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W-5980

Chevron U.S.A. Inc.
P.O. Box 220
Seattle, Washington 98111

Attention: Ms. Lisa Helms

Subject: Underground Storage Tank Removal Summary Report
Chevron Service Station No. 9481
647 140th Avenue NE
Bellevue, Washington

Dear Ms. Helms:

We are pleased to present herein a copy of the above referenced report. This report presents our observations of underground petroleum product storage tank removal procedures accomplished at the subject site on 13 January 1989. Included also are analytical results from selected soil samples obtained from locations surrounding and underlying these tanks. Authorization for our participation in the project was verbally granted by Ms. Lisa Helms of Chevron U.S.A. Inc. on 12 January 1989.

SUMMARY

A brief summary of our observations and analytical laboratory results is presented below. The main body of this letter report should be consulted for detailed discussion of the report findings. Approximate site boundaries and locations of underground storage tanks are shown on the Site and Tank Removal Locations Plan, Figure 1.

- o According to the contractor, the underground storage tanks were decommissioned and prepared for safe removal from the site prior to removal. Upon our visual inspection, all underground storage tanks appeared to have maintained structural integrity.

- o A moderate petroleum hydrocarbon odor was detectable in the main gasoline tank excavation (Excavation No. 1). Relative measurements of combustible vapors made with a Gastech direct reading vapor analyzer ranged from 0 to 140 parts per million (ppm) for soils exposed in the excavation sidewalls. Upon analysis, soil samples obtained from the sidewalls of the excavation exhibited maximum concentrations of total petroleum hydrocarbons (TPH) of 14 ppm. Purgeable aromatics (BTEX) indicated the presence of low concentrations of toluene and xylenes in two of the four samples analyzed.

- o The oil tank excavation (Excavation No. 2) revealed soils emitting a sewage odor. The presence of a septic tank was noted east of the waste oil tank. A petroleum sheen was visible on water seeping from stockpiled material removed from the excavation. Relative measurements of combustible vapors made with the Gastech direct reading vapor analyzer did not indicate the presence of combustible vapors from sidewall soils, or those soils removed. Analytical results of sidewall sample S-4, taken along the east wall of the excavation, indicated a concentration of 3,885 ppm TPH. Soil samples S-1, S-2 and S-3 exhibited TPH concentrations ranging from 14 to 97 ppm. Concentrations of total halogens were reported as below detection limits, and chromium and lead for all four sidewall samples from the oil tank excavation were not significantly elevated above the range of reported background levels.

This summary is presented for introductory purposes and should be used only in conjunction with the full text of this letter report.

PURPOSE AND SCOPE

This letter report presents our observations of underground tank removal procedures performed on 13 January 1989, at the Chevron Service Station site No. 9481, located at 647 140th Avenue NE in Bellevue, Washington. The purpose of our observations and analyses was to determine whether or not petroleum hydrocarbons were present within the soil in the immediate area of the tank excavation. Our project scope of work included:

- o Visual observation and photo documentation of underground tank removal procedures;
- o Observation of the condition of the underground tanks;
- o Observation of the condition of the soil surrounding or underlying tank locations, utilizing visual and olfactory impressions and data provided by a combustible gas detector survey;
- o The collection and testing of soil samples for total petroleum hydrocarbons in all excavations, and additionally lead, chromium and total organic halogens at the used oil tank location.
- o Preparation of a letter report.

This report has been prepared for the exclusive use of Chevron and their agents, for specific application to the reference scope of services in accordance with generally accepted environmental monitoring practices. No other warranty, express or implied, is made. In the event that there are any subsequent changes on the existing site, the conclusions contained in this report should be reviewed.

TANK REMOVAL OBSERVATIONS

At the request of Lisa Helms of Chevron, we arrived at the subject site on 13 January 1989, to observe and document the removal of five underground petroleum product storage tanks from the locations indicated in Figure 1, The Site and Tank Removal Locations Plan.

TABLE 1
UNDERGROUND TANKS REMOVED

<u>Quantity</u>	<u>Type</u>	<u>Estimated Capacity (gallons)</u>	<u>Former Contents</u>	<u>Excavation Pit Number</u>
3	Fiberglass	10,000	Gasoline	#1
1	Fiberglass	500	Fuel Oil	#2
1	Fiberglass	500	Used Oil	#2

Safety decommissioning, excavations, and removal of the tanks were performed by A. L. Sleister. Excavations and tank removal procedures were accomplished using a track-

hoe. The underground storage tanks were constructed of fiber-glass and appeared to be in sound condition based on visual inspection.

SOILS/BACKFILL

The materials exposed in the sidewalls of the excavations at the project site generally consisted of moist to wet, green and brown, gravelly, silt and clay (Glacial Till), overlain by approximately 2-1/2 feet of moist to wet, brown, gravelly, silty SAND (Fill). Water was present in both excavations, at depths of approximately five to six feet in the gasoline tank excavation (Excavation No. 1) and three feet in the oil tank excavation (Excavation No. 2). Water emitting from a broken stormwater drain pipe contributed to the water present in Excavation No. 1. The depth of Excavation No. 1 ranged from three to seven feet deep. The underground gasoline tanks were pulled out of loose pea gravel which surrounded the tanks, the pea gravel extending laterally to the limits of the tank excavation where native soils were exposed. The depth to which the pea gravel extended beneath the tanks was not determined.

Petroleum hydrocarbon odors were detectable in both excavations. A light petroleum sheen was visible on water seeping from stockpiled material removed from Excavation No. 2. A Gastech combustible gas indicator was used to obtain relative measurements to assess the extent and distribution of combustible/volatile petroleum hydrocarbon constituents in the excavations. Readings ranged from 0 to 140 parts per million in Excavation No. 1 and non-detectable in Excavation No. 2 (see Figure 1). Backfill materials included soils removed during excavation operations and imported gravelly sand.

SAMPLING METHODOLOGY

Four discreet sidewall soil samples were obtained from each excavation. These samples were obtained near the center of each sidewall at varying depths which are indicated on Figure 1. The depth of sampling was approximately 1/2 foot above the lowest exposure of the sidewall soils in each case.

Samples were selected from soils that appeared to be representative of typical soils surrounding the tanks. Samples were scooped directly into laboratory prepared containers. Contact of the soil by the gloved hand was avoided.

All sample containers were labeled to identify the project number, test locations, sample number and depth interval. All samples were immediately placed in a cooler until transferred to cold storage at the laboratory. RZA's chain of custody procedures were used to maintain sample integrity.

LABORATORY ANALYSIS

Samples S-1, S-2, S-3 and S-4 from Excavation No. 1 were analyzed for purgeable aromatics (BTEX) by EPA method 8020, and for total petroleum hydrocarbons by modified EPA method 8015. Samples obtained from the oil tank excavation (Excavation No. 2) were analyzed for total organic halogens as chloride by microcoulimetric method, chromium and lead by ICP using SW-846 methods, TPH by EPA method 418.1. The following table is a summary of analytical laboratory results.

TABLE 2
Summary of Analytical Laboratory Results
(ppm)

Sample	TPH	Benzene	Ethyl- benzene	Toluene	Xylene	Total halogens	Chromium	Lead
EXCAVATION NO. 1								
S-1	<10	<0.05	<0.05	<0.05	<0.05	NA	NA	NA
S-2	<10	<0.05	<0.05	<0.05	<0.05	NA	NA	NA
S-3	14	<0.05	<0.05	0.07	0.08	NA	NA	NA
S-4	<10	<0.05	<0.05	0.06	0.07	NA	NA	NA
EXCAVATION NO. 2								
S-1	14	NA	NA	NA	NA	<0.2	15.8	3.9
S-2	52	NA	NA	NA	NA	<0.2	10.4	2.7
S-3	97	NA	NA	NA	NA	<0.2	17.5	36.0
S-4	3,885	NA	NA	NA	NA	<0.2	10.3	5.1

Notes: 1) All results are in parts per million (1 ppm = 1 mg/kg0)
2) NA = Not analyzed

Copies of analytical laboratory reports are attached. Our observations and testing were limited to the soils present within the excavation pits and do not reflect upon other areas of the subject site.

We appreciate this opportunity to be of continued service to you. If you have any questions, please do not hesitate to call.

Respectfully submitted,

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