# TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences


November 27, 1991
Project No. T-1897

Ms. Chris Tomlinson
Tomlinson, Inc.
P.O. Box 9264
Seattle, Washington 98109

Subject: Closure Assessment
Boiler Fuel UST E / UST # 10,000 G Heating oil
1265 Republican
Seattle, Washington

Dear Ms. Tomlinson:

In accordance with your request, we have performed a preliminary assessment of the Underground Storage Tank (UST) beneath the boiler room at 1265 Republican. This tank was closed on September 27, 1991 by your contractor, Olympus Environmental.

The UST had a capacity of 10,000 gallons and was in use up until the time of closure for fuel for the boiler at the building. This UST is exempt from the reporting/registration requirements of the Washington State Regulations Chapter 173-360 WAC.

Since the UST extended beneath the building, it was decided to close the UST in place. Closure was accomplished by cleaning the tank with a hot water pressure washer and pumping the UST full of a lean concrete mixture. Prior to placement of the concrete, Olympus Environmental cut three holes into the base of the UST to allow sampling of the UST backfill materials. A representative of Terra Associates entered the UST and excavated through the sample holes to obtain three soil samples. A review of the condition of the UST from the inside revealed no obvious defects in the UST. The soils exposed in the sample locations consisted of a relatively clean sand and gravel backfill material. No staining of the soil was noted.

The soil samples were obtained from 6 to 12 inches from the outer edge of the UST. The soil samples were placed in laboratory prepared glassware, were stored on ice, and promptly delivered to the laboratories of North Creek Analytical of Bothell, Washington.


12525 Willows Road, Suite 101, Kirkland, Washington 98034
Phone (425) 821-7777 • Fax (425) 821-4334 • terra@terra-associates.com

The soil samples were analyzed for total petroleum hydrocarbons (TPH) by EPA Method 418.1 using infra-red spectroscopy. As can be seen on the attached laboratory data, no TPH were present within the stated detection limits.

Based on these test results, it appears that no significant spillage or leakage from this UST has occurred. If the existing building is demolished and the closed UST is removed, Terra Associates should be retained to document actual subsurface conditions in the vicinity of the UST.

Attached to this letter is a sketch showing the UST and sample locations.

We recommend you maintain this document in your files for future documentation of the closure activities.

We trust this letter adequately summarizes our observations and sample results. Please call if you have any questions.

Sincerely yours,

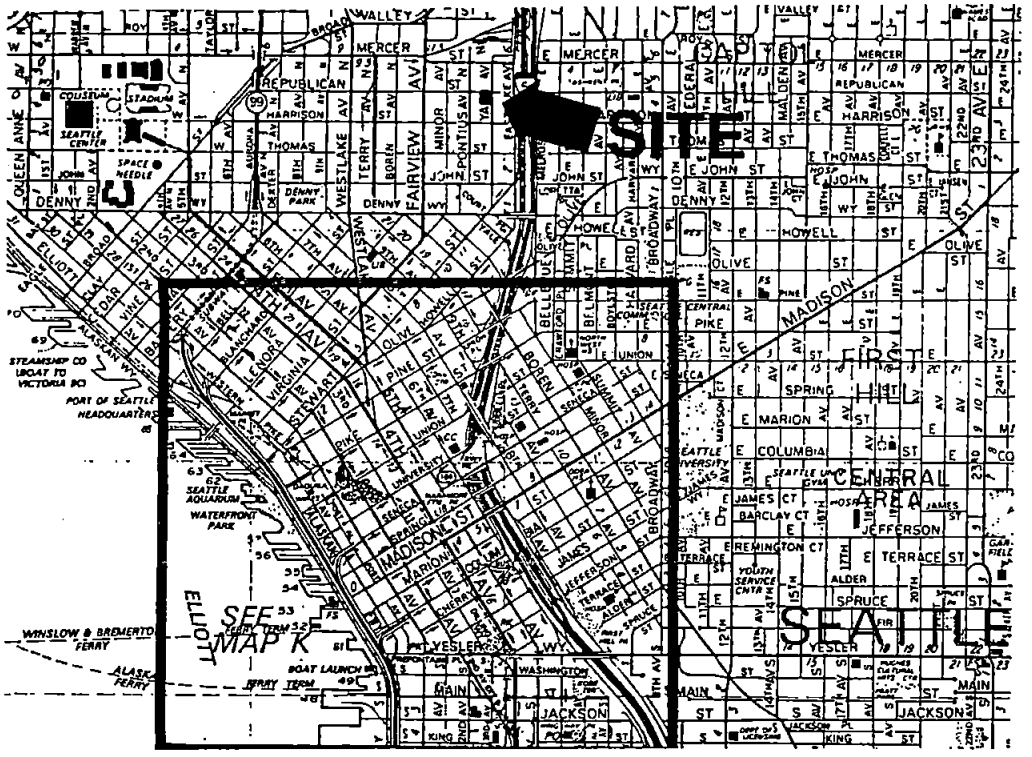
**TERRA ASSOCIATES, INC.**

Charles R. Lie
Registered Site Assessor

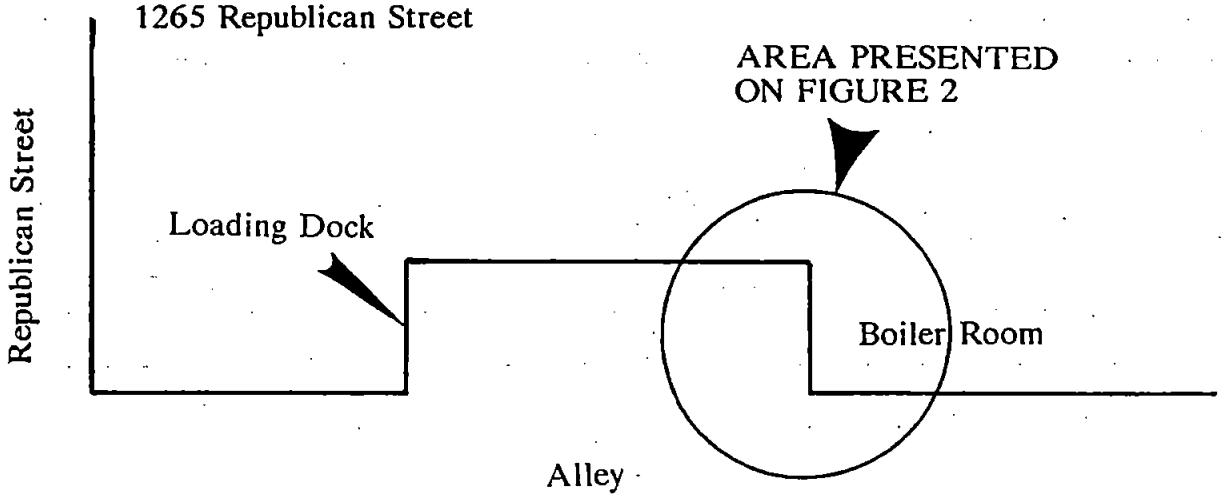
Anil Butail, P.E.
President

CRL/AB:tc

Encl: Figure 1, Vicinity Sketches
Figure 2, UST Location Sketch
Appendix A, Analytical Test Results



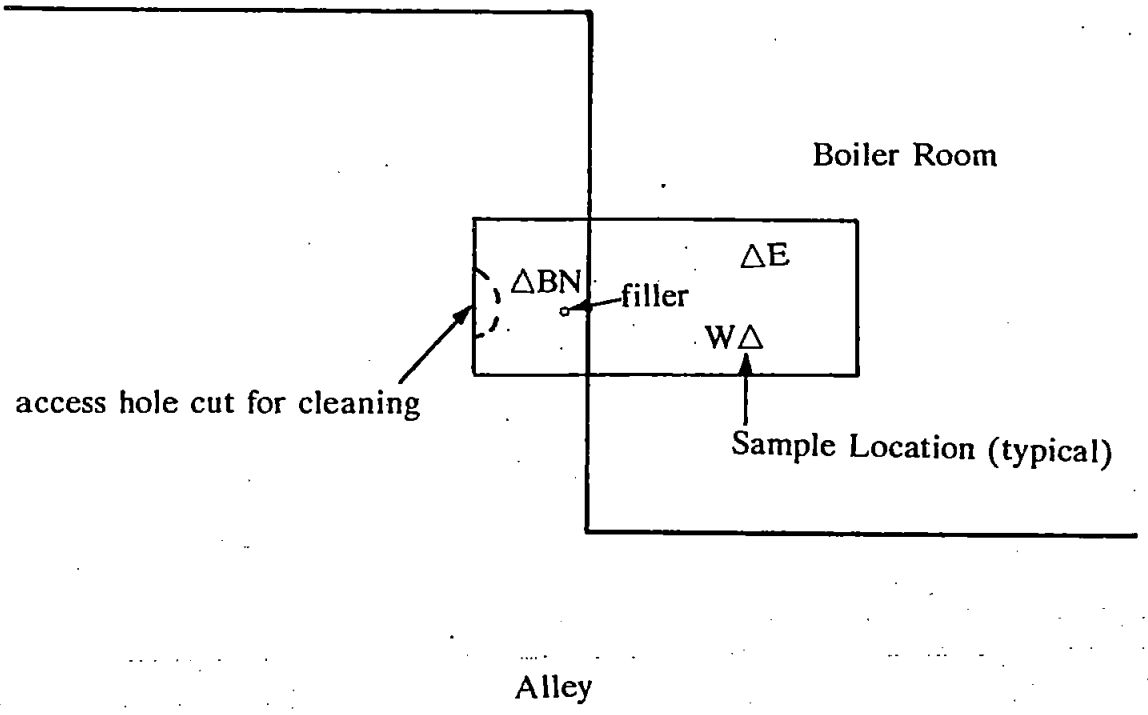

NOT TO SCALE




**TERRA ASSOCIATES**
Geotechnical Consultants

VICINITY & SITE SKETCHES
1265 Republican Street
Seattle Washington

| Proj. No. 1691 | Date 11/91 | Figure 1 |
|---|---|---|




Approximate Scale 1"= 10'

| | | | |
|---|---|---|---|
| TERRA ASSOCIATES<br>Geotechnical Consultants | UST/SAMPLE LOCATION SKETCH<br>1265 Republican Street<br>Seattle Washington | | |
| | Proj. No. 1691 | Date 11/91 | Figure 2 |

# APPENDIX A
# ANALYTICAL TEST RESULTS

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011
Phone (206) 481-9200 • FAX (206) 485-2992

RECEIVED OCT 11 1991

| | | | | |
|---|---|---|---|---|
| Terra Associates | Client Project ID: | Republican | Sampled: | Sep 27, 1991 |
| 12525 Willows Rd, Suite 101 | Matrix: | Soil | Received: | Sep 27, 1991 |
| Kirkland, WA 98034 | Analysis for: | Total Solids | Analyzed: | Oct 1, 1991 |
| Attention: Charles Lie | First Sample #: | 109-1453 | Reported: | Oct 7, 1991 |

## LABORATORY ANALYSIS FOR: Total Solids

| Sample Number | Sample Description | Sample Result % |
|---|---|---|
| 109-1453 | W | 80 |
| 109-1454 | BN | 87 |
| 109-1455 | E | 81 |

North Creek Analytical routinely provides analytical results for soils, sediments or sludges in a wet weight "as received" basis. To attain dry weight equivalents for regulatory compliance, divide the soil result by the decimal fraction of percent solids.

NORTH CREEK ANALYTICAL

Scot Cocanour
Laboratory Director

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| | | | | |
|---|---|---|---|---|
| Terra Associates | Client Project ID: | Republican | Sampled: | Sep 27, 1991 |
| 12525 Willows Rd, Suite 101 | Matrix Descript: | Soil | Received: | Sep 27, 1991 |
| Kirkland, WA 98034 | Analysis Method: | EPA 418.1 Modified (I.R. w/clean-up) | Extracted: | Oct 1, 1991 |
| Attention: Charles Lie | First Sample #: | 109-1453 | Analyzed: | Oct 1, 1991 |
| | | | Reported: | Oct 7, 1991 |

## TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (WTPH-418.1)

| Sample Number | Sample Description | Petroleum Oil mg/kg (ppm) |
|---|---|---|
| 109-1453 | W | N.D. |
| 109-1454 | BN | N.D. |
| 109-1455 | E | N.D. |
| BLK100191 | Method Blank | N.D. |

| Detection Limits: | 10 |
|---|---|

Analytes reported as N.D. were not present above the stated limit of detection.

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Laboratory Director

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| | | | |
|---|---|---|---|
| Terra Associates | Client Project ID: Republican | Analyst : | J. Kimball |
| 12525 Willows Rd, Suite 101 | Method : EPA 418.1 mod. | | |
| Kirkland, WA 98034 | Sample Matrix : Soil | | |
| Attention: Charles Lie | Units : mg/kg | Analyzed: | Oct 1, 1991 |
| | QC Sample #: 109-1470 | Reported: | Oct 7, 1991 |

## QUALITY CONTROL DATA REPORT

| ANALYTE | Petroleum Oil |
|---|---|
| Sample Conc.: | N.D. |
| Spike Conc. Added: | 500 |
| Conc. Matrix Spike: | 338 |
| Matrix Spike % Recovery: | 67 |
| Conc. Matrix Spike Dup.: | 338 |
| Matrix Spike Duplicate % Recovery: | 67 |
| Relative % Difference: | 0 |

ORTH CREEK ANALYTICAL

Scot Cocanour
Laboratory Director

| | | |
|---|---|---|
| % Recovery: | Conc. of M.S. - Conc. of Sample / Spike Conc. Added | x 100 |
| Relative % Difference: | Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2 | x 100 |