SOUND ENVIRONMENTAL STRATEGIES

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October 22, 2001

Mr. Mark LaVergne
Tacoma Pierce County Health Department
3629 South D Street
Tacoma, Washington 98418

Subject: ADDENDUM TO REQUEST FOR NO FURTHER ACTION LETTER
BROWN AND HALEY FACILITY
1940 EAST 11TH STREET
TACOMA, WASHINGTON

Dear Mr. LaVergne:

Sound Environmental Strategies (SES), formerly Creative Environmental Technologies, Inc., prepared this Addendum to address your questions and concerns, and to make corrections to our Request For No Further Action Letter, dated July 19, 2001, for the Brown and Haley Facility at 1940 East 11th Street in Tacoma, Washington.

Corrections to the Request for No Further Action Letter:

On Page 1, third paragraph, and on page 4, first paragraph, reference is made to "two diesel USTs" having been located on the Site. Only one tank was on the site.

Page 1, third paragraph, first sentence should read: "Saltbush Environmental performed UST decommissioning activities for **one** diesel UST at the Site with oversight from TPCHD."

Page 4, first paragraph, first and second sentence should read: "**One** diesel UST was located at this Site and **was** partially submerged beneath shallow groundwater during **its** operational life. The **tank** was decommissioned by removal and soil and groundwater impacts were observed in the tank excavation."

In the Site Map that accompanied our previous letter, one of the samples was miss-labeled. "S8-EW-6'" should read "**S8-E-7'**". The corrected Site Map is attached to this letter.

Sample S1-E-6' from the east sidewall of the excavation:

During our recent telephone conversation you inquired about sample S1-E-6', which contained a concentration of 1300 mg/kg of diesel range petroleum hydrocarbons. You

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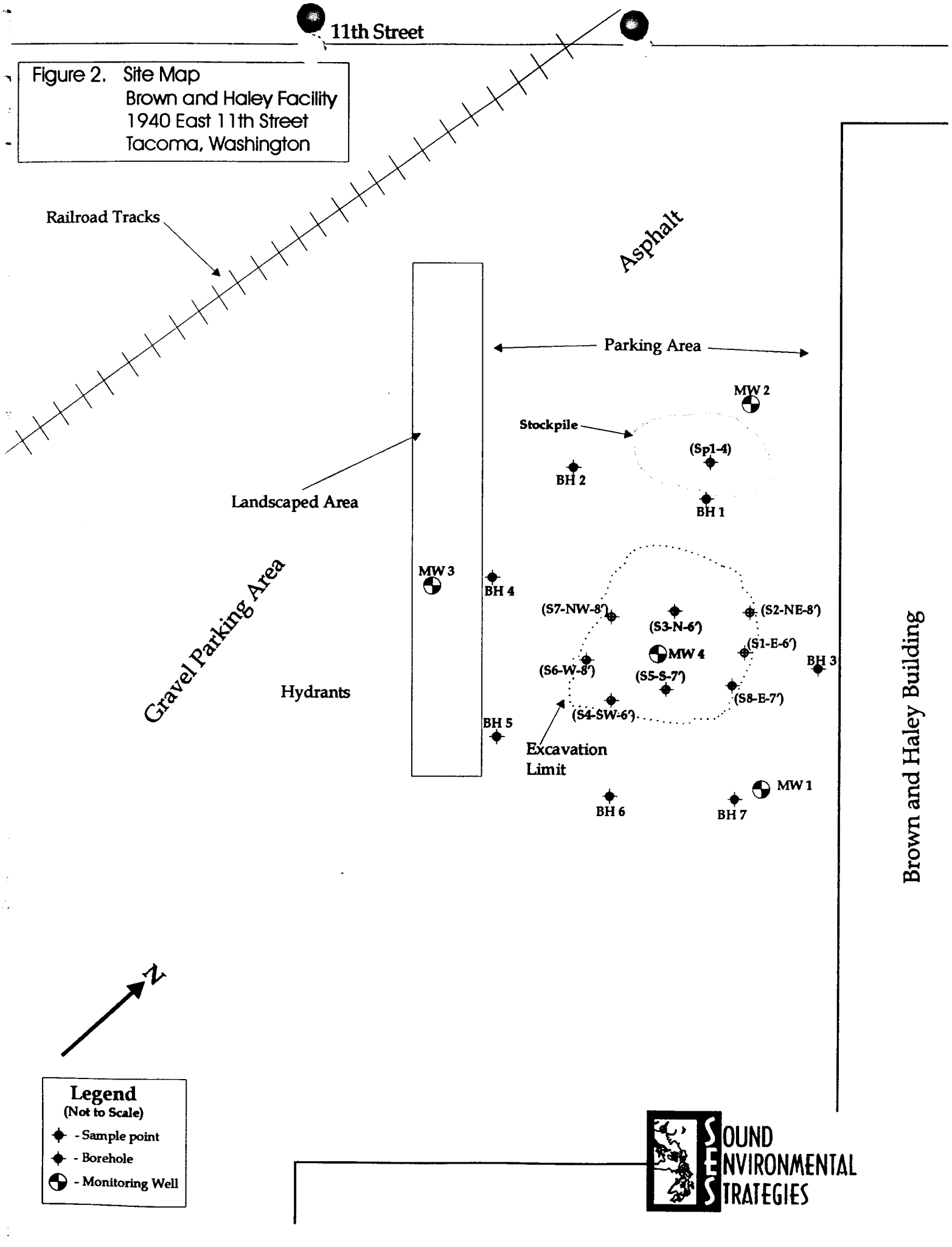
Figure 2. Site Map
Brown and Haley Facility
1940 East 11th Street
Tacoma, Washington



SOUND ENVIRONMENTAL STRATEGIES

Delineation Activities, August 2000

SES, formerly CETI, used a direct push drill rig to conduct 7 soil borings to delineate the subsurface impacts associated with the USTs (see Figure 2 and attached photos). Table 1 lists the analytical results of the soil and groundwater samples that were collected from the borings. These borings were drilled at an approximate 20-foot radius from the former UST location. No soil or groundwater impacts above MTCA cleanup criteria were identified during the delineation effort. The subsurface impacts appeared to be limited to the vicinity of the former UST location.

Table 1. Soil Sample Results from the Borings

Composite Sample Results								
	Borehole 1 Comp B1-S1 & B1-S2	**Borehole 2 Comp B2-S1 & B2-S2**	**Borehole 3 Comp B3-S1 & B3-S2**	**Borehole 4 Comp B4-S1 & B4-S2**	**Borehole 5 Comp B5-S1 & B5-S2**	**Borehole 6 Comp B6-S1 & B6-S2**	**Borehole 7 Comp B7-S1 & B7-S2**	**Cleanup Level Method A**
Diesel	42	<25	<25	<25	<25	<25	<25	200
Oil	100	<100	<100	<100	<100	<100	<100	200
Water Sample Results Collected at 6 feet BGS								
	B1-S3-6'	**B2-S3-6'**	**B3-S3-6'**	**B4-S3-6'**	**B5-S3-6'**	**B6-S3-6'**	**B7-S3-6'**	
Diesel	<250	<250	<250	<250	<250	<250	<250	200
Oil	<1000	<1000	<1000	<1000	<1000	<1000	<1000	200

*complete analytical results can be found in Attachment B

Soil Remediation, September 2000

SES, formerly CETI, removed approximately 180 tons of impacted soil from the vicinity of the former UST location. Soil was removed until no visual, olfactory or analytical evidence of impacts were present. Groundwater encountered in the excavation precluded the removal of some soil impacts at depths below 6 feet BGS in the eastern end of the excavation (S1-E-6', Table 2). Diesel and oil range hydrocarbons were detected at concentrations of 1,300 mg/kg and 2,900 mg/kg, respectively, in this saturated zone sample. Based on the presence of oil range hydrocarbons that could represent a waste oil source, a RCRA 8 Metal analysis was also performed on this sample. Table 2 lists the analytical results from the soil remediation, and includes the results of the RCRA 8 Metal Analysis. Analytical Results are included as Attachment B. Results indicated that metals were unlikely to be a constituent of concern at the site. Other samples collected from the excavation sidewalls contained no detectable petroleum hydrocarbons in the diesel or oil range.

The 180 tons of impacted soil was transported to Fife Sand and Gravel Edgewood, Washington facility for disposal. Weight Tickets are included as Attachment D.

Site Conceptual Model

[redacted] diesel USTs were located at this Site and were partially submerged beneath shallow groundwater during their operational life. The tanks were decommissioned by removal and soil and groundwater impacts were observed in the tank excavation. Soil impacts below groundwater were documented. Delineation and investigation activities were performed. No soil impacts outside a 20-foot radius from the former UST location were identified.

The depth to groundwater is less than 6 feet BGS. Site soils, which are poorly graded sand with wood debris that likely represent fill that is 3 to 5 feet thick, are underlain by native marine sediments with shell debris. Shallow groundwater is within native sediments that range from poorly to moderately graded, medium grained sand with intercalated finer grained silt. Groundwater is tidally influenced and likely flows west northwest toward the nearby Sitcum Waterway (less than 1,000 feet northwest). Seven direct push boring one-time-only groundwater samples (Table 1) were collected in a circular pattern at a radius of 20 feet from the former USTs, and two monitoring events (Table 3) from each of four groundwater monitoring wells failed to identify diesel or oil range hydrocarbons in groundwater above method quantifiable detection limits.

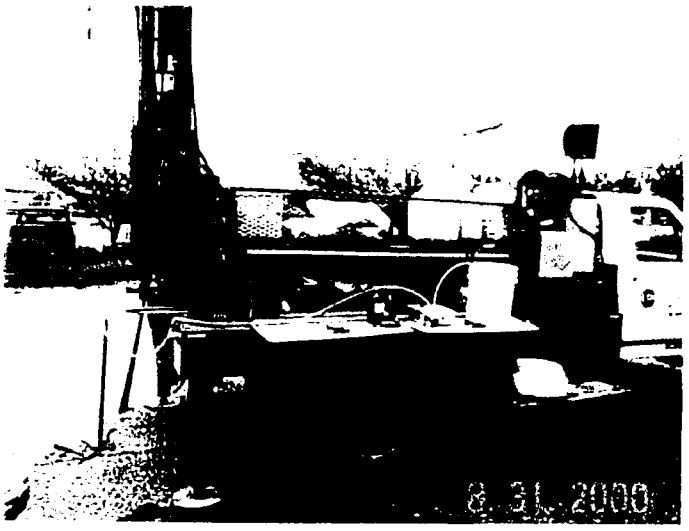
CONCLUSIONS

The qualitative direct push groundwater sampling results from the 7 borings taken 20 feet or less from the former UST location and the quantitative groundwater monitoring well sampling results clearly show that no migration via the groundwater pathway is occurring. Observations of subsurface soil impacted with petroleum hydrocarbons in contact with groundwater and oily sheens atop groundwater in the tank excavation by TPCHD have been effectively addressed by remediation activities.

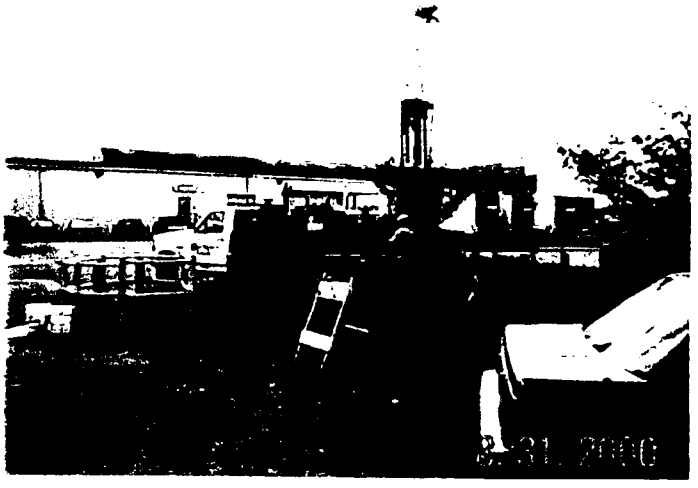
On behalf of Mr. Robert Shea, SES requests that TPCHD provide a No Further Action letter for the Site.

Boring seven (B7-83100) location.

Boring three (B3-83100) location.



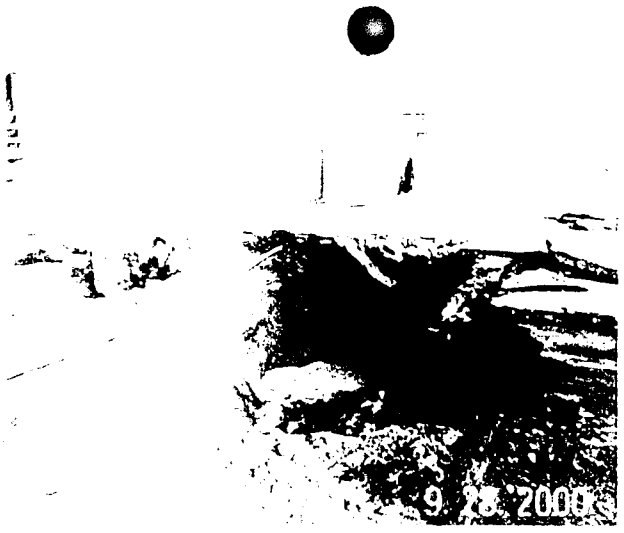
Collecting groundwater sample from Boring one (B1-83100).



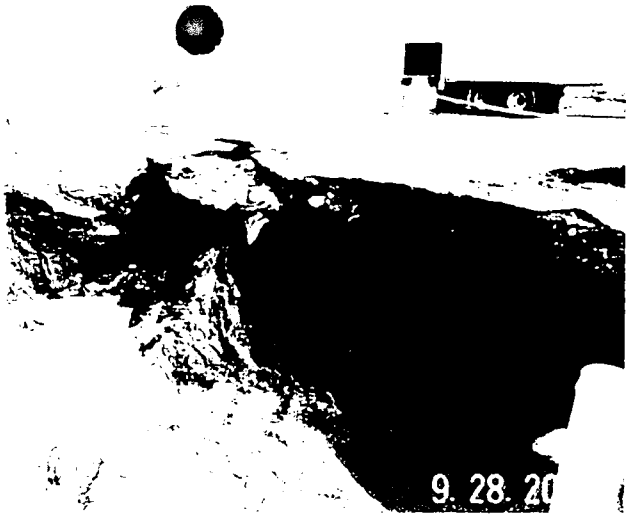
Boring four (B4-83100) location.

Site Photographs
Job # 192-1TM

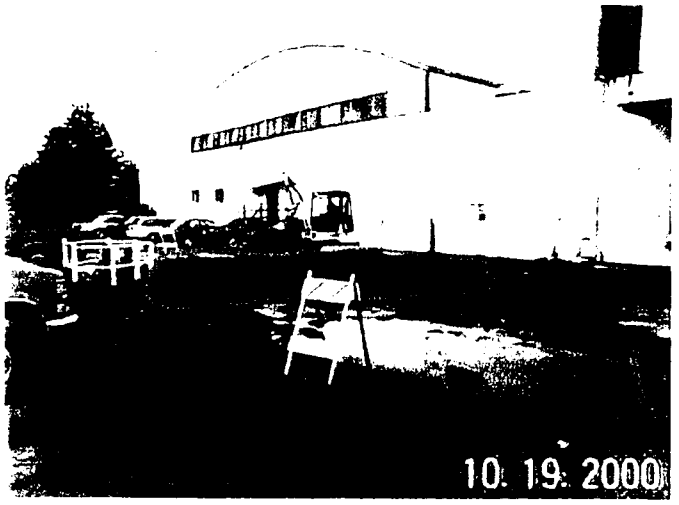
1940 East 11th Street
Tacoma, Washington



View of excavation from the SW.



View of excavation from the NW.



Area of contaminated soil excavation outlined in red.

Groundwater excavation showing the 12 inch thick concrete slab with 2 inch pipes.

Groundwater observed at 6 feet BGS.

Site Photographs
Job # 192-1TM

1940 East 11th Street
Tacoma, Washington

ATTACHMENT A – FIGURES/PHOTOS/BORING/EXCAVATION