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April 23, 2003

PHASE 2 SAMPLE

Client Name
Client Business
Client Address

Subject: **UST SITE ASSESSMENT
Flora Inc., North Parcel
9492 Guide Meridian Road
Lynden, Washington**

Ladies and Gentlemen:

Environmental Associates, Inc. (EAI), has completed an underground storage tank (UST) site assessment following the removal of a single 300-gallon capacity UST and associated piping at the subject property in Whatcom County, Washington. This report, prepared in accordance with the terms of our proposal dated April 4, 2003, summarizes our approach to the project along with results and conclusions.

The contents of this report are confidential and are intended solely for your use and the use of your representatives. Four (4) copies of this report are being distributed to you. No other distribution or discussion of this report will take place without your prior approval in writing.

On April 10, 2003, a single 300-gallon capacity underground gasoline storage tank (UST) along with associated piping was removed from the subject site by Ultra Tank Service (Ultra). EAI conducted sampling of soils and groundwater at the UST excavation locality. The approximate sampling localities are graphically depicted on Plate 2, Site Exploration Map, attached to this report.

Relying upon results of laboratory testing, it would appear that soils and groundwater sampled from the location of the UST are in compliance with Washington State Department of Ecology's (WDOE's) target cleanup levels for gasoline and associated benzene, toluene, ethylbenzene, and xylene (BTEX).



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A trace concentration of diesel was detected in groundwater sampled from the tank excavation. The reported concentration of diesel was well below the WDOE Method A cleanup level.

Additional discussions regarding these findings are provided for your consideration in the Conclusions section of this report.

We appreciate the opportunity to be of service on this assignment. If you have any questions or if we may be of additional service, please do not hesitate to contact us.

Respectfully submitted,
ENVIRONMENTAL ASSOCIATES, INC.

Don W. Spencer, M.Sc., P.G., R.E.A.
Principal

Registered Site Assessor/Licensed UST Supervisor
State Certification #947458636

License: 604 (Washington)
License: 11464 (Oregon)
License: 876 (California)
License: 5195 (Illinois)
License: 0327 (Mississippi)

UST SITE ASSESSMENT

**Flora Inc., North Parcel
9492 Guide Meridian Road
Lynden, Washington**

Prepared for:

**Client Name
Client Business
Client Address**

Questions regarding this investigation, the conclusions reached and the recommendations given should be addressed to one of the following undersigned.

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Environmental Geologist
EPA-Certified Building Inspector
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Registered Washington UST Site Assessor #32-US-32024393

Don W. Spencer, M.Sc., P.G., R.E.A.
Principal

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Reference Job Number: Phase 2 Sample

April 23, 2003

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INTRODUCTION/SCOPE OF WORK

SITE/PROJECT DESCRIPTION

The subject property includes an approximately 38 acre parcel of land which is occupied by an unoccupied residence and several farm buildings. The approximate location of the site is shown on the Vicinity/Topographic Map, Plate 1, appended herewith, and the schematic layout of the site is illustrated on the Site Exploration Map, attached to this report as Plate 2. Photos illustrating the tank removal operations are attached to this report as Plate 3, Project Photographs.

BACKGROUND

On March 25, 2003, EAI presented the findings of a Phase I Environmental Audit of the subject property to Ms. Sandi Ferguson of the Bellevue office of Sterling Savings Bank. The following recognized environmental condition associated with the subject of this study was identified and discussed in our report:

Unknown/unassessed subsurface impacts (if any) proximal to an underground storage tank located beneath an above-ground diesel storage tank on the subject property. Additionally, we noted the presence of a feature suggestive of a UST vent line tied to the southeast corner of the residence located on parcel 1 of the subject property. Closer inspection of this feature during this current effort revealed that the observed feature appears to be related to electrical wiring conduit and does not appear to represent a UST vent line.

The reader is referred to the referenced Phase I Environmental Site Audit in all cases where additional details regarding our previous findings and conclusions are desired.

Current Study

Your expressed interests, which included the desire to have EAI observe the excavation and removal of the UST formed the basis for the following scope of work:

- Observe the removal of the UST. Ultra Tank Services was contracted directly by the client to remove the tank and over-excavate contaminated soil (if any).
- Laboratory analysis of selected soil samples using gas chromatography by WDOE method NWTPH-Gas/BTEX for the presence of gasoline-range petroleum hydrocarbons and associated BTEX constituents;
- Preparation of this summary report documenting the methodology and results of the investigation.

FINDINGS

GEOLOGIC SETTING

Physiographically, the site is situated on a gently rolling elevated plain (the Sumas Drift Plain) which was formed during a minor re-advance of continental glaciation that ended approximately 10,000 years ago.

Published geologic maps for the site vicinity (Easterbrook, 1976) suggest that much of the material underlying the subject site is a glacial recessional outwash, consisting of well-sorted layers of sand and gravel with minor interbeds of peat formed by meltwater streams issuing from the receding Sumas age glacier. Typically, the outwash exhibits moderate vertical hydraulic conductivity.

Topographically, the site is situated on level ground approximately 120 feet above sea level. Based upon inference from topography and local drainage patterns, it appears that shallow-seated groundwater (if present) in the vicinity of the subject property may flow in a south-southwesterly direction.

During the course of this study, we encountered groundwater flowing into the tank excavation which then equilibrated at a depth of approximately twenty (20) inches below the ground surface.

Surface waters in the vicinity of the subject property are conveyed to the Nooksack River by a series of drainage ditches which parallel major roadways and generally flow in a southerly direction.

UST DECOMMISSIONING & REMOVAL

SITE ASSESSMENT

On April 10, 2003, Environmental Associates, Inc (EAI) met the tank removal contractor (Ultra) on site and observed the excavation of a single underground storage tank. The top of the tank was encountered at a depth of approximately two (2) feet below ground surface (bgs). The long axis of the UST was orientated generally north-south, with the fill port and vent line located on the north end of the tank and dispenser pipe located at the south end of the tank. Petroleum odors emanating from the tank suggested that the contents were most likely gasoline. Upon removal of the tank groundwater immediately began to fill the tank excavation.

The UST was found to contain approximately three (3) gallons of weathered gasoline which was pumped from the tank and shipped to MarVac Services in Seattle, Washington for lawful disposal. Following approval by the Whatcom County Fire Inspector, the UST was removed from the tank excavation. The tank was taken to Ultra for temporary storage and then sent to a metal recycling facility.

The tank was constructed of single-wall steel and appeared to be in average condition, with no obvious holes, welding failures, or similar visual defects.

SOIL AND GROUNDWATER SAMPLING

Following the removal of the gasoline UST, soil samples were collected from each sidewall (SSW-1, ESW-1, NSW-1, and WSW-1) and base below the UST (TEB-1). Three (3) samples were also collected from the excavated overburden soil (SP-1, SP-2, and SP-3), which were composited into one (1) sample at the project laboratory. Two (2) groundwater samples were collected from the bottom of the tank excavation for analysis.

Each collected soil sample was temporarily sealed in a plastic bag and allowed to equilibrate with the air trapped within the bag. This "head-space" was then sampled with a Micro-Tip photo-ionization detector (PID). The highest concentration of volatile organic compounds detected by the PID from the soil samples was 0.5 ppm. The soil samples were then transferred to laboratory-prepared glass jars sealed with teflon lids.

In an effort to preserve sample integrity, the soil and groundwater samples were stored on-site in an insulated chest maintained at or below 4 degrees centigrade, and were transported to the project laboratory in this condition. Each sample was clearly identified with respect to project, boring number, date, time, etc. EPA-recommended sample management protocol, including maintenance of chain-of-custody documentation, was observed at each stage of the project.

A single groundwater sample was collected from the bottom of the tank excavation and submitted to the project laboratory to be analyzed for diesel to heavy oil range petroleum hydrocarbons by test method NWTPH-Dx. As noted in Table 2, trace concentrations of diesel were detected at 150 parts per billion (ppb). For reference, the WDOE Method A cleanup level for diesel in groundwater is 500 ppb. Oil range hydrocarbons were not present above the laboratory detection limit.

LABORATORY ANALYSIS

In accordance with Washington Department of Ecology (WDOE) site assessment protocols, laboratory analysis was performed on selected soil and groundwater samples from the tank excavation using gas chromatography by WDOE method NWTPH-Gas/BTEX for the presence of petroleum hydrocarbons in the gasoline range, along with gasoline-associated benzene, toluene, ethylbenzene, and xylene (BTEX). Repeating what was disclosed in the preceding paragraph, a single groundwater sample from the tank excavation was analyzed to detect the presence of diesel to heavy oil-range hydrocarbons by WDOE Method NWTPH-Dx.

The laboratory reports are appended at the end of this report. The following tables summarize the results of laboratory testing.

Table 1
Laboratory Groundwater Testing Results - NWTPH-Diesel extended
All results and limits in parts per billion (ppb)

Sample Number	Diesel	Oil
GW-2	150	ND
Reporting Limit ¹	50	250
Cleanup Level ²	500	500
NOTES:	1 - "Reporting Limit" represents the laboratory lower quantitation limit. 2 - Method A soil cleanup levels as offered in the Model Toxics Control Act (MTCA), Chapter 173-340-740 WAC.	

Table 2
Laboratory Soil Testing Results - NWTPH-Gas/BTEX
All results and limits in parts per million (ppm)

Sample Number/Depth	NWTPH-Gas (gasoline range)	Benzene	Toluene	Ethylbenzene	Xylenes
TEB-1 / 6 feet	ND	ND	ND	ND	ND
WSW-1 / 2 feet	ND	ND	ND	ND	ND
NSW-1 / 2 feet	ND	ND	ND	ND	ND
SSW-1 / 2 feet	ND	ND	ND	ND	ND
ESW-1 / 2 feet	ND	ND	ND	ND	ND
Composite SP-1, SP-2, SP-3 (stockpile)	ND	ND	ND	ND	ND
Reporting Limit ²	1.0	0.02	0.02	0.02	0.02
Cleanup Level ³	30.0	0.03	7.0	6.0	9.0
NOTES:	1 - "ND" denotes analyte not detected at or above listed Reporting Limit. 2 - "Reporting Limit" represents the laboratory lower quantitation limit. 3 - Method A soil cleanup levels as offered in the Model Toxics Control Act (MTCA), Chapter 173-340-740 WAC.				

Table 3
Laboratory Groundwater Testing Results - Method NWTPH-Gx
All results and limits in parts per billion (ppb)

Sample Number	NWTPH-Gx (Gasoline range)	Benzene	Toluene	Ethylbenzene	Total Xylenes
GW-1	ND ¹	ND	ND	ND	ND
Reporting Limit ²	250	5	5	5	5
Cleanup Level ³	1,000	5	1,000	700	1,000
NOTES:	1 - "ND" denotes analyte not detected at or above listed Reporting Limit. 2 - "Reporting Limit" represents the laboratory lower quantitation limit. 3 - Method A soil cleanup levels as offered in the Model Toxics Control Act (MTCA), Chapter 173-340-740 WAC.				

Relying upon the results of laboratory analysis as summarized in the preceding tables, and as documented in the laboratory reports appended to this report, concentrations of petroleum hydrocarbons in the diesel boiling range were discovered at concentrations below WDOE Method A cleanup levels in groundwater obtained from the tank excavation. No concentrations of gasoline or associated BTEX constituents were present above the laboratory detection limits in the soil and groundwater samples submitted.

SITE RESTORATION

Considering that the excavated overburden soil appeared to be in compliance with WDOE's target levels based upon PID readings, that soil was placed back in the UST excavation. The UST excavation was then topped off with imported 5/8 inch gravel. Ultra utilized a hoe-pack in an effort to pack the fill as it was added to the excavation.

CONCLUSIONS

As discussed earlier in this report, it would appear that soils and groundwater proximal to the removed 300-gallon capacity underground gasoline storage are in compliance with WDOE Method A cleanup guideline levels for gasoline and BTEX. Groundwater proximal to the removed tank appears to be compliant with WDOE Method A cleanup levels for diesel. The UST and associated piping were successfully removed from the site and lawfully disposed of.

In view of the results of the soil and groundwater sampling and laboratory testing as documented here, no additional action with regard to these findings would appear to be warranted at this time.

LIMITATIONS

This report has been prepared for the exclusive use of Client Name and their several representatives for specific application to this site. Our work for this project was conducted in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated April 4, 2003. The findings and conclusions of this study are based upon observations and testing made at a single excavation locality on the subject property. Conditions may vary between the exploration localities, or at other locations or depths. No other warranty, expressed or implied, is made. If new information is developed in future site work which may include excavations, borings, studies, etc., Environmental Associates, Inc., must be retained to reevaluate the conclusions of this report and to provide amendments as required.

REFERENCES

Easterbrook, D.J., 1976, Geologic Map of Western Whatcom County, 1 sheet.

Environmental Associates, Inc., March 25, 2003, Phase I Environmental Audit, Flora Inc., Two Parcels, 9358 and 9492 Guide Meridian Road, Lynden, Washington, 24 pages, 5 plates, 3 appendices.

APPENDIX A

Laboratory Report