SUPPLEMENTAL SUBSURFACE INVESTIGATION

Clarwood Apartments 805 Marion Street Seattle, Washington

EVERTRUST BANK

ENVIRONMENTAL ASSOCIATES, INC.

1380 - 112th Avenue Northeast, Suite 300 Bellevue, Washington 98004 (425) 455-9025 Office (888) 453-5394 Toll Free (425) 455-2316 Fax

October 10, 2003

JN-23243-1

Ms. Dail Bodziony EverTrust Bank 701 Pike Street, Suite 2250 Seattle, Washington 98101

Subject:

SUPPLEMENTAL SUBSURFACE INVESTIGATION Clarwood Apartments 805 Marion Street Seattle, Washington

Dear Ms. Bodziony:

Environmental Associates, Inc., (EAI), has conducted supplemental subsurface sampling and testing at a selected locality at the Clarwood Apartments. This report, prepared in accordance with the terms of our proposal dated September 5, 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.

In our March 5, 1996, Phase II report, EAI identified concentrations of diesel-range petroleum hydrocarbons greatly exceeding current Washington Department of Ecology (WDOE) cleanup levels within soil samples obtained from borings (B-1 and B-2) placed adjacent to the on-site heating oil tank. In an effort to further evaluate subsurface environmental conditions at the site, on September 26, 2003, a single soil boring was drilled at an exterior down-slope locality. Results of laboratory analysis of soil samples revealed concentrations of diesel-range petroleum hydrocarbons well in excess of current WDOE Method A cleanup levels at the 15 foot depth interval. Groundwater was not encountered within the 30-foot maximum depth explored.

Associate Offices: Oregon / San Francisco Bay Area

JN 23243-1 Page - 2

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.St., P.G., R.E.A. Principal

Registered Site Assessor/Licensed UST Supervisor State Certification #0878545-U7

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



SUPPLEMENTAL SUBSURFACE INVESTIGATION

Clarwood Apartments 805 Marion Street Seattle, Washington 98101

Prepared for:

EverTrust Bank 701 Pike Street, Suite 2250 Seattle, Washington 98101

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

Jacon Cass Environmental Geologist EPA-Certified Building Inspector I.D. #J&J001005-BIB-01 Registered Washington UST Site Assessor #32-US-32024393

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

Registered Site Assessor/Licensed UST Supervisor State Certification #0878545-U7

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



Reference Job Number: JN 23243-1

October 10, 2003

TABLE OF CONTENTS

5
5
5
ô
7
7
8
B
9
11
11

Plate 2 _a - Plate 2 _b - Plate 3 -	Vicinity Map Plan View Site Plan Interpretive Cross-Section A-A' Boring B-3/MW-1 Typical Well Installation Design

APPENDIX Laboratory Reports

JN 23243-1 Page - 5

PROJECIL BACKCROUND

SITE SETTING

The subject property consists of a rectangularly-shaped parcel covering approximately 7,200 square feet of land. Improvements to the property include an L-shaped, three-story, brick apartment building with a basement, enclosing approximately 24,900 square feet of space and 45 living units which was reportedly erected in 1924.

The approximate location of the site is shown on the Vicinity Map, Plate 1, appended herewith, and the schematic layout of the site is illustrated on the Site Plan, attached to this report as Plate 2.

PREVIOUS ENVIRONMENTAL WORK

On February 9, 1996, EAI presented the findings of a Phase I Environmental Audit on the subject site for R.P. Management. The following conditions of environmental significance were identified and discussed in that report; presence of suspect asbestos containing materials, potential for lead-based paint in some surfaces, and the former use of heating oil at the site.

Following tank tightness testing which suggested that the oil tank and supply lines may have released oil, in March of 1996, EAI made two (2) hand-auger borings (B-1 and B-2) through the boiler room floor at locations proximal to the underground heating oil tank (UST). The soil sampling and laboratory testing revealed that oil-range petroleum hydrocarbons were present in the soil samples at concentrations greatly exceeding MTCA cleanup standards. At that time, shallow-seated "perched" groundwater was encountered in each of the borings which appeared to be affected by the heating oil release. This occurrence of "perched" water is interpreted by us to be the result of the "bathtub effect" wherein water collects within the tank hold excavation only. We do not interpret such an occurrence as being representative of regional or local groundwater resources. This report recommended that use of the tank be suspended until the leak was discovered and fixed, that formal in-place closure be done if the tank were taken out of service, and that the findings of the report be shared with WDOE in an effort comply with regulatory reporting requirements.

On September 30, 1998 EAI performed an updated Phase I Audit of the site for Intervest Mortgage Investment. This report summarized the previous Phase I Environmental Audit and soil sampling efforts. Recommendations regarding the release of heating oil in the 1998 Phase I echoed those of EAI's 1996 sampling and testing report. This information suggests that, as of 1998, the sampling and testing report had not been forwarded to WDOE.

JN 23243-1 Page - 6

Tank closure documents provided to us by Mr. Chad Nguyen of R.P. Management suggest that the 1,000 gallon capacity heating oil tank was lawfully closed-in-place by filling with inert material by AAA Tank Service in April of 1998. No information was contained in the brief AAA Tank letter to suggest that any type of soil or groundwater cleanup actions were taken at that time.

Finally, on August 28, 2003, EAI presented the findings of a Phase I Environmental Audit to EverTrust Bank which summarized the preceding reports and again recommended that all information developed to date regarding the release of heating oil at the site be forwarded to the WDOE. An option was presented in this report to conduct additional sampling and testing in an effort to better define the areal and vertical extent of the documented soil impacts.

The reader is referred to the referenced Phase 1 Environmental Audit and Preliminary Site Exploration reports in all cases where additional details regarding our previous findings and conclusions are desired.

METHODOLOGY/SCOPE OF WORK

Your expressed interests, which included the desire to conduct the installation of a single groundwater monitoring well along with soil and groundwater (<u>if encountered</u>) sampling in an effort to further evaluate the presence of oil-range petroleum hydrocarbons in an inferred down-slope position relative to the oil tank as summarized in our proposal to you dated September 5, 2003, formed the basis for the following <u>proposed</u> scope of work:

- Drilling and soil sampling a single boring (designated as B-3) using a limited access drilling unit equipped with 4-inch inner diameter steel augers, at a single location down-slope from the heating oil tank noted on Plate 2a;
- Construction of a single groundwater monitoring well (designated as MW-1) at the boring locality, along with sampling of groundwater (<u>IF encountered</u>).
- Laboratory analysis of selected soil samples using gas chromatography by WDOE method NWTPH-Dx for the presence of diesel to heavy oil-range petroleum hydrocarbons;
- Preparation of this summary report documenting the methodology and results of the investigation.

JN 23243-1 Page - 7

EverTrust Bank October 10, 2003

FINDINGS

DRILLING AND SOIL SAMPLING

In an effort to further evaluate subsurface conditions at the selected exterior locality on the subject property, EAI made a single boring at the approximate location designated as B-3/MW-1 on the attached Site Plan, Plate 2. The boring location was selected on the basis of its down-slope position relative to the heating oil tank in an effort to ascertain the potential down-slope extent of impacts. Prudent concerns regarding the presence of buried utilities along the sidewalk and right-of-way corridor dictated that the boring be placed within approximately four (4) feet of the western wall of the building. A monitoring well was constructed in the boring (designated MW-1) with the drilling, monitoring well installation, and <u>soil</u> sampling conducted on September 26, 2003.

Equipment employed for the drilling and well installation consisted of a limited-access mobile drilling unit equipped with a 4-inch inner diameter hollow-stem auger drilling apparatus. Prior to drilling the exterior boring, a portion of a shrubbery was removed to provide access to the subsurface. Under supervision of an EAI geologist, the drilling unit was brought into position over the selected location, blocked up and leveled before drilling. Following set-up preparations, the auger was advanced 5 feet. A split spoon sampler and connecting rods were then lowered through the hollow-stem auger, and an effort was made to drive the sampler eighteen (18) inches at each designated sampling interval using 140 pound hammer in general accordance with ASTM Method D-1586. The sampler was then withdrawn and opened for examination and transfer of the sample to laboratory prepared glassware.

Using this procedure, soils were sampled at 5-foot intervals starting at approximately 5 feet below ground surface and extending to approximately 30 feet below the ground surface. Samples were transferred from the sampler directly to sterilized glassware with Teflon-lined lids furnished by the project laboratory. In an effort to preserve sample integrity, samples were stored in an iced chest maintained at or below 4 degrees centigrade, during field sampling and transfer to the project laboratory. Each jar was clearly labeled as to boring number, sample number, date and time, geologist/engineer, etc. EPA recommended protocol for sample management including maintenance of chain-of-custody documentation was observed at each stage of the project.

During drilling, a field log was made by the project geologist for the boring. Information recorded versus corresponding depth included soil classification (Unified Soil Classification System), color, texture, moisture content, odors (if present), seepage zones (if present), etc. Subsurface conditions encountered are summarized in the boring log attached to this report as Plate 3.

Following drilling and soil sampling of the boring, two-inch diameter PVC well casings with 0.010inch slots were installed in the boring. A two-inch PVC blank riser casing was then used in the upper sections of the well. Design and construction methods conformed to requirements and specifications outlined in revisions of WAC 173-160 for "resource protection wells" in the state of Washington.

JN 23243-1 Page - 8

The annulus of the well casing was sand packed two to three feet above well screens; a bentonite seal was placed above the sand and carried to within two feet of the ground surface to prevent infiltration of surface contamination along the well casing. A concrete plug was installed at the well location to stabilize the upper two-foot section of the well. A protective casing with provisions for locking access to the well head was included. The boring log depicts the depth range of the well screens, and Plate 4, Typical Well Installation Design, schematically depicts the general well construction details.

An attempt was made to obtain a sample from the monitoring well on September 29, 2003, however no groundwater was present in the well at that time. Although very moist soil conditions were encountered at the 30 foot depth, the sampling effort was made near the end of an unusually dry summer season and no water was present within the well. Groundwater sampling from the well may possibly be accomplished in the future following a "wet season" recharge period.

SUBSURFACE CONDITIONS

As previously discussed, subsurface conditions at the subject property were examined by making a single boring at the approximate location noted on Site Plan, Plate 2. Subsurface conditions encountered in the boring are presented in the boring log attached to this report as Plate 3.

Soils encountered during drilling of boring B-3/MW-1 consisted of a dark gray silty sand and gravel to a depth of twenty (20) feet bgs. A coarse sand was encountered between 25 and 30 feet bgs. Very moist soil conditions were encountered in boring B-3/MW-1 at a depth of 30 feet bgs. Visual and olfactory evidence of soil contamination was noted at depths between 10 and 25 feet below ground surface.

LABORATORY ANALYSIS

A total of five (5) soil samples obtained from depths ranging from 10 to 30 feet below ground surface from the boring have been analyzed for the presence of diesel and heavy oil-range petroleum hydrocarbons by method NWTPH-D extended. As noted earlier, petroleum odors and/or discoloration were noted in the soil samples obtained from the 10 to 25 foot depth range. A summary of the laboratory analysis results is provided in the following table.

JN 23243-1 Page - 9

	oli Testing Results - NWTPH-Dx - limits lo parts per million (ppm)					
Sample Number/Depth	Sample:Number/Depth (diesel)					
B3-MW-1 / 10 feet bgs	13	ND ¹				
B3-MW-1 / 15 feet bgs	3:7001	ND				
B3-MW-1 / 20 feet bgs	ND	ND				
B3-MW-1 / 25 feet bgs	ND	ND				
B3-MW-1 / 30 feet bgs	ND	ND				
Reporting Limit ²	10.0	50.0				
Cleanup Level ³	Cleanup Level ³ 2,000 2,000					
2 - "Reporting Limit" re 3 - Method A soil clear Chapter 173-340-7	vte not detected at or above listed Rep opresents the laboratory lower quantita hup levels as offered in the Model Tox 40 WAC. n exceedance of WDOE Method A cle	ation limit. ics Control Act (MTCA),				

Relying upon the results of laboratory testing of soil samples obtained from of the boring at various depths, concentrations of diesel-range petroleum hydrocarbons were detected at concentrations well in excess of the MTCA Method A cleanup level of 2,000 part per million at the 15 foot depth sampling interval.

GONGLUSIONS/RECOMMENDATIONS

As discussed in detail in the preceding sections of this report, relying upon the results of laboratory analysis of soils sampled from boring at the 10 to 30 foot depth range, concentrations of diesel - range petroleum hydrocarbons were detected in Boring B-3 at concentrations exceeding MTCA Method A cleanup levels at the 15 foot depth interval. This information suggests that the soil contamination discovered by EAI in 1996 extends westward (towards 8th Avenue) from the heating oil tank location beneath the basement boiler room but does not appear to extend deeper than approximately 15 feet below ground surface at that location. Referring the reader to the Interpretive Cross-Section A-A', Plate 2b, a lateral linear extrapolation of diesel concentration data points from borings B-1 through B-3 suggests that the cleanup concentration limit of 2,000 ppm may possibly lie approximately eight (8) feet westward from the western building wall and 17.5 feet westward from boring location B-1. Linear extrapolation of vertical data points from borings B-1 and B-2 suggest that the Method A contamination cleanup limit (2,000 ppm) may possibly be approximately 12.4 feet downward beneath the boiler room floor. Using this information and using a cylindrical shape for an approximation of the contaminated body of soil, the volume of impacted soil may conceivably be on the order of approximately 442 cubic yards.

JN 23243-1 Page - 10

The following management alternatives and/or approaches are offered regarding the previously discussed findings and conclusions:

The environmental data developed thus far may be submitted to the WDOE for their review under the Voluntary Cleanup Program (VCP) in an attempt to receive a determination of "no further action" (NFA) from that agency. A decision of "no further action" from WDOE could require that a deed restriction be placed on the property requiring some form of cleanup actions at such time in the future that the existing building is removed during site redevelopment activities. A cleanup cost estimate for soil removal has been prepared at your request under separate cover to this report.

If a higher degree of resolution is desired than is afforded by the current body of knowledge developed to date, additional soil borings could be placed in accessible areas around the zone of confirmed contamination followed by appropriate laboratory testing of soil in an effort to further constrain the limits of the contamination.

Applications of oxygen-release compound (ORC) into subsurface treatment points within the localized "perched water" occurrence within the tank-hold excavation may be made in an effort to reduce contaminant concentrations by stimulating biological/bacterial degradation of residual petroleum. The benefit of such action is that it may potentially decrease future cleanup costs as the volume of impacted soil is reduced over time. A detraction of this action may include significant near-term costs (possibly in the range of \$15,000 to \$30,000) associated with repeated ORC applications along with progress monitoring activities including periodic sampling and testing of soils and/or groundwater. As stated above, the effectiveness of such ORC treatment may be limited to the immediate vicinity of the tank excavation.

Decision making authority regarding applicability and/or implementation of the above referenced actions/alternatives or other approaches clearly lies with the property owner and/or lender, depending upon their long term management interests and individual risk tolerances.

JN 23243-1 Page - 11

LIMITATIONS.

This report has been prepared for the exclusive use of EverTrust Bank along with R.P. Management 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 September 5, 2003. The findings and conclusions of this study are based upon observations and testing made at separated exploration localities 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

- Environmental Associates, Inc., (1) February 1996, "Phase I Environmental Audit, Clarwood Apartments, 805 Marion Street, Seattle Washington," JN 6051, 25 pps, 5 Plates.
- Environmental Associates, Inc., (2) February 1996, "Heating Oil UST Integrity Testing, Clarwood Apartments, 805 Marion Street, Seattle Washington," JN 6075.
- Environmental Associates, Inc., (3) March 1996, "Preliminary Sampling and Testing, Clarwood Apartments, 805 Marion Street, Seattle Washington," JN 6083, 11 pps, 4 Plates.
- Environmental Associates, Inc., (4) September 1998, "Phase I Environmental Audit, Clarwood Apartments, 805 Marion Street, Seattle Washington," JN 6051-1, 23 pps, 4 Plates.
- Environmental Associates, Inc., (5) August 2003, "Phase I Environmental Audit, Clarwood Apartments, 805 Marion Street, Seattle Washington," JN 23243, 21 pps, 3 Plates.
- Liesch, B.A., Price, C.E., and Walters, K.L., 1963, Geology and Groundwater Resources of Northwestern King County, Washington. Water Supply Bulletin No. 20, 58 pps., 3 plates, 9 tables, 9 figures.





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APPENDIX

Laboratory Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Charlene Morrow, M.S. Yelena Aravkina, M.S. Bradley T. Benson, B.S. Kurt Johnson, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 TEL: (206) 285-8282 FAX: (206) 283-5044 e-mail: fbi@isomedia.com

October 2, 2003

Jason Cass, Project Manager Environmental Associates, Inc. 1380 112th Ave. NE, #300 Bellevue, WA 98004

Dear Mr. Cass:

Included are the results from the testing of material submitted on September 26, 2003 from the JN23243-1 Clarwood Apts, F&BI 309242 project. There are 2 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Charlene Morrow

Charlene Morrow Chemist

Enclosures EA11002R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/02/03 Date Received: 09/26/03 Project: JN23243-1 Clarwood Apts, F&BI 309242 Date Extracted: 09/29/03 Date Analyzed: 09/29/03

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL USING METHOD NWTPH-Dx Extended to Include Motor Oil Range Compounds Results Reported on a Dry Weight Basis

Results Reported as $\mu g/g$ (ppm)

 \mathbf{a}

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	<u>Motor Oil Range</u> (C25-C36)	Surrogate <u>(% Recovery)</u> (Limit 45-153)
B3-10' 309242-02	13	<50	. 97
B3-15' d 309242-03	3,700	<500	153
B3-20' 309242-04	<10	<50	101
B3-25' 309242-05	<10	<50	91
B3-30' 309242-06	<10	<50	98 .
Method Blank	<10	<50	91

d - The sample was diluted.

1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/02/03 Date Received: 09/26/03 Project: JN23243-1 Clarwood Apts, F&BI 309242

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code:	309248-01 (Dupl	icate)			Relative Pe	roont	
Analyte	Reporting Units	Sample Result	e Duplicate		Differen (Limit 2	co	
Diesel Extended	μg/g (ppm)	<50		<50	nm		
Laboratory Code:	309248-01 (Matr	rix Spike)		Percent	Percent	· .	·
Analyte	Reporting Units	Spike Level	Sample Result	Recovery	Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	µg/g (ppm)	500	<50	94	95	62-142	1
							· · ·
Laboratory Code:	Laboratory Cont	trol Sample	e Percent				
л.,	Reporting	Spike	Recoverv	Acceptan	ce		

Analyte	Reporting	Spike	Recovery	Acceptance
	Units	Level	LCS	Criteria
Diesel Extended	μg/g (ppm)	500	97	66-132

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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