



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

**Department of Environmental
Conservation**

Division of Spill Prevention and Response
Contaminated Sites Program

610 University Ave.
Fairbanks, Alaska 99709-3643
Main: 907.451.5715
Fax: 907.451.5105

File: 102.26.084

August 27, 2012

Mr. Michael Levine
U.S. General Services Administration
400 15th St. SW
Auburn, WA 98001-6599

Re: Corrective Action Complete Determination, Federal Building Motor Pool Equipment Building

Dear Mr. Levine:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Federal Building Motor Pool Equipment Building located at 101 12th Avenue, Fairbanks, Alaska. Based on the information provided to date, the ADEC has determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment, and this site will be closed.

This decision is based on the administrative record for the Federal Building Motor Pool Equipment Building, which is located in the offices of the ADEC in Fairbanks, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Corrective Action Complete Determination.

Introduction

Site Name and Location:

Federal Building Motor Pool Equipment Building
101 12th Avenue
Fairbanks, AK 99701

Database Record Key and File Number:

File: 102.26.084
Hazard ID: 24347

Regulatory authority under which the site is being cleaned up:

18 AAC 75 and 18 AAC 78

Background

The Federal Building Motor Pool facility, constructed in 1977, had four underground storage tanks (USTs): a 500-gallon UST, a 500-gallon propane UST, a 10,000-gallon gasoline UST, and a 20,000-gallon heating oil UST. A single dispensing island for the gasoline tank was located beneath a canopy to the south of the

building. Soil and groundwater at this site were impacted with petroleum contamination as a result of releases associated with the USTs. A 1991 site investigation report identified a release of 6,000 gallons of gasoline in 1977, due to damage to the UST occurring during construction. Evidence of additional releases was discovered during UST removal activities.

Characterization Activities

In 1991, Calscience Engineering performed a subsurface investigation at the site. The investigation included drilling four soil borings and installing three monitoring wells. Sample results showed benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) present in soil and groundwater above cleanup levels.

In 1993, Shannon & Wilson, Inc. removed the 500-gallon propane UST, the 500-gallon used oil UST, and the 10,000-gallon gasoline UST. During removal of the 500-gallon used oil UST, visibly contaminated soil was noted around the fill/clean-out piping and extended to approximately 3 feet below the ground surface. Two samples were collected from the bottom of the excavation at 8.5 feet and analyzed for Diesel and Gasoline Range Organics (DRO and GRO), TPH, Volatile Organic Compounds (VOCs), polychlorinated biphenyls (PCBs), and metals. Results for arsenic and chromium were above the cleanup levels in one sample.

During removal of the 10,000-gallon gasoline UST, visibly contaminated soil was observed around the fill pipe. Three samples were collected from the bottom of the excavation at 12 feet. Sample results showed GRO, DRO, and BTEX above the cleanup levels. Soil removed during UST closure activities was placed back into the excavation.

In 1995, AGRA Earth & Environmental removed the 20,000-gallon heating oil UST. Five soil samples were collected from the base of the excavation at 12 feet. Using the ADEC UST Regulations cleanup matrix worksheet, this site was scored as a Level A. Results for GRO, DRO, and BTEX were above the Level A cleanup levels. Eighteen cubic yards of contaminated soil were generated during the tank removal and transported to Environmental Systems, Inc. for treatment and disposal.

In 2002 Herrera Environmental Consultants conducted a subsurface investigation at the former gasoline UST and dispenser island locations. Sample results showed GRO and benzene were detected above the cleanup level.

The table below shows the maximum soil concentrations for compounds detected above the cleanup level:

	1991 Subsurface Investigation (mg/kg)	1993 10,000-gallon gasoline UST removal (mg/kg)	1993 500-gallon waste oil UST removal (mg/kg)	1995 20,000-gallon diesel UST removal (mg/kg)	2002 Subsurface Investigation at former gasoline UST (mg/kg)
Benzene	240	29	non-detect	5.79	0.23
Toluene	1,300	590	non-detect	47.5	0.35
Ethylbenzene	190	260	non-detect	58.3	1.2
Xylenes	880	1,300	non-detect	162.1	66
GRO	not analyzed	13,000	non-detect	2,460	870
DRO	not analyzed	2,600	16	60,000	not analyzed
Arsenic	not analyzed	not analyzed	6.1	not analyzed	not analyzed
Chromium	not analyzed	not analyzed	35	not analyzed	not analyzed

Groundwater has been monitored at this site from 1991 to 2011. Groundwater samples have been analyzed for GRO, DRO, BTEX, lead, polynuclear aromatic hydrocarbons (PAHs), and methyl tert-butyl ether (MTBE). GRO, benzene, toluene, ethylbenzene, and lead have been detected above the applicable cleanup levels in the past. DRO, PAHs, MTBE, and xylenes have either not been detected or were not detected above the applicable cleanup levels. The most recent groundwater results are below the applicable cleanup levels for all contaminants (see enclosed summary of groundwater results for results from each well).

The table below presents the highest historical results for contaminants detected above the cleanup levels:

	Monitoring Well	Date	Historic High Result
GRO	VES-6	September 2002	8.00 mg/L
Benzene	MW-4	August 1994	5.08 mg/L
Toluene	MW-4	August 1994	11.0 mg/L
Ethylbenzene	MW-4	August 1994	1.33 mg/L
Total Lead	MW-3	September 2010	0.0780 mg/L

Remediation Activities

An air injection/vapor extraction (AIS/VES) system was installed in 1996 and operated until 2001. The system included 4 air injection wells and 8 vapor extraction wells. In a 1999 report, it was noted that, after installation of treatment system piping, the pipe trenches were backfilled with sand and gravel but not repaved. The unpaved strips may have caused the system to “short circuit”. The pipe trenches were eventually repaved. Groundwater monitoring results indicate that the remediation, in addition to other attenuation processes at this site, have successfully reduced contamination to acceptable levels.

Cleanup Levels and Contaminants of Concern

Soil samples at this site have been analyzed for DRO, GRO, VOCs, PCBs, and metals. The following contaminants of concern were detected above the default soil cleanup levels for this site, established in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater, Under 40 Inch Zone.

<u>Contaminant</u>	<u>Soil Cleanup Levels (mg/kg)</u>
GRO	300
DRO	250
Benzene	0.025
Toluene	6.5
Ethylbenzene	6.9
Xylenes	63
Arsenic	3.9
Chromium	25

Groundwater samples at this site have been analyzed for GRO, BTEX, lead, DRO, PAHs, and MTBE. The following contaminants of concern were detected above the default groundwater cleanup levels for this site, established in 18 AAC 75.345 Table C.

<u>Contaminant</u>	<u>Groundwater Cleanup Levels (mg/L)</u>
GRO	2.2
Benzene	0.005
Toluene	1.0
Ethylbenzene	0.7
Lead	0.015

Evaluation of Contaminants of Concern

Arsenic and chromium were detected above the cleanup level in one soil sample from the bottom of the excavation during removal of the 500-gallon waste oil tank in 1993. The sample contained low levels of total petroleum hydrocarbons and do not indicate a large release associated with the waste oil tank. Results for metals from the second sample collected from the bottom of the excavation were all below the cleanup levels. A sample of the sludge from the waste oil tank was analyzed to determine disposal options and the results showed high total petroleum hydrocarbon concentrations. Arsenic was not detected in the sludge sample, and chromium results were below the cleanup level.

Soil samples collected during the removal of the 10,000-gallon gasoline UST in 1993 and the 20,000-gallon diesel UST in 1995 showed GRO, DRO, and BTEX above the cleanup levels. Samples collected from soil borings at the former gasoline UST location in 2002 show that GRO and BTEX concentrations had gone down. GRO was detected at 13,000 mg/kg in 1993, and 870 mg/kg in 2002. Benzene was detected at 29 mg/kg in 1993, and 0.23 mg/kg in 2002. Toluene, ethylbenzene, and xylenes concentrations were below the cleanup levels in the 2002 samples. Although benzene and GRO results were above migration to groundwater cleanup levels in 2002, they are below the inhalation and ingestion cleanup levels. The 2002 samples were not analyzed for DRO, however the reduction of concentrations for GRO and BTEX provide sufficient evidence that the concentrations of DRO have been reduced as well. The soil is no longer acting as a source of groundwater contamination as shown by the most recent groundwater results, which are below the applicable cleanup levels.

Groundwater results from the September 2010 groundwater sampling event showed elevated total lead concentrations in every well at the site. Results for all other contaminants of concern were below cleanup levels. In October 2011, the groundwater was sampled for dissolved lead using filtered groundwater samples. An unfiltered sample was also collected from one monitoring well and analyzed for total lead. All of the dissolved lead results were non-detect. Total lead was detected at a concentration of 0.013 mg/L, below the cleanup level. From this investigation, ADEC has determined that the elevated lead detections in 2010 are likely due to high turbidity in the samples when they were collected.

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 1.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Remaining soil contamination is in the sub-surface and the site is covered with an asphalt parking lot.
Sub-Surface Soil Contact	De Minimis	Remaining sub-surface contamination is limited to a small area and the site is covered with an asphalt parking lot.
Inhalation – Outdoor Air	De Minimis Exposure	Remaining sub-surface contamination is limited to a small area and the site is covered with an asphalt parking lot.
Inhalation – Indoor	De Minimis	The motor pool building is used for

Air (vapor intrusion)	Exposure	equipment maintenance and is not occupied on a regular basis. Groundwater concentrations are below the vapor intrusion screening levels.
Groundwater Ingestion	De Minimis Exposure	A 2003 survey of business and residences within ¼ mile indicate that there are no drinking water wells present. Contaminant concentrations in groundwater are below cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Remaining soil contamination is in the sub-surface and not anticipated to migrate to surface water.
Wild Foods Ingestion	Pathway Incomplete	Remaining sub-surface contamination is limited to a small area and the site is covered with an asphalt parking lot.
Exposure to Ecological Receptors	Pathway Incomplete	Remaining sub-surface contamination is limited to a small area and the site is covered with an asphalt parking lot.

Notes to Table 1: “De Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors. “Exposure controlled” means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Corrective Action Complete determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 78.600(h). It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

This determination is in accordance with 18 AAC 78.276(f) and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 -18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days after receiving the department’s decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please contact the ADEC project manager, Melody Debenham at melody.debenham@alaska.gov or (907) 451-5175.

Approved By,



Fred Vreeman
Environmental Manager

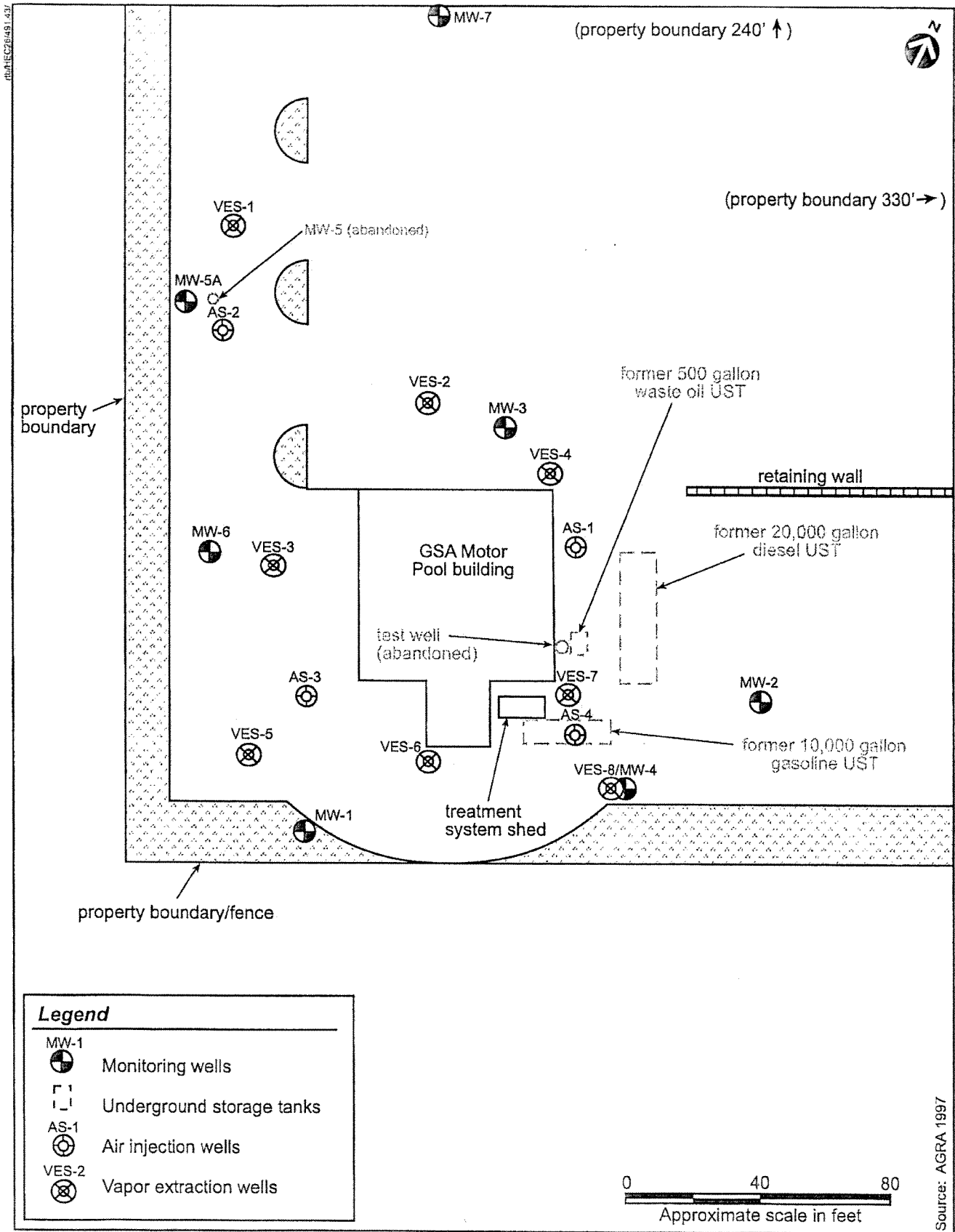
Recommended By



Melody Debenham
Environmental Program Specialist

Enclosures: Site Map
Summary of Groundwater Results

cc: Miguel Ortega, EHIS (e-mail)



Site map of former Fleet Management Center (Motor Pool Building), Fairbanks, Alaska.

Federal Building Motor Pool Equipment Building
101 12th Avenue, Fairbanks, AK

Summary of Groundwater Results (mg/L)

MW-1

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
5/28/91	--	0.270	0.0014	0.024	0.360	--
9/11/93	--	0.012	0.065	nd	0.067	nd
5/3/94	--	0.017	0.018	nd	0.028	nd
7/21/94	--	0.018	0.191	0.173	0.587	0.0066
8/7/94	--	0.016	0.135	nd	0.379	nd
11/3/94	--	0.0089	0.039	nd	0.0011	0.019
2/8/95	--	0.012	0.037	0.0028	0.035	0.0086
7/15/97	--	0.0127	0.0411	0.00388	0.03312	--
7/27/99	0.370	0.0085	0.039	0.030	0.070	--
6/28/00*	1.10	nd	0.076	0.041	0.197	--
6/1/01	nd	nd	0.0017	nd	nd	--
9/5/01	0.270	nd	0.032	nd	0.0255	--
12/21/01	0.890	0.0046	0.140	nd	0.1495	--
4/2/02	0.110	0.0012	0.032	nd	nd	--
9/3/02	nd	nd	0.0046	nd	0.0013	--
9/17/03	nd	nd	0.0020	nd	0.0016	--
10/3/08*	0.670	nd	0.013	nd	0.036	nd
9/16/10	nd	nd	nd	0.00334	nd	0.0597

MW-2

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
5/28/91	--	nd	nd	0.0003	nd	--
9/11/93	--	nd	nd	nd	nd	0.017
5/3/94	--	nd	nd	nd	nd	nd
7/21/94	--	nd	nd	nd	nd	0.0067
8/7/94	--	nd	nd	nd	nd	0.020
11/3/94	--	nd	nd	nd	nd	0.013
2/8/95	--	nd	nd	nd	nd	0.020
7/15/97	--	nd	nd	0.00137	nd	--
7/27/99	nd	0.0013	nd	nd	nd	--
6/28/00*	nd	nd	nd	nd	nd	--
6/1/01	nd	0.001	nd	nd	nd	--
9/5/01	nd	0.0017	nd	nd	nd	--
12/21/01	nd	nd	nd	nd	nd	--
4/1/02	nd	nd	nd	nd	nd	--
9/3/02	nd	nd	nd	nd	nd	--
9/17/03	nd	nd	nd	nd	nd	--
10/3/08*	nd	nd	nd	nd	nd	nd
9/16/10	0.0144	nd	nd	nd	nd	0.0455

Federal Building Motor Pool Equipment Building
101 12th Avenue, Fairbanks, AK

Summary of Groundwater Results (mg/L)

MW-3

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
5/28/91	--	nd	nd	1.4	nd	--
9/11/93	--	0.750	0.070	nd	0.0054	0.009
5/3/94	--	1.2	0.080	nd	nd	nd
7/21/94	--	0.045	nd	nd	nd	0.0084
8/7/94	--	0.218	0.017	nd	nd	0.023
11/3/94	--	0.578	0.057	nd	0.06	0.040
2/8/95	--	0.952	0.108	nd	0.0028	0.017
7/15/97	--	0.106	0.00392	nd	nd	--
7/27/99	nd	nd	nd	nd	nd	--
6/28/00*	nd	nd	nd	nd	nd	--
6/1/01	nd	nd	nd	nd	nd	--
9/5/01	nd	nd	nd	nd	nd	--
12/21/01	nd	0.001	0.0075	nd	0.0048	--
4/2/02	nd	0.0018	nd	nd	nd	--
9/4/02	nd	nd	nd	nd	nd	--
9/17/03	nd	nd	nd	nd	nd	--
10/3/08*	nd	nd	nd	nd	nd	nd
9/16/10*	nd	nd	nd	nd	nd	0.078

MW-4

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
8/7/94	--	5.08	1.33	11	4.9	0.018
11/3/94	--	2.32	0.635	4.78	2.295	0.036
2/8/95	--	0.184	0.041	0.191	0.132	0.017
7/15/97	--	0.0119	0.00236	nd	nd	--
7/27/99	0.650	0.029	0.061	0.0047	0.070	--
6/28/00*	0.920	0.0054	0.0046	0.052	0.290	--
9/5/01	0.530	0.025	0.061	nd	0.0012	--
12/21/01	0.390	0.012	0.050	nd	nd	--
4/1/02	0.100	0.0034	0.012	nd	nd	--
9/3/02	0.150	0.0047	0.017	nd	nd	--
9/17/03	0.110	0.0032	0.015	nd	nd	--
10/3/08*	0.260	0.0017	0.0097	nd	nd	nd
9/16/10	nd	nd	nd	nd	nd	0.0624

Federal Building Motor Pool Equipment Building
101 12th Avenue, Fairbanks, AK

Summary of Groundwater Results (mg/L)

MW-5

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
8/7/94	--	0.186	nd	nd	nd	0.013
11/3/94	--	0.273	0.0093	0.0024	0.0083	0.0099
2/8/95	--	0.234	0.0053	nd	nd	0.0091

MW-5A

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
6/28/00*	nd	nd	nd	nd	nd	--
6/1/01	nd	nd	nd	nd	nd	--
9/5/01	nd	nd	nd	nd	nd	--
12/21/01	nd	nd	nd	nd	nd	--
4/2/02	nd	nd	nd	nd	nd	--
9/3/02	nd	nd	nd	nd	nd	--
9/17/03	nd	nd	nd	nd	nd	--
10/3/08*	nd	nd	nd	nd	nd	nd
9/16/10*	nd	nd	nd	nd	nd	0.0558

MW-6

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
8/7/94	--	0.156	0.052	0.015	0.061	0.0099
11/3/94	--	0.063	0.022	nd	0.0016	0.017
2/8/95	--	0.091	0.023	0.002	0.0017	0.013
7/27/99	nd	0.0064	0.0091	nd	0.0058	--
6/28/00*	nd	nd	nd	nd	nd	--
6/1/01	nd	0.0058	nd	nd	nd	--
9/5/01	nd	nd	nd	nd	nd	--
12/21/01	nd	0.0046	0.0061	nd	0.0012	--
4/2/02	nd	nd	nd	nd	nd	--
9/3/02	nd	nd	nd	nd	nd	--
9/17/03	nd	nd	nd	nd	nd	--
10/3/08*	nd					0.001
9/16/10	nd	nd	nd	nd	nd	0.063

Federal Building Motor Pool Equipment Building
101 12th Avenue, Fairbanks, AK

Summary of Groundwater Results (mg/L)

MW-7

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
6/28/00*	nd	0.0059	nd	nd	nd	--
6/1/01	nd	0.0041	nd	nd	nd	--
9/5/01	nd	0.0026	nd	nd	nd	--
12/21/01	nd	0.0054	nd	nd	nd	--
4/2/02	nd	0.0057	nd	nd	nd	--
9/4/02	nd	nd	nd	nd	nd	--
9/17/03	nd	nd	nd	nd	nd	--
10/3/08*	nd	nd	nd	nd	nd	nd
9/16/10	nd	nd	nd	nd	nd	0.070

VES-6

	GRO	Benzene	Ethylbenzene	Toluene	Xylenes	Total Lead
9/5/01	6.800	0.0097	0.620	0.450	2.440	--
9/3/02	8.0	0.013	0.800	0.160	1.760	--
9/17/03	7.9	0.0072	0.910	0.120	1.710	--
10/3/08*	nd	nd	nd	nd	nd	11
9/16/10	nd	nd	nd	nd	nd	0.041

*6/28/00 sampling event included MTBE. Results were non-detect (nd) in all wells.

*10/3/08 sampling event included PAHs. Results were non-detect in all wells.

*9/16/10 sampling event included PAHs and DRO/RRO in MW-5A and MW-3. Results were non-detect or below cleanup levels in both wells.