HART CROWSER

Earth and Environmental Technologies

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CITY OF EVERETT
Planning Dept.

Hart Crowser, Inc.
1910 Fairview Avenue East
Seattle, Washington 98102
FAX 206.328.5581
206.324.9530

J-3149-03

June 4, 1993

Mr. Faheem Siddio
City of Everett
Planning Department
3002 Wetmore
Everett, WA 98201

Re: Snohomish County Public Utility District No. 1 Soil Testing

Dear Mr. Siddio:

Hart Crowser is providing this letter at the request of Mr. Craig Thompson of the Snohomish County Public Utility District (PUD) No. 1 located in Everett, Washington, to verify that we have conducted soils testing on soils excavated during recent parking garage construction at the PUD site. All excavated soils suspected of being contaminated with lead and/or petroleum hydrocarbons were stockpiled and tested for these contaminants. We identified for the PUD those soil stockpiles that exceeded the regulatory cleanup levels based on MTCA Method A for either of these two constituents. The PUD arranged for disposal of these contaminated soils through a separate contractor.

If you have further questions, please call the undersigned at 324-9530.

Sincerely,
**HART CROWSER, INC.**

Susan P. Harp

**SUSAN P. HARP**
Project Engineer

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HARTCROWSER

Earth and Environmental Technologies

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J-3149-93

May 10, 1993

Mr. Craig Thompson, P.E.
Director
Water, Facilities and Environmental Affairs
Snohomish County Public Utility District No. 1
2320 California Street
Everett, Washington 98206

Re: Soil Chemical Test and Augercast Pile Placement Data
Utility Trenches and Parking Lot
Snohomish County PUD No. 1
Everett, Washington

Dear Mr. Thompson:

This letter summarizes and transmits soil chemical test data and augercast pile placement records for excavation and foundation work completed for the utility trenches and parking garage at the Snohomish County PUD No. 1 Headquarters site in Everett, Washington. Work was performed in accordance with our work scope dated April 15, 1992, and the subsequent revision dated January 22, 1993.

From January 13 through March 16, 1993, Hart Crowser observed utility and parking garage area excavations and collected soil samples for chemical testing. All laboratory chemical test data are included in Appendix A. From March 25 to April 2, 1993, Hart Crowser observed augercast pile placement for the parking garage foundation. Pile placement records are included in Appendix B.

A two-part summary of work completed by Hart Crowser is presented as follows:

**CHEMICAL TESTING OF EXCAVATED SOILS** describes and summarizes the soil samples collected for chemical testing for both the utility trench and parking garage

areas; **AUGERCAST PILE INSTALLATION** describes and summarizes the augercast pile installations beneath the parking garage.

## CHEMICAL TESTING OF EXCAVATED SOILS

Hart Crowser collected soil samples and tested these on a rush turnaround basis for total lead and petroleum hydrocarbons using the Hart Crowser Chemistry Laboratory. Several samples requiring additional toxicity characteristic leaching procedure (TCLP) and/or total lead analyses were tested by Sound Analytical Services at the PUD's direction.

Soil samples were collected for chemical analysis based on visual observations, including staining or discoloration of the soils; or the presence of metal, wood, or other debris; or the presence of a petroleum-like or other unusual odor. Samples were also collected based on elevated field measurements from the HNU organic vapor meter used on site during all tne excavation work.

### *Utility Trench Soils*

Hart Crowser observed the trenching and backfilling of a sanitary sewer and storm drain line located south and east of the warehouse at the PUD Headquarters site in Everett, between January 22 and February 16, 1993. Utilities excavation work was performed by A & M Construction. We collected five composite soil samples (SS-1, SS-2, SS-4, SS-5, and SS-6) from trench excavation stockpiles for chemical testing. Samples were tested for total petroleum hydrocarbons (TPH) using method TPH-HCID (a fuel identification scan) and for total lead by the Hart Crowser Chemistry Laboratory.

Three samples (SS-4, SS-5, and SS-6) had total lead concentrations exceeding the MTCA cleanup level of 250 mg/kg for a residential site; these concentrations ranged from 340 to 400 mg/kg of total lead.

Three samples (SS-1, SS-4, and SS-5) had TPH concentrations exceeding the MTCA cleanup level of 200 mg/kg; these concentrations ranged from 210 to 430 mg/kg.

Approximately 105 tons of excavated utility trench soil that exceeded MTCA cleanup levels but was not dangerous waste were hauled by CEcon Corporation (CEcon) to the Roosevelt Landfill in Kittitas County, Washington, for final disposal.

***Parking Garage Foundation Soils***

Hart Crowser observed soils excavation of the western half of the parking garage foundation between March 1 and 16, 1993. This area had been identified from previous site assessment work (Hart Crowser, 1992a and 1992b) as potentially containing elevated concentrations of lead and petroleum hydrocarbons. Excavation of the lead- and petroleum-affected soils was performed by CEcon.

Test pits were initially excavated (over the western half of the garage foundation) on 20- by 20-foot grid centers (approximately) to identify more precisely the chemical and physical nature of the soils to be excavated. A total of 16 test pits were excavated, each to an approximate a seven-foot depth. Typical test pit profiles were as follows:

- 0 to 2 feet: (Medium dense) moist, brown sand (Fill)
- 2 to 5 feet: (Medium dense) moist to wet, dark brown to black, clayey silt, with abundant brick, scrap iron, and other debris (Fill)
- 5 to 7 feet: (Medium stiff) moist to wet, medium brown clayey silt (Native); all test pits were terminated in undisturbed native ground.

Discrete samples were collected from each test pit at the 2- to 5-foot-depth interval. Four of these samples (G-2, G-7, G-12, and G-14) were selected for total lead and TPH analysis. Additionally, two composite samples were obtained by combining test pit stockpiles from the western half of the gridded area (composite sample CG-1) and the eastern half of the gridded area (composite sample CG-2). These two composites were also tested for total lead and TPH.

Chemical test results from the four discrete test pit samples and the two composite samples indicated widely varying total lead (19 to 1,400 mg/kg) and TPH (55 to 5,600 mg/kg) concentrations across the gridded area. Due to this observed variability

in concentrations of lead and hydrocarbons, Hart Crowser recommended that the upper five to six feet of soil across the western half of the parking garage be excavated by CEcon. We also recommended that all soil stockpiles be tested to determine final disposal designation.

Excavated soils from the western half of the parking garage area were stockpiled on and covered with plastic sheeting. The soils were tested and disposed of as follows (tonnages provided by CEcon):

- About 206 tons of soil exceeding the state Dangerous Waste level for TCLP lead of 5.0 mg/L were hauled for disposal to Chemical Waste Management's hazardous waste landfill in Arlington, Oregon;

- About 1,164 tons of soil exceeding MTCA cleanup levels for lead and/or TPH (250 and 200 mg/kg, respectively) but not the dangerous waste limits for TCLP lead were hauled for disposal to the Columbia Ridge Landfill in Arlington, Oregon; and

- About 307 tons of soil containing total lead at concentrations less than 100 mg/kg and/or elevated TPH concentrations were hauled for disposal to the Roosevelt Landfill in Kittitas County, Washington.

INCLUDES GASOLINE AFFECTED SOILS PLUS SOIL PERIPHERAL TREATED SOILS

Two confirmation samples (G-17 and G-18) were taken of soils below the 5-foot-depth level in the western half of the parking garage. Total lead concentrations for these samples were 6.9 and 11.0 mg/kg. TPH analyses were not run as HNU measurements for these soils (below the 5-foot depth) were less than 1 mg/kg and visual observations indicated petroleum contamination was unlikely. These soils were left in place for A & M Construction to excavate.

***Gasoline-Affected Soils Beneath the Former Pump Island***

Gasoline-affected soils were encountered at a depth of between 6 and 10 feet (on average) beneath the former gasoline pump island. Two samples (GT-1 and GT-2) were obtained from stockpiled soils excavated from this area. The samples were tested for total lead, BTEX (GT-1 only), and for TPH (using the TPH-HCID screen method). A gasoline analysis was also performed on both samples using the TPH-G

method as gasoline was the primary hydrocarbon suspected. Test results indicated low lead concentrations (12 and 7.5 mg/kg) and gasoline as the only hydrocarbon present at concentrations of 27 and 52 mg/kg, respectively, based on the TPH-G results. BTEX concentrations for GT-1 were less than the MTCA cleanup levels and the lack of the presence of benzene indicates an aged product.

Two additional samples (GT-3 and GT-4) were collected from undisturbed *in situ* soils in this area for TPH-G analysis. These test results showed slightly higher gasoline concentrations of 170 and 92 mg/kg, respectively, with GT-3 exceeding the MTCA cleanup level for gasoline of 100 mg/kg. Approximately 120 cubic yards of gasoline-affected soils were excavated, with the depth of excavation terminating at an elevation of 156 feet, approximately 10 feet below ground surface. When all gasoline-affected soils had been excavated (based on HNU organic vapor meter and benzene tube readings), side wall and bottom samples (GT-X and GT-Y, respectively) were collected for cleanup verification using the HNU as a guide for selection of sample locations. Gasoline concentrations for both samples were well below the 100 mg/kg MTCA cleanup level.

Since this gasoline spill was included in a prior formal notification to the Washington State Department of Ecology (Ecology), further notification to Ecology is not required. However, Hart Crowser recommends that the PUD notify Ecology by letter of the completion of the cleanup of this spill.

## AUGERCAST PILE INSTALLATIONS

Hart Crowser observed the placement of 134 augercast piles in the parking garage foundation between March 26 and April 2, 1993. All piles were installed in general accordance with the specifications and the general recommendations of the geotechnical report. All piles were placed to an average depth of 30 feet, except where noted on the pile installation record. Pile installation records are provided in Appendix B of this letter report.

## LIMITATIONS

Work for this project was performed, and this letter report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Snohomish County Public Utility District No. 1 for specific application to the referenced property. This report is not meant to represent a legal opinion. No other warranty, express or implied, is made.

Any questions regarding our work and this letter report, the presentation of the information, and the interpretation of the data are welcome and should be referred to the undersigned.

We trust that this report meets your needs.

Sincerely,

**HART CROWSER, INC.**

**DAVID G. WINTER, P.E.**
Principal
Manager, Remediation Services

**SUSAN P. HARP**
Project Engineer

SCAPDATA.LR

Attachments:
References
Appendix A - Analytical Laboratory Reports
Hart Crowser Chemistry Laboratory and
Sound Analytical Services, Inc.
Appendix B - Augercast Pile Placement Records

## REFERENCES

Hart Crowser, 1992a. Snohomish County PUD Headquarters Soil Cleanup Report. March 3, 1992.

Hart Crowser, 1992b. Letter report re: Soil Sampling Results from Testing of Lead- and Oil-Stained Soils. September 18, 1992.

SNOHOMISH COUNTY
PUD
PUBLIC UTILITY DISTRICT No. 1

*2320 California St., Everett, Washington 98201 (206) 258-8211*
*Mailing Address: P. O. Box 1107, Everett, Washington 98206*

April 21, 1993



Larry Crawford
City of Everett
3200 Cedar
Everett, WA 98201

Dear Larry:

As you are aware, the District has encountered contaminated soils at our headquarters construction site. Although we expected to find contaminated soils, the amounts were far more than originally estimated. All of the contaminated soils encountered were disposed of at approved landfills per state and federal regulations.

The soils which we have stockpiled at 40th St. and Smith St. should not be confused with the contaminated soils. Rather, they are soils which were tested and found to not be contaminated. Their lead concentrations ranged from 120 to 160 parts per million which is well below the 250 parts per million standard defining contaminated soils.

We intend to use the stockpiled soils as backfill around the parking garage with a portion scheduled to be hauled back to the site in late June. The remainder will be hauled back in late July.

If you have further questions please call.

Sincerely,

N. Craig Thompson

N. Craig Thompson, Director
Water, Facilities, & Envir. Affairs