2000	440.42	13.08	427.34	-	**5.44**	-	<0.00297	<0.00298	0.094	0.175	-	-	-
MW-11	12/14/2000	440.42	14.63	425.79	-	**10.6**	-	<0.004	<0.01	0.0911	0.184	-	-	-
MW-11	03/21/2001	440.42	15.49	424.93	-	**12.2**	-	<0.002	0.013	0.157	0.328	-	-	-
MW-11	06/20/2001	440.42	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/18/2001	440.42	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	03/25/2002	440.42	15.85	424.57	-	**7.83**	-	**0.0182**	0.00154	0.0921	0.176	-	-	-
MW-11	04/09/2003	440.42	15.17	425.25	-	**8.5**	-	<0.02	<0.005	0.052	0.1	-	-	-
MW-11	03/02/2004	440.42	15.50	424.92	-	**4.9**	-	<0.05	<0.0025	0.04	0.076	-	-	-
MW-11	04/04/2005	440.42	15.82	424.60	-	**7.5**	-	**0.0077**	<0.0025	0.046	0.085	-	-	-
MW-11	03/24/2006	440.38	15.63	424.75	-	**4.6**	-	<0.025	<0.01	0.02	0.04	-	-	-
MW-11	04/02/2008	440.38	15.85	424.53	0.438	**3.55**	<0.714	**0.00737**	<0.0005	0.00901	0.016	-	-	-
MW-11	07/21/2009	-	-	-	0.2	2.1	-	**0.0056**	<0.0005	0.0038	0.0074	-	-	-
MW-11	07/26/2010	440.38	14.67	425.71	0.16 J	**3.1**	-	**0.0077**	0.0005 J	0.0044	0.0084	-	-	-
MW-11	06/14/2011	440.38	14.66	425.72	-	-	-	-	-	-	-	-	-	-
MW-11	06/16/2011	-	-	-	0.17 J	1.8	-	<0.010	0.0019 J	0.0022	0.0041 J	-	-	-
MW-11	08/20/2012	440.38	14.46	425.92	0.11 J	1.8	-	**0.0086**	0.0027	0.0017 J	0.0026 J	-	-	-
MW-11	07/26/2013	440.38	14.40	425.98	-	-	-	-	-	-	-	-	-	-
MW-11	07/27/2013	-	-	-	0.27 J	1.2 J	-	<0.00024	<0.00023	0.0010	0.0019 J	-	-	-
MW-11	09/24/2014	445.99	12.18	433.81	-	-	-	-	-	-	-	-	-	-
MW-11	09/25/2014	-	-	-	0.17 J	0.42	-	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-

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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-11	09/14/2015	445.90	12.62	433.28	0.16 J	2.0	-	<0.0005	<0.0005	<0.0005	0.001	-	-	-
MW-12	06/30/1995	439.59	13.29	426.30	-	0.067	-	ND	0.002	0.002	0.008	-	-	-
MW-12	09/20/1995	439.59	11.95	427.64	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	12/13/1995	439.59	13.83	425.76	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	03/07/1996	439.59	14.90	424.69	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	05/31/1996	439.59	13.90	425.69	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	09/16/1996	439.59	13.96	425.63	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	12/11/1996	439.59	14.75	424.84	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	03/13/1997	439.59	15.31	424.28	-	ND	-	ND	ND	ND	ND	-	-	-
MW-12	06/18/1997	439.59	14.43	425.16	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	09/20/1997	439.59	14.05	425.54	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	12/10/1997	439.59	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	03/31/1998	439.59	15.58	424.01	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	09/16/1998	439.59	13.37	426.22	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	03/14/1999	439.59	15.54	424.05	-	<0.5	-	<0.0005	<0.0005	<0.0005	0.00059	-	-	-
MW-12	09/28/1999	439.59	13.98	425.61	-	<0.5	-	<0.0005	<0.0005	<0.0005	0.00121	-	-	-
MW-12	12/15/1999	439.59	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	03/21/2000	439.59	15.22	424.37	<0.0005	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	06/20/2000	439.59	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	09/13/2000	439.59	12.00	427.59	<0.0005	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	12/14/2000	439.59	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	03/21/2001	439.59	14.59	425.00	<0.0002	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-12	06/20/2001	439.59	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	08/19/2004								Well decommissioned on 8/19/2004					
												-	-	-
MW-13	06/30/1995	439.17	12.92	426.25	-	**6.7**	-	**1.7**	0.79	0.46	6.9	-	-	-
MW-13	09/18/1995	439.17	11.55	427.62	-	**3.2**	-	**0.8**	0.003	0.32	0.22	-	-	-
MW-13	12/13/1995	439.17	13.45	425.72	-	**7 / 7.1**	-	**1.4 / 1.4**	0.00098 / ND	0.39 / 0.37	0.26 / 0.28	-	-	-
MW-13	03/07/1996	439.17	14.50	424.67	-	**3.7**	-	**1.2**	0.0009	0.19	0.075	-	-	-
MW-13	05/31/1996	439.17	13.56	425.61	-	**10.5**	-	**2.09**	0.781	0.578	0.829	-	-	-
MW-13	09/16/1996	439.17	13.62	425.55	-	**17 / 18.6**	-	**1.9 / 2.06**	**1.44 / 1.42**	**1.05 / 1.11**	2.9 / 2.7	-	-	-
MW-13	12/11/1996	439.17	14.40	424.77	-	**2.69 / 2.83**	-	**0.356 / 0.374**	ND / ND	0.33 / 0.351	0.217 / 0.216	-	-	-
MW-13	03/13/1997	439.17	14.96	424.21	-	1.36 / 1.96	-	**0.371 / 0.308**	ND / ND	0.178 / 0.23	ND / ND	-	-	-
MW-13	06/18/1997	439.17	14.10	425.07	-	**5.44**	-	**1.43**	0.0177	0.578	0.231	-	-	-
MW-13	09/19/1997	439.17	13.70	425.47	-	**4.83 / 4.8**	-	**0.751 / 0.691**	<0.005 / <0.0125	**0.801 / 0.717**	0.524 / 0.463	-	-	-
MW-13	12/10/1997	439.17	14.47	424.70	-	2.05	-	**0.231**	0.0035	0.417	0.206	-	-	-
MW-13	03/30/1998	439.17	15.24	423.93	-	**2.23**	-	**0.284**	0.18	0.31	0.174	-	-	-
MW-13	06/08/1998	439.17	14.66	424.51	-	**4.89 / 5.02**	-	**0.576 / 0.619**	0.107 / 0.0919	0.697 / 0.653	0.597 / 0.624	-	-	-
MW-13	09/15/1998	439.17	13.02	426.15	-	1.73	-	**0.0991**	0.000636	0.281	0.118	-	-	-
MW-13	12/29/1998	439.17	14.61	424.56	-	0.134	-	**0.00988**	<0.001	0.0148	0.0259	-	-	-
MW-13	03/14/1999	439.17	15.20	423.97	-	<0.5	-	**0.00785**	<0.0005	<0.0005	0.00234	-	-	-
MW-13	06/22/1999	439.17	-	-	-	-	-	-	-	-	-	-	-	-
MW-13	09/28/1999	439.17	13.64	425.53	-	1.58	-	**0.0855**	<0.0025	0.306	0.224	-	-	-
MW-13	12/16/1999	439.17	14.42	424.75	-	<0.05	-	**0.00739**	<0.0005	0.00138	0.0041	-	-	-
MW-13	03/22/2000	439.17	14.89	424.28	-	<0.5	-	0.0049	<0.0005	<0.0005	<0.001	-	-	-
MW-13	06/20/2000	439.17	12.63	426.54	-	0.335	-	**0.0542**	<0.0005	0.0233	0.0178	-	-	-
MW-13	09/14/2000	439.17	11.36	427.81	-	0.186	-	**0.0128**	<0.0005	0.0148	0.0243	-	-	-
MW-13	12/13/2000	439.17	13.40	425.77	-	0.074	-	**0.0116**	<0.0005	0.00235	0.00702	-	-	-
MW-13	03/21/2001	439.17	14.27	424.90	-	<0.5	-	0.00491	<0.0005	<0.0005	<0.001	-	-	-
MW-13	06/20/2001	439.17	13.44	425.73	-	0.41	-	**0.0406**	0.00417	0.051	0.0531	-	-	-
MW-13	09/18/2001	439.17	12.71	426.46	-	0.212	-	**0.0361**	<0.0005	0.0257	0.0235	-	-	-

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					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-13	03/25/2002	439.17	14.84	424.33	-	<0.05	-	**0.0181**	<0.0005	<0.0005	<0.001	-	-	-
MW-13	09/15/2002	439.17	11.64	427.53	-	0.0799	-	**0.02**	<0.0005	0.00282	0.00135	-	-	-
MW-13	04/10/2003	439.17	14.18	424.99	-	0.026	-	**0.009**	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	09/05/2003	439.17	11.18	427.99	-	0.18	-	**0.05**	<0.0005	<0.0005	0.007	-	-	-
MW-13	03/03/2004	439.17	14.40	424.77	-	<0.01	-	0.0006	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	09/20/2004	439.17	13.95	425.22	-	0.39	-	**0.12**	<0.0005	0.001	0.0082	-	-	-
MW-13	04/04/2005	439.17	14.71	424.46	-	0.032	-	**0.011**	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	09/29/2005	439.26	12.82	426.35	-	0.052	-	**0.013**	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	03/23/2006	439.26	14.73	424.53	-	0.012	-	0.0023	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	04/02/2008	439.26						Ice in well prevented access				-	-	
MW-13	07/25/2010	439.26	13.74	425.52	0.056 J	<0.010	-	0.0006 J	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	06/14/2011	439.26	13.58	425.68	-	-	-	-	-	-	-	-	-	-
MW-13	06/15/2011	-	-	-	0.075 J	<0.010	-	0.0030	<0.0005	<0.0005	<0.0015	-	-	-
MW-13	08/20/2012	439.26	13.45	425.81	<0.052	0.16	-	**0.016**	<0.0005	0.0006 J	0.038	-	-	-
MW-14	06/30/1995	439.26	13.10	426.16	0.0005	0.057	-	0.0007	0.004	0.002	0.008	-	-	-
MW-14	09/20/1995	439.26	11.70	427.56	-	ND	-	0.0006	ND	ND	ND	-	-	-
MW-14	12/13/1995	439.26	13.65	425.61	-	ND	-	ND	ND	ND	ND	-	-	-
MW-14	03/07/1996	439.26	14.70	424.56	-	ND	-	ND	ND	ND	ND	-	-	-
MW-14	05/31/1996	439.26	13.71	425.55	-	ND	-	ND	ND	ND	ND	-	-	-
MW-14	09/16/1996	439.26	13.81	425.45	-	ND	-	ND	0.000626	ND	0.00256	-	-	-
MW-14	12/11/1996	439.26	14.59	424.67	-	ND	-	ND	ND	ND	ND	-	-	-
MW-14	03/13/1997	439.26	15.13	424.13	-	ND	-	ND	ND	ND	ND	-	-	-
MW-14	06/18/1997	439.26	14.28	424.98	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	09/20/1997	439.26	13.91	425.35	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	12/10/1997	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	03/30/1998	439.26	15.41	423.85	-	<0.5 / <0.5	-	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	-	-	-
MW-14	06/08/1998	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	09/17/1998	439.26	13.20	426.06	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	12/29/1998	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	03/14/1999	439.26	15.37	423.89	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	06/22/1999	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	09/28/1999	439.26	13.81	425.45	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	12/15/1999	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	03/21/2000	439.26	15.04	424.22	<0.0005	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	06/20/2000	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	09/14/2000	439.26	11.80	427.46	<0.0005	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-14	12/14/2000	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	03/21/2001	439.26	14.42	424.84	<0.0002 / <0.0002	<0.5 / <0.5	-	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	-	-	-
MW-14	06/20/2001	439.26	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	08/19/2004							Well decommissioned on 8/19/2004						
MW-14	09/24/2014	-	11.33	-	-	-	-	-	-	-	-	-	-	-
MW-14R	09/15/2015	-	11.89	-	0.14 J	0.30	-	**0.062**	<0.0005	0.013	0.007	-	-	-
MW-15	09/21/1995	437.55	9.80	427.75	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	12/12/1995	437.55	11.70	425.85	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	03/07/1996	437.55	12.78	424.77	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	05/31/1996	437.55	11.80	425.75	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	09/16/1996	437.55	11.88	425.67	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	12/11/1996	437.55	12.66	424.89	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	03/13/1997	437.55	13.20	424.35	-	ND	-	ND	ND	ND	ND	-	-	-
MW-15	06/18/1997	437.55	12.36	425.19	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
MW-15	09/19/1997	437.55	11.65	425.90	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	12/10/1997	437.55	12.74	424.81	-	-	-	-	-	-	-	-	-	-
MW-15	03/30/1998	437.55	13.46	424.09	-	-	-	-	-	-	-	-	-	-
MW-15	06/09/1998	437.55	12.90	424.65	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	09/17/1998	437.55	11.28	426.27	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	12/29/1998	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	03/13/1999	437.55	13.46	424.09	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	06/22/1999	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	09/28/1999	437.55	11.90	425.65	-	<0.5	-	<0.0005	<0.0005	0.000511	0.00292	-	-	-
MW-15	12/15/1999	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	03/21/2000	437.55	13.13	424.42	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	06/20/2000	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	09/14/2000	437.55	9.91	427.64	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-15	12/14/2000	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	03/21/2001	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	06/20/2001	437.55	-	-	-	-	-	-	-	-	-	-	-	-
MW-15	08/19/2004							Well decommissioned on 8/19/2004						
MW-16	09/21/1995	437.96	10.33	427.63	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	12/12/1995	437.96	12.25	425.71	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	05/30/1996	437.96	12.30	425.66	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	09/16/1996	437.96	12.44	425.52	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	12/12/1996	437.96	13.17	424.79	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	03/13/1997	437.96	13.72	424.24	-	ND	-	ND	ND	ND	ND	-	-	-
MW-16	06/18/1997	437.96	12.89	425.07	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	09/19/1997	437.96	12.53	425.43	-	<0.5	-	<0.0005	<0.0005	<0.0005	0.00188	-	-	-
MW-16	12/10/1997	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	03/31/1998	437.96	14.05	423.91	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	06/09/1998	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	09/17/1998	437.96	11.83	426.13	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	12/29/1998	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	03/13/1999	437.96	14.16	423.80	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	06/22/1999	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	09/28/1999	437.96	12.46	425.50	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	12/15/1999	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	03/21/2000	437.96	13.38	424.58	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	06/20/2000	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	09/14/2000	437.96	10.42	427.54	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
MW-16	12/14/2000	437.96	-	-	-	-	-	-	-	-	-	-	-	-
MW-16	03/21/2001	437.96	13.20	424.76	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
MW-16	08/19/2004							Well decommissioned on 8/19/2004						
SWMW-1	06/26/1995	440.34	14.72	425.62	-	0.225	-	**0.114**	ND	ND	ND	-	-	-
SWMW-1	09/19/1995	440.34	12.79	427.55	-	0.36	-	**0.15**	ND	ND	ND	-	-	-
SWMW-1	12/13/1995	440.34	14.68	425.66	-	ND	-	ND	ND	ND	ND	-	-	-
SWMW-1	03/07/1996	440.34	15.71	424.63	-	ND	-	ND	ND	ND	ND	-	-	-
SWMW-1	06/01/1996	440.34	14.79	425.55	-	ND / ND	-	ND / ND	ND / ND	ND / ND	ND / ND	-	-	-
SWMW-1	09/16/1996	440.34	14.84	425.50	-	ND	-	ND	ND	ND	ND	-	-	-
SWMW-1	12/12/1996	440.34	15.59	424.75	-	ND	-	ND	ND	ND	ND	-	-	-
SWMW-1	03/13/1997	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	06/18/1997	440.34	15.31	425.03	-	<0.5	-	0.000534	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	09/20/1997	440.34	14.80	425.54	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
SWMW-1	12/10/1997	440.34	15.71	424.63	-	-	-	-	-	-	-	-	-	-
SWMW-1	03/30/1998	440.34	16.46	423.88	-	<0.5	-	<0.0005	0.0038	<0.0005	<0.001	-	-	-
SWMW-1	06/09/1998	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	09/16/1998	440.34	14.24	426.10	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	12/29/1998	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	03/14/1999	440.34	16.44	423.90	-	<0.5	-	<0.0005	<0.0005	0.00101	0.00346	-	-	-
SWMW-1	06/22/1999	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	09/28/1999	440.34	14.86	425.48	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	12/15/1999	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	03/21/2000	440.34	16.11	424.23	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	06/20/2000	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	09/14/2000	440.34	12.85	427.49	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	12/14/2000	440.34	-	-	-	-	-	-	-	-	-	-	-	-
SWMW-1	03/21/2001	440.34	15.48	424.86	-	<0.5	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
SWMW-1	06/20/2001								Well destroyed					
Trip Blank	09/16/1996	-	-	-	-	ND	-	ND	ND	ND	ND	-	-	-
Trip Blank	12/11/1996	-	-	-	-	ND	-	ND	ND	ND	ND	-	-	-
Trip Blank	03/13/1997	-	-	-	-	ND	-	ND	ND	ND	ND	-	-	-
Trip Blank	06/18/1997	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	09/18/1997	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	12/10/1997	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	03/31/1998	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	09/28/1999	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-

Table 1

Historical Groundwater Analytical Results
Former Texaco Service Station 211079
1501 South Cushman Street
Fairbanks, Alaska

					HYDROCARBONS			PRIMARY VOCS						
Location	**Date**	**TOC**	**DTW**	**GWE**	**DRO**	**GRO**	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**EDB**	**1,2-DCA**	**Sulfolane**
	Units	**ft msl**	**fbg**	**ft msl**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
ADEC Groundwater Cleanup Levels[a]					**1.5**	**2.2**	**1.1**	**0.005**	**1.0**	**0.7**	**10.0**			
Trip Blank	12/15/1999	-	-	-	-	<0.5	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	03/25/2002	-	-	-	-	<0.05	-	<0.0002	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	04/10/2003	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	05/09/2003	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	03/03/2004	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	09/20/2004	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	04/04/2005	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	09/29/2005	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	03/24/2006	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	04/02/2008	-	-	-	-	<0.05	-	<0.0005	<0.0005	<0.0005	<0.001	-	-	-
Trip Blank	07/20/2009	-	-	-	-	<0.01	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	07/21/2009	-	-	-	-	<0.01 / <0.01	-	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	-	-
Trip Blank	07/26/2010	-	-	-	-	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	06/15/2011	-	-	-	-	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	08/02/2011	-	-	-	-	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	-	-	-
Trip Blank	08/20/2012	-	-	-	-	<0.010	-	<0.0005	<0.0005	<0.0005	<0.0015	<0.0000097	<0.0005	-
Trip Blank	07/27/2013	-	-	-	-	<0.050	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
Trip Blank	01/29/2014	-	-	-	-	<0.050	-	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-
Trip Blank	09/25/2014	-	-	-	-	<0.050	-	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-
Trip Blank	09/15/2015	-	-	-	-	<0.010	--	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-

Notes and Abbreviations

VOCS = Volatile organic compounds
TOC = Top of Casing
DTW = Depth to Water
GWE = Groundwater Elevation
DRO = Diesel Range Organics by Alaska Series Method AK102
GRO = Gasoline Range Organics by Alaska Series Method AK101
RRO = Residual range organics by Alaska Series Method AK103
Benzene, Toluene, Ethylbenzene, and Total Xylenes by Environmental Protection Agency (EPA) Method 8021B or 8260B or SW-846 8260B
Total Xylenes = Sum of m-, o-, and p-xylenes
ADEC = Alaska Department of Environmental Conservation
[a] = Levels established in ADEC Table C Groundwater Cleanup Levels (18 AAC 75.345), there is no established criteria for Sulfolane
ft msl = Feet Above Mean Sea Level
fbg = Feet Below Grade
BOLD = Indicates concentration above the ADEC Table C Groundwater Cleanup Level
mg/L = Milligrams per Liter
ND = Not detected above laboratory method detection limits
J = Estimated value between method detection limit and laboratory reporting limit
- = Not Measured/Not Analyzed
* = Sample date defaulted to first date listed in historical data table
<x = Constituent not detected above x milligrams per liter
x / y = Sample Results / Blind Duplicate Results
** = Sample date accurate to month and year only
Groundwater data from 1992 through 2009 provided by Arcadis

Table 2
Soil Gas Analytical Results for VOCs
Former Texaco Service Station 211079
1501 S. Cushman St.
Fairbanks, Alaska

Sample ID	Date Sampled	Sample Depth (fbg)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)	Helium	Methane	Oxygen	Carbon dioxide
			←			ug/m^3			→ ←	% →
VP-2-8.5-091515 Grab Air	9/15/2015	8.5	<0.64	<0.75	<0.87	<0.87	<1,600,000	<3,000	19	3.0
211079-VP-2-8.5-020416 Air	2/4/2016	8.5	<0.64	1.2 J	1.4 J	4.7	<1,600,000	<3,000	20	3.1
VP-2-5.0-091515 Grab Air	9/15/2015	5	<0.64	3.3 J	<0.75	3.3 J	<1,600,000	<3,000	19	2.5
DUP-1-091515 Grab Air	9/15/2015	5	<0.64	<0.75	<0.75	<0.87	<1,600,000	<3,000	20	2.6
211079-VP-2-5-020416 Air	2/4/2016	5	0.91 J	1.7 J	1.4 J	4.5	<1,600,000	<3,000	19	2.7
211079-DUP-1-020416 Air	2/4/2016	5	1.5 J	5.4	1.7 J	4.9	<1,600,000	<3,000	19	2.5
Target Levels for Deep Soil Gas - Residential (ug/m^3)			**310**	**521,000**	**970**	**10,000**	-	-	-	-
Target Levels for Deep Soil Gas - Commercial (ug/m^3)			**1,600**	**2,190,000**	**4,900**	**44,000**	-	-	-	-

Abbreviations and Methods:

BTEX = Benzene, toluene, ethylbenzene, xylenes (total) by method TO-15

Carbon Dioxide, Oxygen and Helium as Method D1946.

Methane by method EPA 18 mod/EPA 25 mod.

fbg = Feet below grade

ug/m^3 - micrograms per cubic meter

J = Estimated value.

<x = Constituent not detected above x ug/m^3

Target Levels for Deep Soil Gas - Department of Environmental Conservation Appenidx F - 2009

Appendices

Appendix A
Site Photographs

Photo 1 - View of the site looking southeast, across Cushman Street

Photo 2 - View of the site looking south, across 15th Avenue

Site Photographs

Photo 3 - View of Site looking looking northeast toward offsite property (1464 Lacey Street)

Photo 4 - View of offsite property (1532 S. Cushman) across S. Cushman Street

Photo 5 - Soil vapor sampling train on VP-2

Appendix B
Environmental History

Environmental History
Former Texaco Service Station/Chevron Site 211079

1990 Site Assessment

Earth Contours advanced four soil borings Hole 1 through Hole 4 to assess for petroleum hydrocarbons in the subsurface near the former USTs. Details are presented in Earth Contours' March 22, 1990 Environmental Site Evaluation.

1992 Site Assessment

America North/EMCON (EMCON) advanced seven soil borings and installed groundwater monitoring wells MW-1 through MW-7. Details are presented in EMCON's December 1992 Subsurface Soil and Groundwater Investigation Report.

1993 Soil Vapor Extraction System

EMCON installed seven air sparge (AS) wells (SP-1 through SP-7) and two soil vapor extraction (SVE) wells (V 1 and V 2). Monitoring wells MW-1, MW-4 and MW-5 were also used as SVE wells. The SVE system began operation in 1993 and the AS system began operation in 1994; both continued operation until December 1998. The system removed approximately 8,100 gallons of petroleum hydrocarbons from the subsurface. Details are presented in Arcadis' December 14, 2006 Request for No Further Remedial Actions report.

1995 Site Assessment and Well Installation

EMCON advanced nine soil borings and completed seven as groundwater monitoring wells (MW-8 through MW-14) to further delineate the plume. Light non aqueous phase liquids (LNAPL) were detected in MW-11. Details are presented in Arcadis' December 14, 2006 Request for No Further Remedial Actions report.

2005 Well Re Installation

SECOR International, Incorporated (SECOR) installed replacement well MW-3R. Details are presented in SECOR's October 31, 2005, 2005 Monitoring Well Replacement Report.

2009 Soil Vapor Point Installation

Arcadis installed one soil vapor probe north of well MW-9 to assess soil vapor. Details are presented in Arcadis' December 2, 2008 Soil Vapor Assessment Report

2010 Subsurface Investigation

CRA advanced four soil borings in October, 2010 to confirm attenuation of previous exceedances. Details are presented in CRA's February 14, 2011 Subsurface Investigation Report.

2012 Monitoring Well Decommissioning

CRA decommissioned monitoring wells MW-3R, MW-7, MW-8 and MW-13. Details are presented in CRA's December 12, 2012 Groundwater Monitoring Well Decommissioning Report.

2013 Remediation System Decommissioning

CRA decommissioned the inactive air sparge (AS)/soil vapor extraction (SVE) remediation system on July 29th to eliminate safety hazards from the unused equipment. Details are presented in CRA's December 2013 Remediation System Decommissioning Report.

2014 Remediation System Decommissioning and Monitoring Well Installation

CRA decommissioned all wells and horizontal piping associated with the AS/SVE system and removed the remaining equipment from the system shed. CRA installed offsite groundwater monitoring well MW-14. Details are presented in CRA's January 2015 Well Installation and Decommissioning Report.

Appendix C
Conceptual Site Model Scoping and Graphic Forms

Print Form

Human Health Conceptual Site Model
Scoping Form

Site Name: Former Texaco Service Station 211079

File Number: 102.26.015

Completed by: Tom Bunn

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☒ USTs
- ☐ ASTs
- ☒ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☐ Other:

Release Mechanisms *(check potential release mechanisms at the site)*

- ☐ Spills
- ☒ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☐ Other:

Impacted Media *(check potentially-impacted media at the site)*

- ☐ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☐ Air
- ☐ Sediment
- ☐ Groundwater
- ☐ Surface water
- ☐ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☒ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☐

If the box is checked, label this pathway complete: Complete

Comments:

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☐

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☐

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the ground-water is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☐

If both boxes are checked, label this pathway complete: Complete

Comments:

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☐

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☐

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☐

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☐

If all of the boxes are checked, label this pathway complete: Incomplete

Comments:

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Concentrations of volatile contaminants of potential concern (COPCs) in soil vapor are below ADEC target levels. Samples were collected during frozen and unfrozen conditions.

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☐

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Concentrations of volatile contaminants of potential concern (COPCs) in soil vapor are below ADEC target levels. Samples were collected during frozen and unfrozen conditions.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Former Texaco Service Station 211079
1501 South Cushman Street, Fairbanks, Alaska

Completed By: Tom Bunn

Date Completed: 5/3/16

***Instructions:* Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1) *Check the media that could be directly affected by the release.*

(2) *For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.*

Media / Transport Mechanisms

- ☐ **Surface Soil (0-2 ft bgs)**
  - Direct release to surface soil → check soil
  - ☐ Migration to subsurface → check soil
  - ☐ Migration to groundwater → check groundwater
  - ☐ Volatilization → check air
  - ☐ Runoff or erosion → check surface water
  - ☐ Uptake by plants or animals → check biota
  - ☐ Other (list): _____
- ☑ **Subsurface Soil (2-15 ft bgs)**
  - Direct release to subsurface soil → check soil
  - ☐ Migration to groundwater → check groundwater
  - ☐ Volatilization → check air
  - ☐ Uptake by plants or animals → check biota
  - ☐ Other (list): _____
- ☐ **Groundwater**
  - Direct release to groundwater → check groundwater
  - ☐ Volatilization → check air
  - ☐ Flow to surface water body → check surface water
  - ☐ Flow to sediment → check sediment
  - ☐ Uptake by plants or animals → check biota
  - ☐ Other (list): _____
- ☐ **Surface Water**
  - Direct release to surface water → check surface water
  - ☐ Volatilization → check air
  - ☐ Sedimentation → check sediment
  - ☐ Uptake by plants or animals → check biota
  - ☐ Other (list): _____
- ☐ **Sediment**
  - Direct release to sediment → check sediment
  - ☐ Resuspension, runoff, or erosion → check surface water
  - ☐ Uptake by plants or animals → check biota
  - ☐ Other (list): _____

(3) *Check all exposure media identified in (2).*

(4) *Check all pathways that could be complete. The pathways identified in this column must agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5) *Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.*

Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ soil	☑ Incidental Soil Ingestion	C/F	C/F	C/F	C/F			
	☐ Dermal Absorption of Contaminants from Soil							
	☐ Inhalation of Fugitive Dust							
☑ groundwater	☑ Ingestion of Groundwater	C/F	C/F	C/F	C/F			
	☐ Dermal Absorption of Contaminants in Groundwater							
	☐ Inhalation of Volatile Compounds in Tap Water							
☐ air	☐ Inhalation of Outdoor Air							
	☐ Inhalation of Indoor Air							
	☐ Inhalation of Fugitive Dust							
☐ surface water	☐ Ingestion of Surface Water							
	☐ Dermal Absorption of Contaminants in Surface Water							
	☐ Inhalation of Volatile Compounds in Tap Water							
☐ sediment	☐ Direct Contact with Sediment							
☐ biota	☐ Ingestion of Wild or Farmed Foods							

Revised, 10/01/2010

Appendix D
Historical Soil Analytical Results

NORTHERN TESTING LABORATORIES, INC.

600 UNIVERSITY PLAZA WEST, SUITE A — FAIRBANKS, ALASKA 99709 — 907-479-3115
2505 FAIRBANKS ST. — ANCHORAGE, ALASKA 99503 — 907-277-6378

Client: Earth Contours
Address: P.O. Box 82388
1929 Raven Drive
Fairbanks, AK 99707
Attn: Larry Kalkin
Source: See Below

Date Arrived: 03/09/90
Time Arrived: 1300
Date Sampled: 03/09/90
Time Sampled: 1105
Date Completed:
Sample ID#: 030990-8;10

NTL ID#		030990-8	030990-9	030990-10	
Client ID#		201-01-02	201-02-02	Travel Blank	
Purgeable Aromatics EPA Method 602	Unit	Result	Result	Result	Standard Detection Limit (DL)
Benzene	µg/L	13000	13000	0.8	0.2
Chlorobenzene	µg/L	<100	<200	<DL	0.2
1,2-Dichlorobenzene	µg/L	<200	<400	<DL	0.2
1,3-Dichlorobenzene	µg/L	<200	<400	<DL	0.2
1,4-Dichlorobenzene	µg/L	<200	<400	<DL	0.2
Toluene	µg/L	47000	22000	0.6	0.2
Ethylbenzene	µg/L	6400	1940	<DL	0.2
Xylenes	µg/L	42000	15000	<DL	0.6

Reported By: Michael R. Pollen — Date: 3/19/90

Michael R. Pollen, President

NORTHERN TESTING LABORATORIES, INC.

600 UNIVERSITY PLAZA WEST, SUITE A
2505 FAIRBANKS ST.
FAIRBANKS, ALASKA 99709
ANCHORAGE, ALASKA 99503
907-479-3115
907-277-8378

Client: Earth Contours, Inc.
Address: P.O. Box 82388
1929 Raven Drive
Fairbanks, AK 99707
Attn: Larry Katkin
Source: See Below

Date Arrived: 03/09/90
Time Arrived: 1300
Date Sampled: 03/09/90
Time Sampled: 1105
Sample ID#: 030990-4;7

NTL ID#		030990-4	030990-5	030990-6	030990-7	
Client ID#		201-01-01	201-01-02	201-01-03	201-01-04	
Aromatic Volatile Organics EPA Method 8020	**Unit**	**Result**	**Result**	**Result**	**Result**	**Standard Detection Limit (DL)**
Benzene	mg/dry kg	<DL/<DL	<DL	<DL	330	0.1
Chlorobenzene	mg/dry kg	<DL/<DL	<DL	<DL	<5.0	0.1
1,2-Dichlorobenzene	mg/dry kg	<DL/<DL	<DL	<DL	<10	0.2
1,3-Dichlorobenzene	mg/dry kg	<DL/<DL	<DL	<DL	<10	0.2
1,4-Dichlorobenzene	mg/dry kg	<DL/<DL	<DL	<DL	<10	0.2
Toluene	mg/dry kg	<DL/<DL	0.3	<DL	2500	0.1
Ethylbenzene	mg/dry kg	<DL/<DL	<DL	<DL	410	0.1
Xylenes	mg/dry kg	<DL/<DL	4.2	<DL	3100	0.4
Solids	%	85.3/86.6	89.9	96.4	91.5	----

Quality Control Report

Listed below are quality control assurance reference samples with a known concentration prior to analysis. The acceptable limits represent a 95% confidence interval established by the Environmental Protection Agency or by our laboratory through repetitive analyses of the reference sample. The reference samples indicated below were analyzed at the same time as your sample, ensuring the accuracy of the results.

Standard ID#	Parameter	Unit	QC Result	Acceptable Range
NTL CCC5	Benzene	µg/L	4.6	4.1 - 6.1
	Toluene	µg/L	6.1	5.1 - 7.6
	Chlorobenzene	ug/L	6.6	5.8 - 8.8
	Ethylbenzene	µg/L	5.2	5.0 - 7.5
	p,m-Xylene	µg/L	10.2	8.7 - 13.1
	o-Xylene	µg/L	8.1	7.0 - 10.5
	1,3-Dichlorobenzene	µg/L	8.7	8.0 - 12.0
	1,4-Dichlorobenzene	µg/L	18.9	14.8 - 22.2
	1,2-Dichlorobenzene	µg/L	9.2	8.3 - 12.5

Reported By: Michael R. Pollen Date: 03/19/90

Michael R. Pollen, President

Table 2
Summary of Soil Sample Anaytical Results
Texaco Property
1501 Cushman Street, Fairbanks, Alaska

Sample Identification	Date Sample Collected	Aromatic Volatile Organics and Volatile Petroleum Hydrocarbons As Gasoline (VPH-gas) EPA Method 8020/8015 Modified (mg/kg)					Extractable Petroleum Hydrocarbons as Diesel (EPH-diesel) EPA Method 8100 Modified (mg/kg)	Total Organic Carbon (TOC) ASTM Method - D 4119-82 Modified Percent (%)	Total Lead EPA Method 7421 (mg/kg)
		Benzene	Ethyl-benzene	Toluene	Total Xylenes	VPH-gas			
SB1-5	9/2/92	ND	ND	ND	6.8	43	28	--	--
SB1-10	9/2/92	0.9	71.0	140	430	2,700	25	0.12	--
SB1-12	9/2/92	35	22.0	95	100	1,000	48	--	--
SB2-5	9/2/92	ND	0.2	ND	2.8	29	29	0.31	--
SB2-10	9/2/92	ND	ND	ND	ND	ND	ND	--	--
SB2-12	9/2/92	ND	0.2	ND	2.8	34	ND	--	4
SB3-5	9/4/92	ND	9.0	3.4	56.7	318	24*	--	--
SB3-10	9/4/92	ND	ND	ND	ND	ND	19*	0.31	--
SB3-13	9/4/92	ND	6.7	5.8	40.6	347	24	--	--
SB4-5	9/4/92	ND	ND	ND	ND	ND	ND	--	--
SB4-10	9/4/92	ND	ND	ND	0.4	ND	ND	--	--
SB4-13	9/4/92	0.76	9.9	15.9	63	402	ND	--	--
SB5-5	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB5-10	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB5-13	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB6-5	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB6-10	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB6-13	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB7-5	9/5/92	1.88	7.8	1	59.2	230	113*	--	--
SB7-10	9/5/92	ND	ND	ND	ND	ND	ND	--	--
SB7-13	9/5/92	ND	ND	ND	0.2	ND	ND	--	--
Method Reporting Limit		0.05	0.1	0.1	0.1	5	10	0.05	1
ADEC Soil Target Cleanup Level		0.5	TOTAL BETX: 15			100	200	--	--

ADEC - Alaska Department of Environmental Conservation
ASTM - American Society for Testing and Materials
EPA - U.S. Environmental Protection Agency
mg/kg - milligrams per kilograms (parts per million)
ND - Not Detected
-- not applicable or not analyzed
Shaded areas indicate ADEC Soil Target Cleanup Level exceedances.
* Response due to overlapping components from nondiesel petroleum mixtures.

Table 2 (continued)
Summary of Soil Sample Anaytical Results
Texaco Property
1501 Cushman Street, Fairbanks, Alaska

Sample Identification	Date Sample Collected	Aromatic Volatile Organics and Volatile Petroleum Hydrocarbons As Gasoline (VPH-gas) EPA Method 8020/8015 Modified (mg/kg)					Extractable Petroleum Hydrocarbons as Diesel (EPA-diesel) EPA Method 8100 Modified (mg/kg)	Total Organic Carbon (TOC) ASTM Method - D 4119-82 Modified Percent (%)	Total Lead EPA Method 7421 (mg/kg)
		Benzene	Ethyl-benzene	Toluene	Total Xylenes	VPH-gas			
MW1-5	9/3/92	0.6	ND	0.1	0.1	ND	14	0.77	12
MW1-10	9/3/92	ND	ND	ND	0.1	ND	ND	--	--
MW1-15	9/3/92	ND	ND	ND	0.1	ND	ND	--	--
MW2-5	9/3/92	ND	ND	ND	ND	ND	ND	--	--
MW2-10	9/3/92	0.06	ND	2	0.7	ND	12	--	--
MW2-12.5	9/3/92	13.6	8.9	40.5	5.2	356	45	0.35	6
MW3-5	9/1/92	ND	ND	ND	ND	ND	616*	--	--
MW3-10	9/1/92	ND	ND	ND	ND	ND	ND	--	--
MW4-5	9/1/92	ND	ND	ND	0.1	ND	ND	--	--
MW4-10	9/1/92	ND	ND	ND	0.2	ND	19	--	3
MW4-12	9/1/92	ND	ND	ND	0.2	ND	12	0.39	--
MW5-5	9/4/92	ND	12.6	6.6	76.6	480	22*	0.39	--
MW5-10	9/4/92	340	320.0	1,400	1,800	9,700	183*	--	--
MW5-13	9/4/92	49	250.0	640	1,600	6,800	36	--	--
MW6-5	9/4/92	ND	ND	ND	ND	ND	28**	--	--
MW6-10	9/4/92	0.33	ND	0.9	2	9	ND	--	--
MW6-13	9/4/92	ND	ND	ND	ND	ND	ND	--	--
MW7-5	9/2/92	ND	ND	ND	ND	ND	ND	--	--
MW7-10	9/2/92	ND	ND	ND	ND	ND	ND	--	--
Tool Rinse	9/4/92	0.0021	ND	0.01	0.002	ND	ND	--	--
Method Blanks		ND	ND	ND	ND	ND	ND	ND	ND
Method Reporting Limit		0.05	0.1	0.1	0.1	5	10	0.05	1
ADEC Soil Target Cleanup Level		0.5	TOTAL BETX: 15			100	200	--	--

ADEC - Alaska Department of Environmental Conservation
ASTM - American Society for Testing and Materials
EPA - U.S. Environmental Protection Agency
mg/kg - milligrams per kilograms (parts per million)
ND - Not Detected
-- not applicable or not analyzed
Shaded areas indicate ADEC Soil Target Cleanup Level exceedance.
* Response due to overlapping components from nondiesel petroleum mixtures.
** Respose due to the overlap of a high boiling product, possibly lube oil within the diesel range.

Table 2
Summary of Soil Sample Anaytical Results
1501 Cushman Street, Fairbanks, Alaska (Facility 63-057-0003)

Sample Identification	Date Sample Collected	Aromatic Volatile Organics and Gasoline-Range Organics (GRO) USEPA Method 8020/8015 Modified (mg/kg)					DRO USEPA Method 8100M (mg/kg)	Total Heterotrophic Plate Count (col/gm)	Total Phosphorous USEPA Method 365.3M (mg/kg)	Nitrate-N USEPA Method 353.2M (mg/kg)	Kjeldahl-N USEPA Method 351.4M (mg/kg)
		Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO					
MW8-7.5	6/27/95	ND	ND	ND	ND	ND	40.3	--	--	--	--
MW9-5	6/29/95	ND	ND	ND	ND	ND	--	--	--	--	--
MW9-13	6/29/95	--	--	--	--	--	--	30,000	240	ND	100
MW10-5	6/27/95	ND	ND	ND	ND	ND	44.1	--	--	--	--
MW11-5	6/27/95	ND	ND	ND	ND	ND	36.8	--	--	--	--
MW11-10	6/27/95	--	--	--	--	--	30.5	--	--	--	--
MW12-5	6/28/95	ND	ND	ND	ND	ND	--	--	--	--	--
MW13-5	6/28/95	ND	ND	ND	ND	ND	--	--	--	--	--
MW14-5	6/28/95	--	--	--	--	ND	--	--	--	--	--
SB2-7.5	6/28/95	ND	ND	ND	ND	ND	--	--	--	--	--
SB2-12.5	6/28/95	0.05	0.89	1.08	8.76	50	--	--	--	--	--
SB2-15	6/28/95	--	--	--	--	--	--	980	400	ND	70
SB1-2.5	6/29/95	--	--	--	--	ND	--	--	--	--	--
S-1	6/29/95	ND	ND	ND	0.09	ND	--	--	--	--	--
Method Blanks		ND	ND	ND	ND	ND	ND	ND	--	--	ND
Method Reporting Limit		0.05	0.1	0.1	0.1	5	10	0.05	--	--	1
ADEC Soil Target Cleanup Level		0.5	Total BTEX: 15			100	200	--	--	--	--

ADEC - Alaska Department of Environmental Conservation
USEPA - U.S. Environmental Protection Agency
mg/kg - milligrams per kilograms (parts per million)
ND - Not Detected
-- not applicable or not analyzed
Shaded areas indicate ADEC Soil Target Cleanup Level exceedance.
DRO - Diesel-range organics

Table 1. **Soil Analytical Results for, DRO, GRO, BTEX, and Lead**
Former Texaco Service Station / Chevron 21-1079, 1501 South Cushman Street, Fairbanks, Alaska

Sample ID	Date Sampled	Sample Depth (fbg)	DRO	GRO	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
			← mg/kg →						
CB10-1-5-100510	10/5/2010	5.0	<5.2	<0.5	<0.005	<0.005	<0.005	<0.01	11.2 J
CB10-1-15-100510	10/5/2010	15.0	<4.5	<0.3	<0.003	<0.01	<0.003	0.02 J	6.28 J
CB10-2-10-100510	10/5/2010	10.0	<4.4	<0.3	<0.003	<0.01	<0.003	0.02 J	11.2 J
CB10-2-13-100510	10/5/2010	13.0	4.5 J	0.3 J	<0.003	0.01 J	<0.003	0.07	8.42 J
DUP-1-100510	10/5/2010	13.0	4.7 J	0.3 J	<0.003	0.01 J	0.003 J	0.07	8.35 J
CB10-3-5-100510	10/5/2010	3.5	5.4 J	<0.4	<0.004	<0.004	<0.004	<0.01	9.62 J
CB10-3-13-100510	10/5/2010	13.0	<5.3	<0.5	<0.005	<0.02	<0.005	0.02 J	7.87 J
CB10-4-10-100610	10/6/2010	10	<4.4	<0.6	<0.006	0.02 J	<0.006	0.02 J	6.20 J
CB10-4-12.5-100610	10/6/2010	12.5	<4.3	0.7 J	<0.005	0.02 J	<0.005	0.04 J	6.50 J
Trip_Blank-100610 MeOH	9/29/2010	-	-	<0.5	<0.005	<0.005	<0.005	<0.02	-
Trip_Blank-100610**	9/29/2010	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-
EB-1-100510**	10/5/2010	-	0.061 J	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	<0.0069
ADEC Method II Cleanup Levels*			**250**	**300**	**0.025**	**6.5**	**6.9**	**63**	**400**

Abbreviations and Methods:
DRO = Diesel range organics by Alaska Series Method AK102
GRO = Gasoline range organics by Alaska Series Method AK101
BTEX = Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B
Lead by EPA Method SW6020
fbg = Feet below grade
mg/kg = Milligrams per kilogram
-- = Not analyzed / applicable
J = Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL).
<x = Constituent not detected above x milligrams per kilogram
ADEC = Alaska Department of Environmental Conservation
* = Levels established in ADEC Method II - Soil Cleanup Levels, Tables B1 and B2, Under 40-Inch Zone, Migration to Groundwater, (ADEC, 18 AAC 75.341)
** = Units in mg/l (milligrams per liter)
EPA = Environmental Protection Agency

Table 1. **Soil Analytical Results for, DRO, GRO, BTEX, and MTBE**

Former Texaco Service Station / Chevron 211079, 1501 South Cushman Street, Fairbanks, Alaska

Sample ID	Date Sampled	Sample Depth (fbg)	DRO	GRO	Benzene (low)	Benzene (high)	Toluene (low)	Toluene (high)	Ethylbenzene (low)	Ethylbenzene (high)	MTBE (low)	MTBE (high)	Xylenes (low)	Xylenes (high)
			← mg/kg →											
SB14-01	6/13/2014	9.0	<4.7	<0.7	<0.0006	<0.036	<0.001	<0.071	<0.001	<0.071	<0.0006	<0.036	<0.001	<0.071
SB14-01	6/13/2014	12.0	<4.1	<0.5	0.0005 J	<0.027	<0.001	<0.054	<0.001	<0.054	<0.0005	<0.027	<0.001	<0.054
DUP-1	6/13/2014	12.0	<4.1	<0.6	0.001 J	<0.028	0.003 J	<0.055	<0.001	<0.055	<0.0005	<0.028	0.002 J	<0.055
TripBlank-1	6/13/2014	-	-	<0.5	<0.025	-	<0.050	-	<0.050	-	<0.025	-	<0.050	-
ADEC Method II Cleanup Levels*			**250**	**300**	**0.025**	**0.025**	**6.5**	**6.5**	**6.9**	**6.9**	**1.3**	**1.3**	**63**	**63**

Abbreviations and Methods:

DRO	Diesel range organics by Alaska Series Method AK102
GRO	Gasoline range organics by Alaska Series Method AK101
BTEX	Benzene, toluene, ethylbenzene, and xylenes by SW846 8260B
MTBE	Methyl tert butyl ether
fbg	Feet below grade
mg/kg	Milligrams per kilogram
--	Not analyzed / applicable
J	Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL)
< 0.003	Constituent not detected above x milligrams per kilogram
ADEC	Alaska Department of Environmental Conservation
*	Levels established in ADEC Method Two - Soil Cleanup Levels, Tables B1 and B2, Under 40-Inch Zone, Migration to Groundwater, (ADEC, 18 AAC 75.341)
**	Units in mg/L (milligrams per liter)

Appendix E
Soil Vapor Sampling Data Sheets

GHD Services, Inc.

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: ~~SVP~~ VP-2-5.0 **Date:** 9/15/15

Job/Site Name: Chevron 211079 **Technician:** T. Bunn / D Yan

Project No. 065003 **PM:** S. Pritchard

Site Address: 1501 South Cushman Fairbanks AK

Vapor Sampling Apparatus Pressure Testing

Time	Vacuum Reading	Unit	Comments
1035	-26	" Hg	
1040	-26	" Hg	

Purge Volume

Calculated Purge Volume:

Time	Flow	Volume	PID Reading
1045			0 ppm

Helium 0 ppm

Sample Collection

Flow Control Orifice Setting: 167 ml/min Summa Canister ID: 801

Summa Canister Size: 6 L Analysis: TO-15 / D-1946

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum
1050	-28 "Hg	1120	-4 "Hg

Notes:

DUP-1-091515 collected in Summa canister 1032

C:\Users\SiteKiosk\Documents\[SoilVaporSamplingForm.xls.xlsx]SV form

SOIL VAPOR SAMPLING DATA SHEET

GHD SERVICES, INC.

Project Name: Former Texaco 211079 | Date: February 4, 2016
Project Number: 065003 | Sampler: OY/NH
Site Address: 1501 S. Cushman Street, Fairbanks, AK | PM: Siobhan Pritchard

Soil Vapor Sampling Point ID: VP-2 at 5fbg / DUP-1 | Type: [X] Probe [ ] Sub-Slab [ ] Indoor [ ] Outdoor

Leak Test (Shut-In)

Start Time / Gauge Level (Hg)	End Time / Gauge Level (Hg)
1105 / -30	1145 / -30

Purge Volume

Calculated Purge Volume: 1349 cm³

Start Time	End Time	Flow Rate	Purged Volume	Comments
1115	1121	200 mL/min	~1350 cm³	purged w/ gilair pump

Sample Collection

Flow Control Setting: 167 mL/min | Summa Canister ID: 897 / 110 DUP
Summa Canister Size: 6L | Analysis: TO-15 BTEX; O₂, CO₂, He, CH₄

Sampling Start Time	Canister Vacuum (Start)	Sampling End Time	Canister Vacuum (End)	Sampling Time
1122	-30/-30	1149	-7/-5	27

Tracer Compound

Tracer Compound Name: Helium

Time	1124	1126	1129	1132	1135	1140	1145
Tracer Compound % (or ppm)	43.6	50.5	55.9	52.1	52.9	47.3	49.2

Ambient Temperature: 13°F | Atmospheric pressure: 29.32 | Humidity: 75%

Notes: DUPED SAMPLE

** make sure to note weather conditions (sunny, cloudy, wind direction), pressence of leakage, procedures for leak testing.*

Soil Vapor Sampling Point ID: VP-2 at 8.5fbg | Type: [X] Probe [ ] Sub-Slab [ ] Indoor [ ] Outdoor

Leak Test (Shut-In)

Start Time / Gauge Level (Hg)	End Time / Gauge Level (Hg)
1205 / -30	1212 / -30

Purge Volume

Calculated Purge Volume: 1389 cm³

Start Time	End Time	Flow Rate	Purged Volume	Comments
1213	1220	200 mL/min	~1.4L	purged w/ gilair pump

Sample Collection

Flow Control Setting: 167 mL/min | Summa Canister ID: 542
Summa Canister Size: 6L | Analysis: TO-15 (BTEX), O₂, CO₂, He, CH₄

Sampling Start Time	Canister Vacuum (Start)	Sampling End Time	Canister Vacuum (End)	Sampling Time
1222	-30	1253	-5	31 min

Tracer Compound

Tracer Compound Name: helium

Time			1230	1236	1245		
Tracer Compound % (or ppm)	58.8	54.0	58.2	50.9	49.7	53.7	

Ambient Temperature (°F): 17°F | Atmospheric pressure (in): 29.30 IN | Humidity (%): 70%

Notes:

** make sure to note weather conditions (sunny, cloudy, wind direction), presence of leakage, procedures for leak testing.*

Appendix F
Laboratory Analytical Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

February 21, 2016

Project: 211079

Submittal Date: 02/08/2016
Group Number: 1629659
SDG: CAK67
PO Number: 0015194335
Release Number: HETRICK
State of Sample Origin: AK

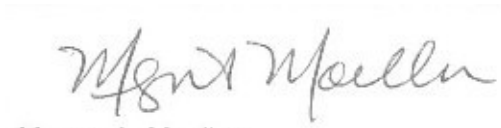
Client Sample Description	Lancaster Labs (LL) #
211079-DUP-1-020416 Air	8234562
211079-VP-2-5-020416 Air	8234563
211079-VP-2-8.5-020416 Air	8234564

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GHD	Attn: Nate Hinsperger
ELECTRONIC COPY TO	CRA	Attn: Siobhan Pritchard
ELECTRONIC COPY TO	CRA	Attn: Sarah Gillette
ELECTRONIC COPY TO	GHD	Attn: Jeffrey Cloud
ELECTRONIC COPY TO	Chevron	Attn: GHD EDD
ELECTRONIC COPY TO	CRA	Attn: Nick Greco

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

Sample Description: 211079-DUP-1-020416 Air
Facility# 211079 SummaCan# 110
1501 S Cushman St - Fairbanks, AK

LL Sample # AQ 8234562
LL Group # 1629659
Account # 10880

Project Name: 211079

Collected: 02/04/2016 by OY
through 02/04/2016
Submitted: 02/08/2016 09:15
Reported: 02/21/2016 22:00

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

--110 SDG#: CAK67-01FD

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**ASTM D1946**		%	%			
00034	Carbon Dioxide	124-38-9	2.5	0.060			3
00034	Oxygen	7782-44-7	19	0.060			3
Volatiles in Air	**ASTM D1946**		ppm(v)	ppm(v)	mg/m3	mg/m3	
10341	Helium as Tracer Gas	7440-59-7	N.D.	10,000	N.D.	1,600	2
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	mg/m3	mg/m3	
07090	Methane	74-82-8	N.D.	4	N.D.	3	2
Volatiles in Air	**EPA TO-15**		ppm(v)	ppm(v)	mg/m3	mg/m3	
05298	Benzene	71-43-2	0.00046 J	0.00020	0.0015 J	0.00064	1
05298	Ethylbenzene	100-41-4	0.00038 J	0.00020	0.0017 J	0.00087	1
05298	Toluene	108-88-3	0.0014	0.00020	0.0054	0.00075	1
05298	Xylene (total)	1330-20-7	0.0011	0.00020	0.0049	0.00087	1

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10341	Helium as Tracer Gas	ASTM D1946	1	16042HE01	02/12/2016 09:53	Jeffrey B Smith	2
00034	O2 and CO2 in Air	ASTM D1946	1	16048FG01	02/17/2016 16:29	Jeffrey B Smith	3
07090	Methane	EPA 18 mod/EPA 25 mod	1	M1603930AA	02/08/2016 16:56	Alexander D Sechrist	2
05298	TO 15 VOA Ext. List	EPA TO-15	1	E1603930AA	02/09/2016 02:04	Jacob E Bailey	1

Sample Description: 211079-VP-2-5-020416 Air
Facility# 211079 SummaCan# 897
1501 S Cushman St - Fairbanks, AK

LL Sample # AQ 8234563
LL Group # 1629659
Account # 10880

Project Name: 211079

Collected: 02/04/2016 11:22 by OY
through 02/04/2016 11:49
Submitted: 02/08/2016 09:15
Reported: 02/21/2016 22:00

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

-897- SDG#: CAK67-02

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**ASTM D1946**		%	%			
00034	Carbon Dioxide	124-38-9	2.7	0.060			3
00034	Oxygen	7782-44-7	19	0.060			3
Volatiles in Air	**ASTM D1946**		ppm(v)	ppm(v)	mg/m3	mg/m3	
10341	Helium as Tracer Gas	7440-59-7	N.D.	10,000	N.D.	1,600	2
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	mg/m3	mg/m3	
07090	Methane	74-82-8	N.D.	4	N.D.	3	2
Volatiles in Air	**EPA TO-15**		ppm(v)	ppm(v)	mg/m3	mg/m3	
05298	Benzene	71-43-2	0.00028 J	0.00020	0.00091 J	0.00064	1
05298	Ethylbenzene	100-41-4	0.00033 J	0.00020	0.0014 J	0.00087	1
05298	Toluene	108-88-3	0.00045 J	0.00020	0.0017 J	0.00075	1
05298	Xylene (total)	1330-20-7	0.0010	0.00020	0.0045	0.00087	1

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10341	Helium as Tracer Gas	ASTM D1946	1	16042HE01	02/12/2016 10:00	Jeffrey B Smith	2
00034	O2 and CO2 in Air	ASTM D1946	1	16048FG01	02/17/2016 16:44	Jeffrey B Smith	3
07090	Methane	EPA 18 mod/EPA 25 mod	1	M1603930AA	02/08/2016 17:25	Alexander D Sechrist	2
05298	TO 15 VOA Ext. List	EPA TO-15	1	E1603930AA	02/09/2016 02:36	Jacob E Bailey	1

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: 211079-VP-2-8.5-020416 Air
Facility# 211079 SummaCan# 542
1501 S Cushman St - Fairbanks, AK

LL Sample # AQ 8234564
LL Group # 1629659
Account # 10880

Project Name: 211079

Collected: 02/04/2016 12:22 by OY
through 02/04/2016 12:53
Submitted: 02/08/2016 09:15
Reported: 02/21/2016 22:00

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

-542- SDG#: CAK67-03

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**ASTM D1946**		%	%			
00034	Carbon Dioxide	124-38-9	3.1	0.060			3
00034	Oxygen	7782-44-7	20	0.060			3
Volatiles in Air	**ASTM D1946**		ppm(v)	ppm(v)	mg/m3	mg/m3	
10341	Helium as Tracer Gas	7440-59-7	N.D.	10,000	N.D.	1,600	2
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		ppm(v)	ppm(v)	mg/m3	mg/m3	
07090	Methane	74-82-8	N.D.	4	N.D.	3	2
Volatiles in Air	**EPA TO-15**		ppm(v)	ppm(v)	mg/m3	mg/m3	
05298	Benzene	71-43-2	N.D.	0.00020	N.D.	0.00064	1
05298	Ethylbenzene	100-41-4	0.00032 J	0.00020	0.0014 J	0.00087	1
05298	Toluene	108-88-3	0.00033 J	0.00020	0.0012 J	0.00075	1
05298	Xylene (total)	1330-20-7	0.0011	0.00020	0.0047	0.00087	1

MDL = Method Detection Limit

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10341	Helium as Tracer Gas	ASTM D1946	1	16042HE01	02/12/2016 10:11	Jeffrey B Smith	2
00034	O2 and CO2 in Air	ASTM D1946	1	16048FG01	02/17/2016 16:59	Jeffrey B Smith	3
07090	Methane	EPA 18 mod/EPA 25 mod	1	M1603930AA	02/08/2016 17:54	Alexander D Sechrist	2
05298	TO 15 VOA Ext. List	EPA TO-15	1	E1603930AA	02/09/2016 03:08	Jacob E Bailey	1

Quality Control Summary

Client Name: ChevronTexaco
Reported: 02/21/2016 22:00

Group Number: 1629659

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	%	%
Batch number: 16048FG01	Sample number(s): 8234562-8234564	
Carbon Dioxide	N.D.	0.020
Oxygen	N.D.	0.020
	ppm(v)	ppm(v)
Batch number: 16042HE01	Sample number(s): 8234562-8234564	
Helium as Tracer Gas	N.D.	5,000
Batch number: E1603930AA	Sample number(s): 8234562-8234564	
Benzene	N.D.	0.00020
Ethylbenzene	N.D.	0.00020
Toluene	N.D.	0.00020
Xylene (total)	N.D.	0.00020
Batch number: M1603930AA	Sample number(s): 8234562-8234564	
Methane	N.D.	2

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	%	%	%	%					
Batch number: 16048FG01	Sample number(s): 8234562-8234564								
Carbon Dioxide	1.00	0.939	1.00	0.934	94	93	69-111	1	25
Oxygen	1.00	1.13	1.00	1.12	113	112	81-117	1	25
	ppm(v)	ppm(v)	ppm(v)	ppm(v)					
Batch number: E1603930AA	Sample number(s): 8234562-8234564								
Benzene	0.0106	0.0104	0.0106	0.0106	98	100	70-130	2	25
Ethylbenzene	0.0106	0.0109	0.0106	0.0109	102	103	70-130	1	25
Toluene	0.0106	0.0106	0.0106	0.0108	100	102	70-130	2	25
Xylene (total)	0.0205	0.0212	0.0205	0.0215	103	105	70-130	2	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Group Number: 1629659
Reported: 02/21/2016 22:00

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Summa Canister Field Test Data/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10880 Group # 1629659 Sample # S234562-64 Bottle Order (SCR) # _____

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Chevron EMC/GHD

Account #:

Project Name/#: Chevron 211079 - 1501 S. Cushman Street, Fairbanks, AK

Project Manager (GHD): Siobhan Pritchard siobhan.pritchard@ghd.com

P.O. #:

Sampler: O. Yan / N. Hinsperger

Quote #:

Name of state where samples were collected: Alaska

3 Turnaround Time Requested (TAT) (circle one)

Standard Rush (specify) _____

4 Data Package Required?

Yes No

5 EDD Required?

Yes No

	Temperature (F) Start	Temperature (F) Stop	Pressure ("Hg) Start	Pressure ("Hg) Stop
Ambient	13	18	-30	-5
Maximum	17	18	-30	-7
Minimum	13	15	-30	-5

2

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15 BTEX	EPA 18 ☐ BTEX ☐ MTBE	EPA 25 (select range below)	Helium as tracer	O2/CO2	Library Search	Methane - ASTM D1946
211079-DUP-1-020416	02/04/16 -	02/04/16	-30	-5	13°	15°	239315	110	6	165	X			X	X		X
211079-VP-2-5-020416	02/04/16 - 1122	02/04/16 - 1149	-30	-7	13°	15°	204853	897	6	167	X			X	X		X
211079-VP-2-8.5-020416	02/04/16 - 1222	02/04/16 - 1253	-30	-5	17°	18°	415305	542	6	168	X			X	X		X
~~[illegible]~~							~~710627~~	~~814~~	~~6~~	~~166~~ OJ 2/4/16							

7 Instructions/QC Requirements & Comments

email results to: siobhan.pritchard@ghd.com and nathan.hinsperger@ghd.com

ALASKA TYPE III DATA PACKAGE

EPA 25 (check one)

☐ C1 - C4 ☐ C2 - C10

☐ C1 - C10 ☐ C4 - C10 (GRO)

☐ C2 - C4

8

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature] 11:07	1/29/16	[signature]	2/3/16 16:30	[signature]	02/04/16 - 1345		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by: [signature]	Date/Time: 2/8/16 0915

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Sample Administration Receipt Documentation Log

Doc Log ID: 135598

Group Number(s):

Client: Chevron EMC/GHD

1629659

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	02/08/2016 9:15
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	AK		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	Yes
Extra Samples:	No	Flow Controller Quantity:	4
Discrepancy in Container Qty on COC:	No	Air Quality Returns:	Yes
		Summa Canisters:	814

Unpacked by Carolyn Cyms (964) at 09:47 on 02/08/2016

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Appendix G
ADEC Laboratory Data Review Checklist and Memorandum

Contaminated Sites Program
Spill Prevention and Response Division
Alaska Department of Environmental Conservation

Laboratory Data Review Checklist for Air Samples

Completed by:	J Cloud		
Title:	Project Chemist	Date:	July 13, 2016
CS Report Name:		Report Date:	2/21/16
Consultant Firm:	Conestoga-Rovers & Associates		
Laboratory Name:	Lancaster Laboratories	Laboratory Report Number:	1629659
DEC File Number:		DEC Haz ID:	

1. Laboratory
   a. Did a NELAP-certified laboratory receive and perform all of the submitted sample analyses?
      X Yes No N/A (Please explain.)

   Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses NELAP-approved?
      Yes No X N/A (Please explain.)

   Comments:
   Samples not transferred

2. Chain of Custody (COC)
   a. Was the COC information completed, signed and dated (including released/received by)?
      X Yes No N/A (Please explain.)

   Comments:

   b. Was the correct analyses requested?
      X Yes No N/A (Please explain.)

   Comments:

3. Laboratory Sample Receipt Documentation

a. Was the sample condition documented? Were samples collected in gas-tight, opaque/dark Summa canisters or other DEC-approved containers? Was the canister vacuum/pressure checked, recorded upon receipt and were there no open valves?

X Yes No N/A (Please explain.)

Comments:

b. If there were any discrepancies, were they documented? Examples include incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.

Yes No X N/A (Please explain.)

Comments:

No discrepancies

c. Was the data quality or usability affected? (Please explain.)

Comments:

No

4. Case Narrative

a. Is there a case narrative and is it understandable?

X Yes No N/A (Please explain.)

Comments:

b. Were there any discrepancies, errors or QC failures identified by the lab?

Yes No X N/A (Please explain.)

Comments:

No discrepancies

c. Were all corrective actions documented?

Yes No X N/A (Please explain.)

Comments:

No corrective actions

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None

5. Samples Results
   a. Were the correct analyses performed/reported as requested on COC?
      X Yes No N/A (Please explain.)

   Comments:

   b. Were the samples analyzed within 30 days of collection or within the time required by the method?
      X Yes No N/A (Please explain.)

   Comments:

   c. Are the reported PQLs less than the Target Screening Level or the minimum required detection level for the project?
      X Yes No N/A (Please explain.)

   Comments:

   d. Was the data quality or usability affected?

   Comments:

   No

6. QC Samples
   a. Method Blank
      i. Was one method blank reported per analysis and 20 samples?
      X Yes No N/A (Please explain.)

   Comments:

      ii. Were all method blank results less than PQL?
      X Yes No N/A (Please explain.)

   Comments:

      iii. If above PQL, what samples are affected?

   Comments:

   No affected samples

iv. Do the affected sample(s) have data flags and, if so, are the data flags clearly defined?
Yes No X N/A (Please explain.)

Comments:

No affected samples

v. Was the data quality or usability affected? (Please explain.)

Comments:

None

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Were there one LCS/LCSD or one LCS and a sample/sample duplicate pair reported per analysis and 20 samples?
Yes X No N/A (Please explain.)

Comments:

No LCS/LCSD sets for helium or methane

ii. Accuracy – Were all percent recoveries (%R) reported and within method or laboratory limits? What were the project specified DQOs, if applicable?
X Yes No N/A (Please explain.)

Comments:

iii. Precision – Were all relative percent differences (RPD) reported and were they less than method or laboratory limits? What were the project-specified DQOs, if applicable.
X Yes No N/A (Please explain.)

Comments:

iv. If the %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No affected samples

v. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
Yes No X N/A (Please explain.)

Comments:

No affected samples

vi. Is the data quality or usability affected? (Please explain.)

Comments:

No

c. Surrogates

i. Are surrogate recoveries reported for field, QC and laboratory samples?
Yes No X N/A (Please explain.)

Comments:

Not reported

ii. Accuracy – Are all percent recoveries (%R) reported and within method or laboratory limits? What were the project-specified DQOs, if applicable?
Yes No X N/A (Please explain.)

Comments:

Not reported

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
Yes No X N/A (Please explain.)

Comments:

Not reported

iv. Was the data quality or usability affected? (Please explain.)

Comments:

Not reported

d. Field Duplicate

i. Was one field duplicate submitted per analysis and 10 type (soil gas, indoor air, etc.) samples?
X Yes No N/A (Please explain.)

Comments:

ii. Were they or was it submitted blind to the lab?
X Yes No N/A (Please explain.)

Comments:

iii. Precision – Were all relative percent differences (RPD) less than the specified DQOs? (Recommended: 25 %)

$$RPD\ (\%) = \text{Absolute value of: } \frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes X No N/A (Please explain.)

Comments:

Toluene had a high RPD

iv. Was the data quality or usability affected? (Please explain.)

Comments:

The toluene results for samples VP-2-5 and DUP-1 were qualified as estimated due to variability

e. Field Blank (If not used, explain why.)

Yes No X N/A (Please explain.)

Comments:

Not collected

i. Were all results less than the PQL?

Yes No X N/A (Please explain.)

Comments:

Not collected

ii. If above PQL, what samples are affected?

Comments:

Not collected

iii. Was the data quality or usability affected? (Please explain.)

Comments:

Not collected

7. Other Data Flags/Qualifiers

a. Were other data flags/qualifiers defined and appropriate?

Yes No X N/A (Please explain.)

Comments:

No 'other' flags/qualifiers

Memorandum

To:	ADEC	Ref. No.:	065003
From:	Jeffrey Cloud	Date:	July 13, 2016
cc:	Siobhan Pritchard		

Re: QA/QC Review
ChevronTexaco Site 21-1079
Job # 1629659
February 2016

1. Introduction

This document details a reduced validation of analytical results for air samples collected in Anchorage, Alaska during February 2016. Samples were submitted to Lancaster Laboratories, located in Lancaster, Pennsylvania.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, laboratory control samples (LCS) and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008 subsequently referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in the methods. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were analyzed within the required holding time.

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

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For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch with two exceptions. There were no LCS/LCSD sets analyzed for helium or methane.

4.1 Organic Analyses

The LCS/LCSD contained all analytes of interest. All LCS recoveries and RPDs were within associated control limits, demonstrating acceptable analytical accuracy and precision.

5. Field QA/QC Samples

The field QA/QC consisted of one field duplicate sample set.

5.1 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory. The RPDs associated with these duplicate samples must be less than 50 percent. If the reported concentration in both the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with the exception of a high toluene RPD. The toluene results for samples VP-2-5 and DUP-1 were qualified as estimated due to variability.

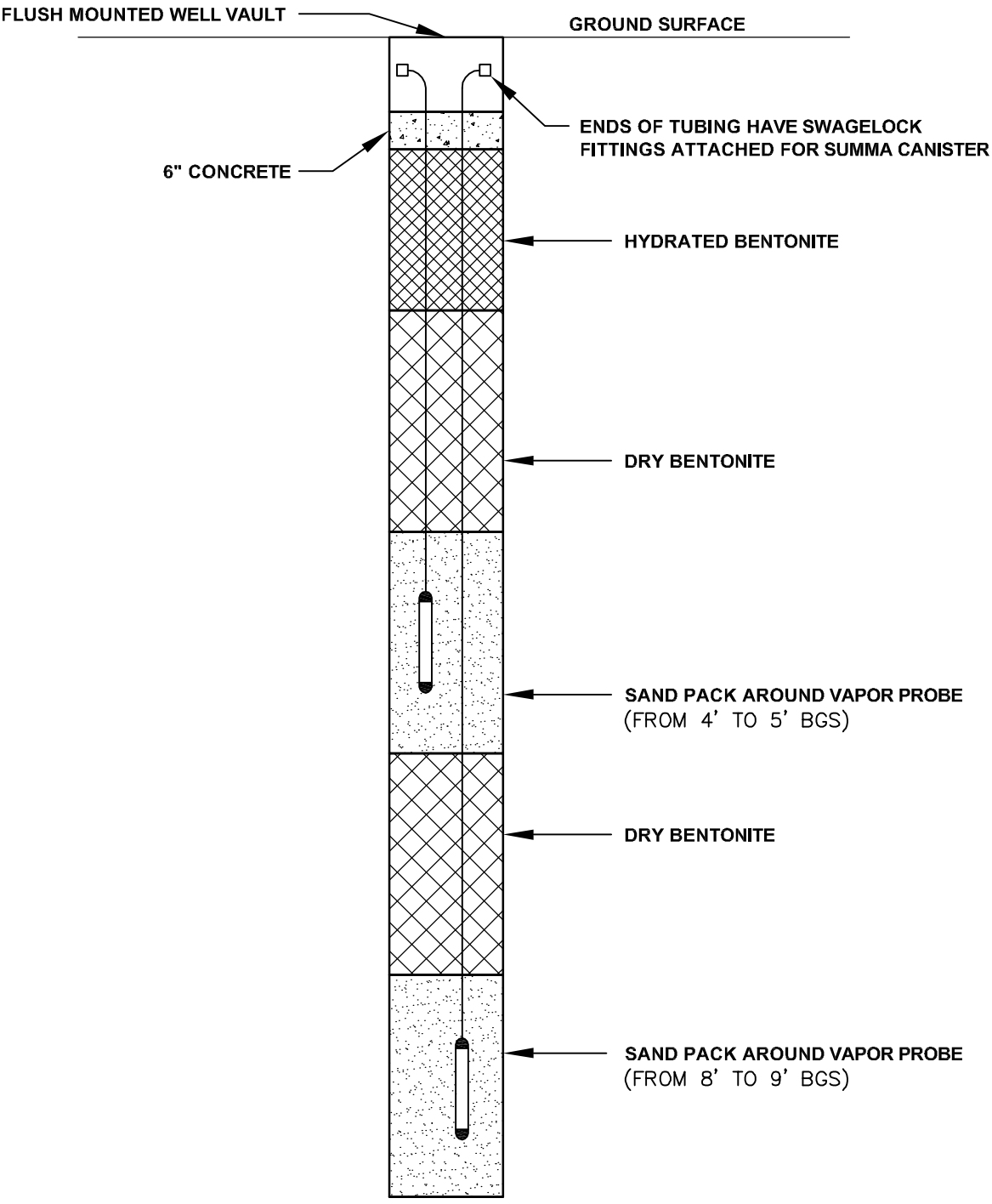
6. Analyte Reporting

Non-detect data were reported down to the laboratory's method detections limit (MDL) for each analyte. Positive analyte detections less than the reporting limit (RL) but greater than the MDL were qualified as estimated (J).

7. Conclusion

Based on the assessment detailed in the foregoing, the summarized data are acceptable with the specific qualifications noted herein.

Appendix H
Soil Vapor Probe Stratigraphic Log



(DRAWING NOT TO SCALE)

BGS = BELOW GROUND SURFACE

FORMER CHEVRON FACILITY #211079
1501 CUSHMAN STREET, FAIRBANKS, ALASKA
SOIL VAPOR ASSESSMENT REPORT

VAPOR PROBE DETAIL

ARCADIS BBL
Infrastructure, environment, facilities

FIGURE
3

[TAM-85-JAR] LAYER: ON=*, OFF=*REF*
I:\YR_2007\446\44672.00001\002\44672G01.dwg SAVED:12/11/2007 10:43 AM LAYOUT:3 PAGESETUP:PDF-AP PENTABLE:PLTFULL.CTB PRINTED:12/11/2007 10:43 AM BY:JRICHARDS
PROJECTNAME:----
XREFS: IMAGES:

Date Start/Finish: 7/21/09 **Drilling Company:** Alaska Pipeliner **Driller's Name:** Keith Dohmen **Drilling Method:** Vac Truck **Sampling Method:** Hand Auger **Rig Type:** Vac Truck	**Northing:** **Easting:** **Casing Elevation:** NA **Borehole Depth:** 9.0 **Surface Elevation:** **Descriptions By:** MLS	**Well/Boring ID: VP-2** **Client:** Chevron **Location:** 1501 S. Cushman Street

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0			0.5	0.7		SM		SILTY SAND (SM); light brown; very fine to fine sand; low to medium plasticity; trace woody debris; no odor.	Teflon-lined polyethylene tubing with air tight 2-way valve 12-inch monument Teflon-lined polyethylene tubing with air tight 2-way valve Concrete Hyrdrated granular bentonite Dry granular bentonite 10/20 silica sand pack Soil vapor screen (see Remarks)
				0.5	0.7	X				
5	-5			0.5	1.6					Hyrdrated granular bentonite Dry granular bentonite
				0.5	5.4	X			Trace gravel.	10/20 silica sand pack Soil vapor screen (see Remarks)
10	-10									

ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface

Analytical sample (VP-5-4.0) collected from 4-4.5' bgs; analytical sample (VP-5-8.0) collected from 8-8.5' bgs.

The soil vapor screen is a 6-inch, 0.375-inch outer diameter stainless steel soil vapor screen with a stainless steel implant anchor.

Appendix I
Historical Soil Vapor Analytical Results

Table 6

Soil Vapor Analytical Data
Former Texaco Facility 211079
1501 South Cushman Street
Fairbanks, Alaska

			EPA Method TO-15													EPA Method TO-17	
Vapor Probe	Depth (ft)	Sample Date	Benzene	Toluene	Ethylbenzene	Total xylenes	Styrene	Isopropylbenzene (Cumene)	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Butylbenzene	Propylbenzene	sec-Butylbenzene	tert-Butylbenzene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
ADEC Target Levels for Shallow Soil Gas			*9.8*	*13,800*	*51*	*240*	*2,400*	*850*	*15*	*15*	*67*	*74*	*67*	*67*	*1.4*	*25*	*25*
VP-1	5	08/09/07	2.2	62	2.6	6.2	--	--	--	--	--	--	--	--	<0.4	--	--
		08/09/07[D]	1.1	22	1.8	4.4	--	--	--	--	--	--	--	--	<0.4	--	--
		09/14/08	<0.2	1.4	<0.2	0.26	--	--	--	--	--	--	--	--	<0.4	--	--
		09/14/08[D]	<0.2	1.3	<0.2	0.39	--	--	--	--	--	--	--	--	<0.4	--	--
VP-2	5	**08/12/09**	**<0.16**	**0.31**	**<0.16**	**<0.32**	**<0.16**	**<0.16**	**<0.16**	**<0.16**	**<0.82**	**<0.16**	**<0.82**	**<0.82**	**<0.82**	**<24**	**<24**
ADEC Target Levels for Deep Soil Gas			*98*	*138,000*	*510*	*2,400*	*24,000*	*8,500*	*150*	*150*	*670*	*740*	*670*	*670*	*14*	*250*	*250*
VP-1	9	08/09/07	4.6	44	2.4	5.6	--	--	--	--	--	--	--	--	<0.4	--	--
		09/14/08	1	1.7	<0.2	0.75	--	--	--	--	--	--	--	--	<0.4	--	--
VP-2	8.5	**08/12/09**	**<0.17**	**0.29**	**<0.17**	**<0.17**	**<0.17**	**<0.17**	**<0.17**	**<0.17**	**<0.86**	**<0.17**	**<0.86**	**<0.86**	**<0.86**	**<24**	**<24**
		08/12/09[D]	**<0.16**	**0.50**	**<0.16**	**<0.16**	**<0.16**	**<0.16**	**<0.16**	**<0.16**	**<0.82**	**<0.16**	**<0.82**	**<0.82**	**<0.82**	**<24**	**<24**

Notes:
Results are reported in parts per billion by volume (ppbv)
Bold Type = Results of most recent sampling event
Highlighted values indicate an exceedance of the respective ADEC Target Level
[D]Duplicate of the preceding sample
< = not detected greater than the laboratory reporting limit
"--" = not analyzed
ADEC Target Levels for Soil Gas based on residential land use

Table 7

Fixed Gases and Tracer Gas
Former Texaco Facility 211079
1501 South Cushman Street
Fairbanks, Alaska

			Fixed Gases			Tracer Gas				
Sample	Depth (ft)	Sample Date	Methane	Oxygen	Carbon dioxide	Helium	Helium[1]	Helium Shroud Concentration	ASTM D-1946 Leakage	TO-17 Leakage[2]
VP-1	5	08/09/07	0.00036	19	<0.025	--	--	--	--	--
		08/09/07[D]	0.00032	21	<0.025	--	--	--	--	--
		09/14/08	<0.00040	16	<0.025	<0.05	--	--	--	--
		09/14/08[D]	<0.00040	15	<0.025	<0.05	--	--	--	--
	9	08/09/07	0.00048	23	<0.025	--	--	--	--	--
		09/14/08	<0.00040	18	<0.025	<0.05	--	--	--	--
VP-2	**5**	**08/12/09**	**<0.00016**	**20**	**1.8**	**<0.082**	**0.1700**	**15-20**	**0**	**0.009-0.01**
	8.5	**08/12/09**	**<0.00017**	**20**	**2.3**	**<0.086**	**0.3175**	**5-10**	**0**	**0.032-0.064**
		08/12/09[D]	**<0.00016**	**20**	**2.2**	**<0.082**	**0.3175**	**5-10**	**0**	**0.032-0.064**
AMB-UP	**--**	**08/12/09**	**0.00020**	**22**	**0.046**	**<0.074**	**--**	**--**	**--**	**--**
AMB-DOWN	**--**	**08/12/09**	**0.00021**	**22**	**0.040**	**<0.080**	**--**	**--**	**--**	**--**
Equipment Blank	**--**	**08/12/09**	**0.00020**	**0.41**	**<0.020**	**<0.10**	**--**	**--**	**--**	**--**
Trip Blank	**--**	**08/12/09**	**<0.00010**	**<0.10**	**<0.010**	**<0.050**	**--**	**--**	**--**	**--**

Notes:
Results are reported in percentage by volume (%v)
Bold Type = Results of most recent sampling event
[1]Helium measured from Tedlar bag after soil gas was permitted through TO-17 assembly
[2]TO-17 % Leakage = (Helium Concentration in Sample) / (Helium Concentration in Shroud)
[D]Duplicate of the preceding sample
< = not detected greater than the laboratory reporting limit
"--" = not analyzed

Table 8

Ambient Air and Quality Assurance Samples
Former Texaco Facility 211079
1501 South Cushman Street
Fairbanks, Alaska

		EPA Method TO-15													EPA Method TO-17	
Sample	Sample Date	Benzene	Toluene	Ethylbenzene	Total xylenes	Styrene	Isopropylbenzene (Cumene)	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	Butylbenzene	Propylbenzene	sec-Butylbenzene	tert-Butylbenzene	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene
AMB-UP	09/14/08	0.67	0.23	1.7	1.04	--	--	--	--	--	--	--	--	<0.4	--	--
	08/12/09	**2.0**	**15**	**0.82**	**3.21**	**0.29**	**<0.15**	**<0.15**	**0.25**	**<0.74**	**<0.15**	**<0.74**	**<0.74**	**<0.74**	**<24**	**<24**
AMB-DOWN	09/14/08	0.59	<0.20	1.5	0.83	--	--	--	--	--	--	--	--	<0.4	--	--
	08/12/09	**<0.16**	**0.48**	**<0.16**	**<0.32**	**<0.16**	**<0.16**	**<0.16**	**<0.16**	**<0.80**	**<0.16**	**<0.80**	**<0.80**	**<0.80**	**<24**	**<24**
Equipment Blank	09/14/08	<0.40	<0.40	<0.40	<0.80	--	--	--	--	--	--	--	--	<0.80	--	--
	08/12/09	**<0.20**	**0.28**	**<0.20**	**<0.40**	**<0.20**	**<0.20**	**<0.20**	**<0.20**	**<1.0**	**<0.20**	**<1.0**	**<1.0**	**<1.0**	**--**	**--**
Trip Blank	09/14/08	<0.20	<0.20	<0.20	<0.40	--	--	--	--	--	--	--	--	<0.40	--	--
	08/12/09	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.10**	**<0.50**	**<0.10**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**

Notes:
All results are reported in parts per billion by volume (ppbv)
Bold Type = Results of most recent sampling event
"--" = not analyzed
< = not detected greater than the laboratory reporting limit

Table 9

Canister Vacuum Readings
Former Texaco Facility 211079
1501 South Cushman Street
Fairbanks, Alaska

Vapor Probe	Depth (ft)	Sample Date	Initial Field Vacuum	Final Field Vacuum	Lab Receipt Vacuum	Lab Receipt Vacuum (Corrected for Elevation)[1]	Change in Vacuum[2]
Vapor Probe Samples							
VP-2	5	08/12/09	28.5	5	5.5	5.3	-0.27
	8.5	08/12/09	27.5	5	6.5	6.3	-1.27
		08/12/09[D]	30	8	5.5	5.3	2.73
Quality Assurance Samples							
AMB-UP	--	08/12/09	19.5	5.5	3.0	2.8	2.73
AMB-DOWN	--	08/12/09	29.5	5	5.0	4.8	0.23
Equipment Blank	--	08/12/09	30	11.5	10.0	9.8	1.73

Notes:
Readings are reported in inches of mercury (in Hg)
[D]Duplicate of the preceding sample
[1]Elevation Correction = Final Lab Vacuum - 0.226
[2]Change in Vacuum = Final Lab Vacuum (Corrected) - Final Field Vacuum

Appendix J
ADEC Building Survey and Indoor Air Sampling Questionnaire

APPENDIX I

DEC Building Survey and Indoor Air Sampling Questionnaire

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ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

This form should be prepared by a person familiar with indoor air assessments with assistance from a person knowledgeable about the building. Complete this form for each building where interior samples (e.g., indoor air, crawl space, or subslab soil gas samples) will be collected. Section I of this form should be used to assist in choosing an investigative strategy during workplan development. Section II should be used to assist in identification of complicating factors during a presampling building walk-through.

Preparer's Name NATE HINSPERGER Date/Time Prepared 04/ /16

Preparer's Affiliation GHD Phone No. 907-782-5037

Purpose of Investigation SOIL VAPOR EVALUATION & ASSESSMENT

SECTION I: BUILDING INVENTORY

1. OCCUPANT OR BUILDING PERSONNEL:

Interviewed: Y / N

Last Name _____ First Name _____

Address _____

City _____

Phone No. _____

Number of Occupants/people at this location _____ Age of Occupants _____

2. OWNER or LANDLORD: (Check if same as occupant ✓.)

Interviewed: (Y) / N

Last Name KUZMICH First Name VITALI

Address 1464 LACEY STREET.

City FAIRBANKS, AK.

Phone No. 907-978 3587

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response.)

(Residential) Industrial School Church Commercial/Multi-use Other _____

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many? N/A

If the property is commercial, what type?

Business types(s) N/A

Does it include residences (i.e., multi-use)? Y / N If yes, how many?_____

Other characteristics:

Number of floors 1 Building age ≈50 years

Is the building insulated? Y / N How airtight? Tight / Average / Not Tight

Have occupants noticed chemical odors in the building? Y / N

If yes, please describe:_____

4. **AIRFLOW**

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

NO

Airflow in building near suspected source

NO

Outdoor air infiltration

NO

Infiltration into air ducts

NO

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply.)

a. Above-grade construction:	wood frame	log	concrete	brick
	constructed on pilings with enclosed air space		constructed on pilings with open air space	
b. Basement type:	full	crawlspace	slab-on-grade	other_____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	unsealed	sealed	sealed with_____	
e. Foundation walls:	poured	block	stone	other WOOD
f. Foundation walls:	unsealed	sealed	sealed with WOOD	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y / N			
j. Water in sump?	Y / N / not applicable			

Basement or lowest level depth below grade ≈ 8 (feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).

SUMP

6. **HEATING, VENTING, and AIR CONDITIONING** (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	Hot water baseboard	
Space heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other FURNACE/DUCT

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: Fuel Oil

Boiler/furnace is located in: Basement Outdoors Main floor Other_____

Do any of the heating appliances have cold-air intakes? Y / N

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? (Y) / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

Ducts hook up to the furnace. Duct joints appear tight.

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation_____

Is the system active or passive? Active/Passive

7. **OCCUPANCY**

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	STORAGE, LAUNDRY
1st Floor	LIVING AREA, KITCHEN, BEDROOM(S)
2nd Floor	
3rd Floor	

8. **WATER AND SEWAGE**

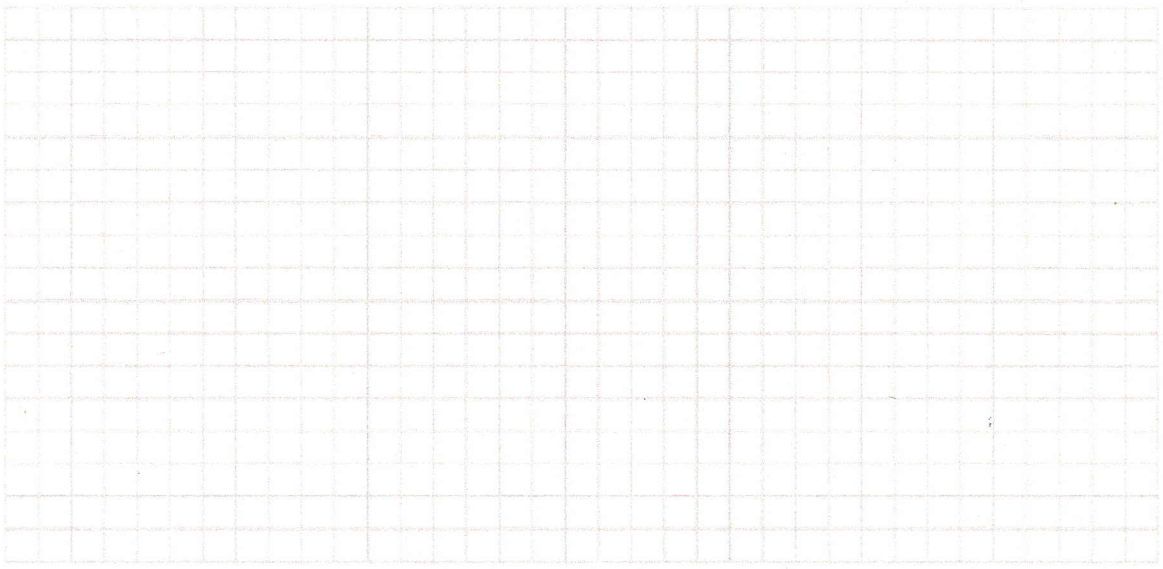
Water supply: (Public water) Drilled well Driven well Dug well Other_____

Sewage disposal: (Public sewer) Septic tank Leach field Dry well Other_____

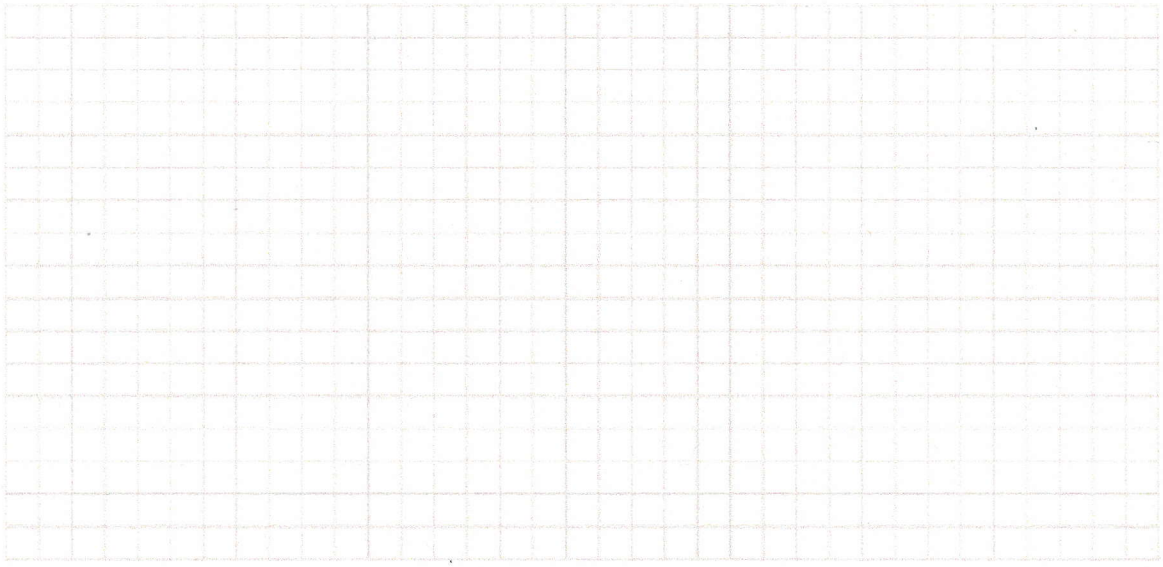
9. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:



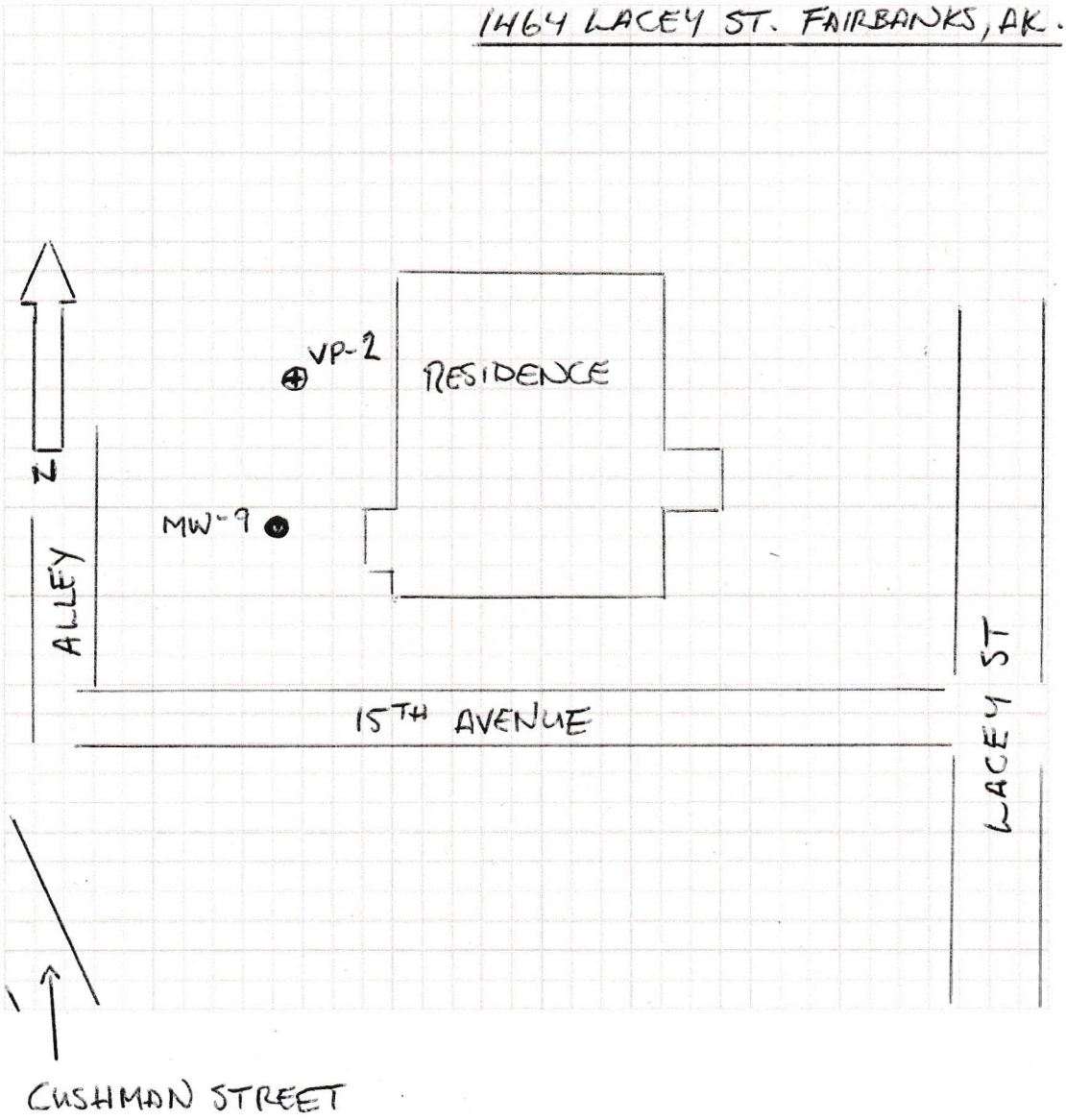
First Floor:



10. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a presampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

a) 1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage? Y / N

Does the garage have a separate heating unit? Y / N / NA

Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car) Y / N / NA

Please specify_____

Has the building ever had a fire? Y / N When?_____

Is a kerosene or unvented gas space heater present? Y / N Where?_____

Is there a workshop or hobby/craft area? Y / N Where and type_____

Is there smoking in the building? Y / N How frequently?_____

Has painting/staining been done in the last six months? Y / N Where and when?_____

Is there new carpet, drapes or other textiles? Y / N Where and when?_____

Is there a kitchen exhaust fan? Y / N If yes, where is it vented?_____

Is there a bathroom exhaust fan? Y / N If yes, where is it vented?_____

Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling? Y / N

If yes, please describe_____

_____

_____

Do any of the building occupants use solvents at work? Y / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used?_____

If yes, are his/her/their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response) NONE

Yes, use dry cleaning regularly (weekly) No

Yes, use dry cleaning infrequently (monthly or less) Unknown

Yes, work at a dry cleaning services

2. **PRODUCT INVENTORY FORM** (For use during building walk-through.)

Make and model of field instrument used:_____

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition[1]	Chemical Ingredients	Field Instrument Reading (units)	Photo[2] Y / N

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

This form was modified from:

ITRC (Interstate Technology and Regulatory Council). 2007. *Vapor Intrusion Pathway: A Practical Guideline*. VI-1. Washington, D.C.: Interstate Technology and Regulatory Council, Vapor Intrusion Team. Available at: www.itrcweb.org.

The Alaska Department of Environmental Conservation's Contaminated Sites Program protects human health and the environment by managing the cleanup of contaminated soil and groundwater in Alaska.For more information, please contact our staff at the Contaminated Sites Program closest to you:
Juneau: 907-465-5390 / Anchorage: 907-269-7503
Fairbanks: 907-451-2153 / Kenai: 907-262-5210