

DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

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File: 102.26.028

December 29, 2004

Hellen Hanauer Living Trust
c/o Kenneth L. Dulaney
1105 Blandford Blvd.
Redwood City, CA 94062

Re: Approval of Final Cleanup Report / No Further Remedial Action Planned
Box Boy Store, Facility No. 1089, Event No. 982, Reckey No. 1991310011402

Dear Mr. Dulaney:

The Alaska Department of Environmental Conservation (ADEC or Department), Contaminated Sites Program, has completed review of the *Site Summary and Closure Request, Former Box Boy* report received on October 25, 2002. Groundwater monitoring reports submitted after this report were also reviewed in order to consider the closure request. Based on the information provided to date, the Department has determined that soil and groundwater contamination remain at the site above the most stringent 18 AAC 75 cleanup levels, but it does not pose a risk to human health, safety, welfare or the environment and no further remedial action at the site is required at this time.

The following information was considered in making this determination.

Site Background

The site is located at a former Box Boy Store at 2601 South Cushman in Fairbanks, Alaska. An underground storage tank (UST) system consisting of two 10,000-gallon gasoline tanks and a 5,000-gallon diesel tank, along with associated piping and dispensers, was removed from the northwestern portion of the site in 1991. A separate UST system at the south end of the property was reportedly removed in 1991 during construction of the Mitchell Expressway. The southern UST system consisted of two 10,000-gallon gasoline tanks and a 1,000-gallon diesel tank. A site assessment was not completed during removal of this southern UST system and the environmental status of the soil in this area is not known.

Cleanup actions at the site have consisted of the following:

- A.G. Midland excavated approximately 2,260 cubic yards (cy) of petroleum-impacted soil from the northwestern UST system. It was transported off site and thermally remediated at OIT, Inc.

- Shannon & Wilson installed a vapor extraction and air injection system (VES/AIS), consisting of 3 vapor extraction wells and 6 air injection wells. The system operated from January 1996 until November 2001.
- A passive treatment barrier was installed downgradient of the southern UST system in 1995. It consisted of Oxygen Releasing Compound (ORC) being injected into two rows of 7 soil borings.

Chemicals of Concern

Potential contaminants at the site include: benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), gasoline range organics (GRO), and diesel range organics (DRO). Because leaded gasoline was used on the site, lead and lead scavengers (1,2-dibromoethane and 1,2-dichloroethane) are also possible.

BTEX, GRO, and DRO have been identified in soil and groundwater above 18 AAC 75 cleanup levels and are considered chemicals of concern at this site.

PAHs were sampled in soil and groundwater but did not exceed ADEC cleanup levels. The 2002 Site Summary report indicated that benzo[a]anthracene exceeded the migration to groundwater cleanup level but the units were misreported and the cleanup level was not exceeded.

VOCs were sampled in the groundwater near the northwestern UST system in 1991. 1,2-dichloroethane and 1,1,1-trichloroethane were detected but below the 18 AAC 75.345 Table C groundwater cleanup levels. VOCs were sampled again in 2002 and 2003 with trichlorofluoromethane detected in the groundwater but below risk-based screening levels.

Lead was sampled in groundwater at MW-2, MW-3, and MW-7 in 2003, but was not detected.

Based on the above information, PAHs, VOCs, and lead are not be considered chemicals of concern at this site.

Soil Contamination

Confirmation soil samples (B-201, B-202, B-203; see enclosed Figure 3) were collected in the northwestern source area in 2002. Contaminant levels did not exceed the 18 AAC 75.341 Tables B1 or B2 ingestion/inhalation cleanup levels but did exceed the migration to groundwater cleanup levels in one area (B-202). Soil samples collected in 2001 during installation of off-site wells MW-11, MW-12, and MW-13 (see attached Figure 4) did not detect petroleum compounds verifying that soil impacts do not extend to off-site properties.

No soil confirmation samples have been collected near the former USTs at the southern end of the property. However, soil samples collected from borings installed during the 1991 UST Site Assessment and in 1995 during installation of MW-7 indicate that petroleum compounds do not exceed ingestion or inhalation cleanup levels but may exceed migration to groundwater cleanup levels in the vicinity of the former southern tank system. See Table 1 for levels of residual soil contamination.

Table 1: Soil sample results (mg/kg)

Date	Location	Depth (feet)	Benzene	GRO (VPH)	DRO (EPH)
8/6/02	B-0202	15-16	0.131	13.3	ND
2/13/91	TB1	5-6	NA	NA	1,600
2/13/91	TB2	11.5-13	NA	34.6	1,560
2/13/91	TB4	4.5-6	NA	313	<1,000
<i>ADEC Cleanup Levels</i>			<i>0.02</i>	<i>300</i>	<i>250</i>

Results in bold typeface indicate concentrations exceed 18 AAC 75.341 migration to groundwater cleanup levels.

ND: Non-detect

NA: Not analyzed

Groundwater Contamination

Groundwater monitoring has been conducted regularly at the site since 1994. It has been conducted on a semi-annual basis in mid-winter and late fall since 2001. The only monitoring wells (MW-2, MW-4, MW-5) in which contaminants were recently detected above 18 AAC 75.345 Table C groundwater cleanup levels are listed in Table 2.

Table 2: Groundwater sample results (mg/L)

Date	Location	Benzene	GRO	DRO
8/15/2003	MW-2	ND	14.1	1.52
2/6/2004	MW-2	0.00285	10.8	0.506
8/15/2003	MW-4	0.0246	0.122	1.41
2/6/2004	MW-4	ND	ND	ND
8/15/2003	MW-5	0.00735	0.299	ND
<i>ADEC Cleanup Levels</i>		<i>0.005</i>	<i>1.3</i>	<i>1.5</i>

Results in bold typeface indicate concentrations exceed 18 AC 75.345 Table C cleanup levels.

ND: Non-detect

Cleanup Levels

Complete exposure pathways identified at the site includes the default pathways identified under 18 AAC 75.341 and 75.325: ingestion of soil particles, inhalation of ambient air, and ingestion of groundwater under a residential land use scenario. Based on the pathways of concern, the most stringent cleanup levels for the complete pathways (i.e., migration to groundwater) will be used to establish the applicable cleanup levels.

Soil and groundwater cleanup levels (Table 3) established for this site are based on 18 AAC 75.341 Table B1 and B2 migration to groundwater levels for soil and 18 AAC 75.345 Table C levels for groundwater.

Table 3: Cleanup Levels for South Cushman Boxboy

Contaminant	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (mg/L)
Benzene	0.02	0.005
Ethylbenzene	5.5	0.7
Toluene	5.4	1.0
Xylenes (total)	78	10.0
GRO	300	1.3
DRO	250	1.5

Note: Alternative cleanup levels proposed in the Site Summary and Closure Request (October 10, 2002) were not approved by the ADEC.

ADEC Decision

ADEC has determined that the cleanup actions at the South Cushman Boxboy were effective in treating the majority of impacted soil. There is soil and groundwater contamination remaining above established cleanup levels at the site but it does not pose a risk to human health or the environment provided site specific conditions and/or controls are attached to the property.

Based on the information provided to date, ADEC will require no further remedial action subject to the following conditions:

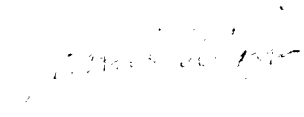
1. In accordance with 18 AAC 75.325(i), ADEC approval must be obtained prior to removal and/or disposal of soil from this site to an off-site location. In addition, the ADEC should be notified prior to any excavation in the impacted area in order to properly screen and manage any contaminated soil that may be excavated.
2. The ADEC shall be notified prior to installation of groundwater wells and/or any proposed dewatering activities.
3. A deed notice has been filed at the Fairbanks Recording District regarding the location of residual soil and groundwater contamination remaining at the site to notify future owners and/or operators of the conditions applicable to the property. The residual contamination will also be noted in the ADEC Leaking Underground Storage Tanks (LUST) Database.
4. The ADEC requires continued sampling of monitoring wells MW-2 and MW-4 for BTEX, GRO, and DRO on a biannual (every two years) basis until further notice. The samples should be collected in the fall during high groundwater. Long-term groundwater monitoring should begin in 2006.
5. In accordance with 18 AAC 75.380(d)(1) and 18 AAC 78.276, additional investigation and cleanup may be required if new information is discovered which leads ADEC to make a determination that the cleanup described in this decision is not protective of human health, safety, and welfare or the environment.

6. Contaminant levels must reach final cleanup levels before ADEC will consider Site Closure action and removal of institutional controls.

Any person who disagrees with this decision may request an informal review by the Division Director in accordance with 18 AAC 15.185 or an adjudicatory hearing in accordance with 18 AAC 15.195- 18 AAC 15.340. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 15 days of the decision. 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 of the decision. If a hearing is not requested within 30 days, the right to appeal is waived.

Please contact me with any questions or concerns directly at (907) 451-2127 or e-mail me at Janice_Wiegers@dec.state.ak.us.

Sincerely,



Janice Wiegers
Environmental Specialist

Sincerely,



Jim Frechione
Environmental Conservation Manager

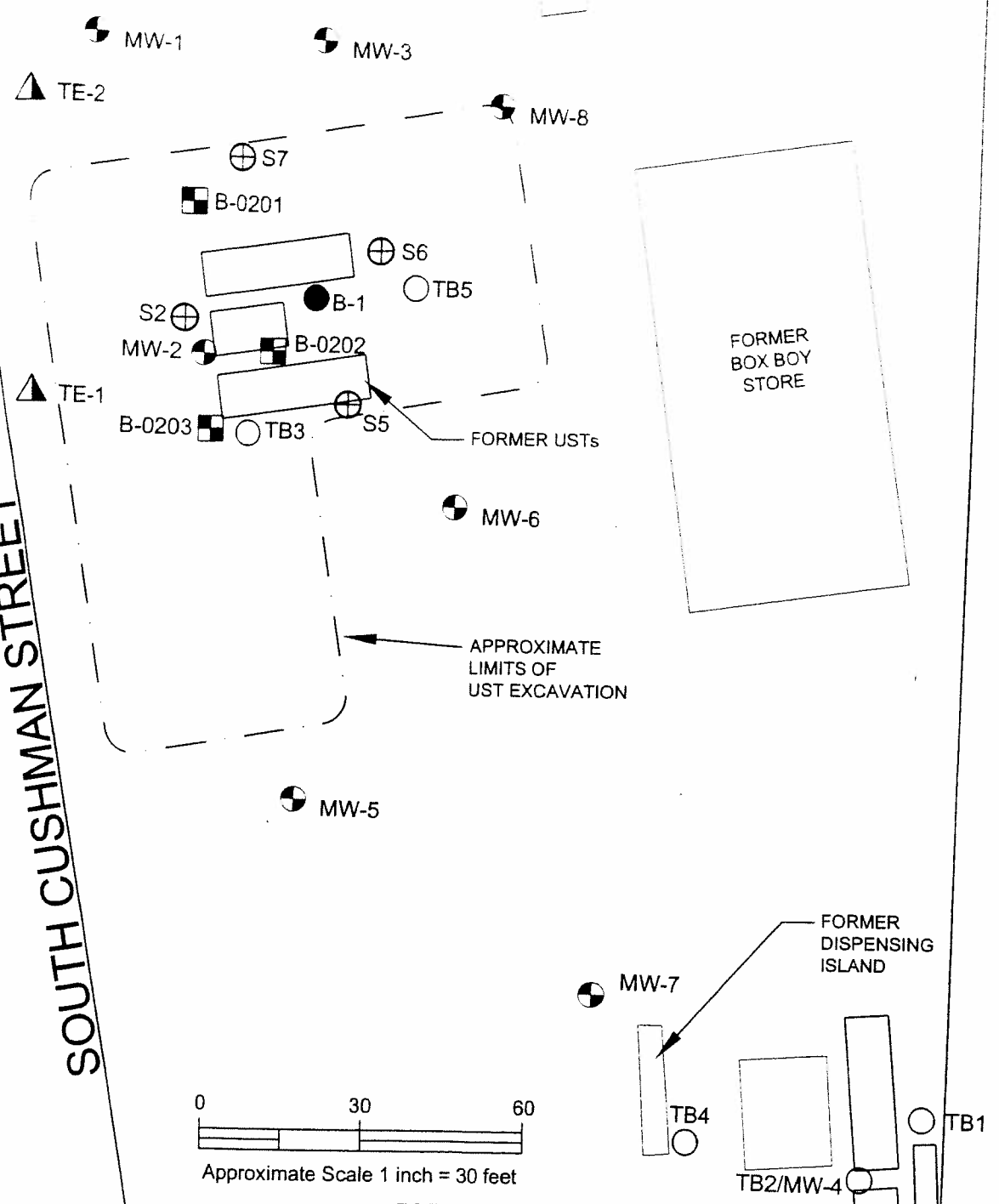
cc: David McDowell, Shannon & Wilson, Inc., Fairbanks

dmm@shannonwilson.com



SOUTH CUSHMAN STREET

REMEDIATION SHED



Locations of soil samples estimated based on historical records. Excavation limits based on 1991 hand-drawn sketch by AG Midland. Monitoring wells, 2002 soil borings locations, and current features based on Shannon & Wilson survey.

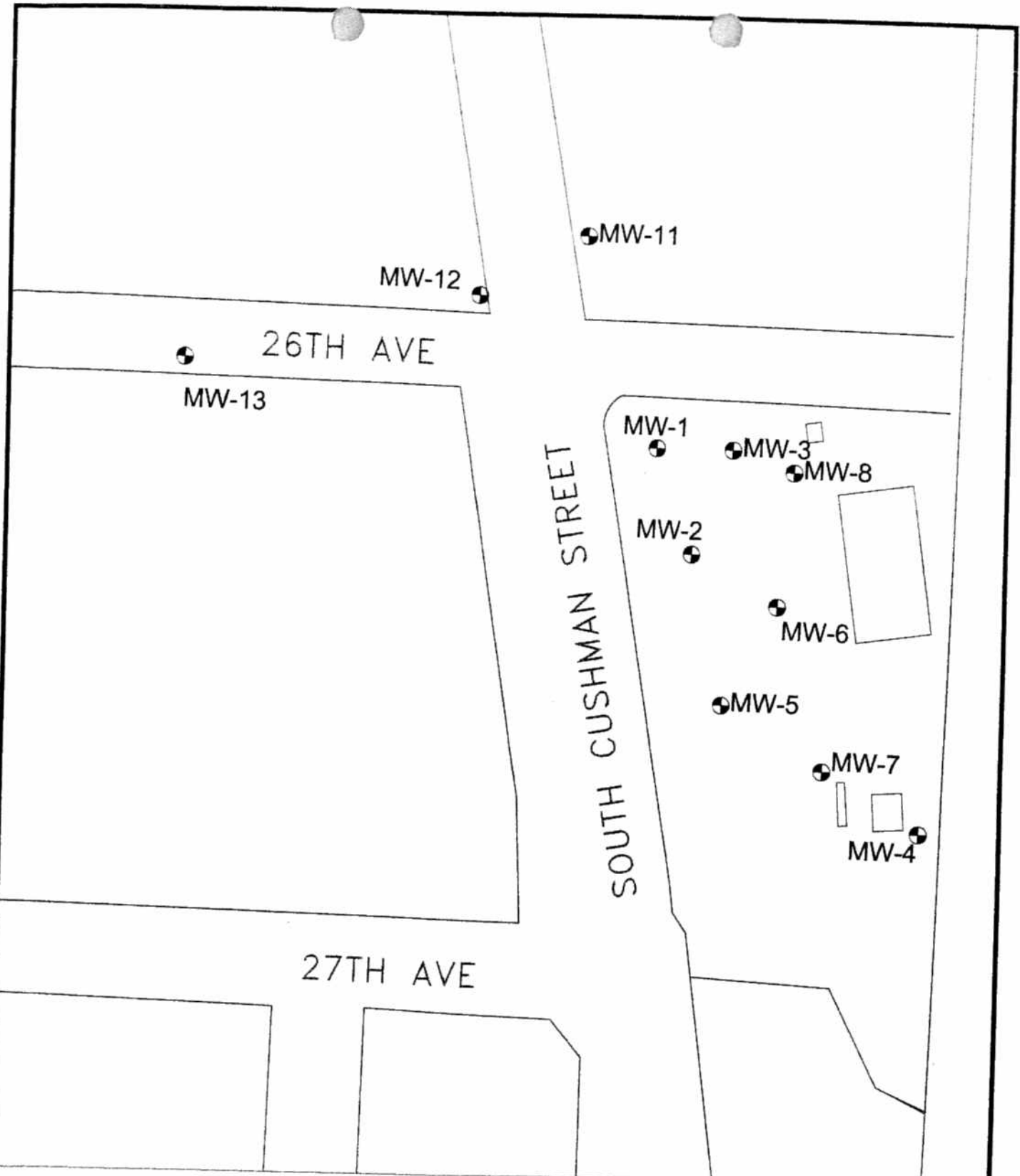
LEGEND

- TEST BORING, GEI, 1991
- ⊕ SOIL SAMPLE, AG MIDLAND, 1991
- SOIL BORING, SHANNON & WILSON, 1992
- ▲ SOIL BORING, THOMAS ENGINEERING, 1993
- ◐ MONITORING WELL, SHANNON & WILSON, 1994, 1995
- SOIL BORING, SHANNON & WILSON, 2002

Former Box Boy Retail Fuel Outlet 2601 Cushman Street Fairbanks, Alaska	
SOIL SAMPLE LOCATIONS	
OCTOBER 2002	31-1-11048-055
SHANNON & WILSON, INC. <small>Geotechnical and Environmental Consultants</small>	FIGURE 3

S:\Projects\2002\2002-01-10\Drawings\Figs 1-6.dwg Date: 10-01-2002 Author: ars

File: \\sww1_fbx\sys\WIP\Active\X\1000-1049\11048 S Cushman\Draws\MFRAP Drawings Fig 4.dwg Date: 10-15-2002 Author: srs



Former Box Boy Retail Fuel Outlet
 2601 Cushman Street
 Fairbanks, Alaska

**OFF-SITE
 MONITORING WELLS**

OCTOBER 2002 31-1-11048-010

SHANNON & WILSON, INC.
 Geotechnical and Environmental Consultants

FIGURE 4

