PRELIMINARY SUBSURFACE SAMPLING & TESTING

Vacant Building & Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

COLUMBIA WEST PROPERTIES, INC.

ENVIRONMENTAL
ASSOCIATES, INC.

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April 27, 1999 JN 9085-1

Columbia West Properties, Inc.
12951 Bel-Red Road, Suite 150
Bellevue, Washington 98005
Attention: Ms. Michelle Foreman

Subject: **PRELIMINARY SUBSURFACE SAMPLING & TESTING**
Vacant Building & Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Dear Ms. Foreman:

Environmental Associates, Inc. (EAI) has completed preliminary subsurface sampling and testing of soil on the subject property in an effort to assess the potential for the presence of gasoline, diesel, and oil-range petroleum hydrocarbons, as well as gasoline-associated benzene, toluene, ethylbenzene, and xylene (BTEX) constituents. The study also included a geophysical survey in an effort to screen portions of the subject site for the presence of buried tanks which may have been associated with the former on-site gasoline service station. This report, prepared in accordance with the terms of our proposal dated March 24, 1999, 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 11, 1999, EAI completed a geophysical survey of portions of the site using an electromagnetic (EM) device and ground-penetrating radar (GPR) in an effort to identify buried objects (if existing) such as tanks and associated piping. No buried motor fuel tanks associated with the former on-site gasoline service station were identified during the course of our survey, however, what appeared to be a former tank-hold excavation (with tanks removed and excavation filled) was discovered. In addition, an approximately 800-gallon capacity heating-oil tank was discovered beneath the boiler room floor of the subject structure. Further investigation revealed that the tank appeared to be nearly full of water, with some heating oil present.

On April 12, 1999, four (4) Strataprobe borings ("direct-push" hydraulic and percussion drive-point sampling system) were completed on the subject site, along with sampling of soils at each exploration locality (approximate exploration localities are graphically depicted on Plate 3, Site Exploration Map, attached to this report). The exploration localities included areas on the subject site in an interpreted former on-site underground storage tank (UST) excavation, in the interpreted locality of the fuel-dispenser island, and adjacent to the existing heating-oil tank.

Relying upon results of laboratory testing, it would appear that soil sampled from the former locality of fuel tanks on the subject site contains concentrations of gasoline-range petroleum hydrocarbons, and gasoline-associated BTEX constituents in excess of the current Washington Department of Ecology (WDOE) Method A cleanup levels for these contaminants. In addition, soil sampled from the former interpreted locality of the fuel-dispenser island contained a concentration of gasoline-range petroleum hydrocarbons in excess of the current WDOE Method A cleanup level for gasoline. No concentrations of diesel-through-heavy-oil-range petroleum hydrocarbons were detected in soil sampled from any of the four (4) borings, including the boring proximal to the heating-oil UST.

It is our understanding that current plans call for the excavation and removal of soil to a depth of very approximately 30 feet below current grade as a part of site preparation for new construction. It is our recommendation that, prior to the planned construction excavation, the contaminated soils be excavated and transported to either a treatment facility or to a landfill certified to accept such waste. Following removal of the contaminated soil, remaining soil should be sampled, and the samples submitted for laboratory analysis to confirm and document that all contaminated soil has been removed.

Additionally, we further recommend that the existing on-site heating-oil tank be pumped and cleaned by a contractor certified to perform such work prior to any site demolition activities (in an effort to reduce the risk of release of the tank contents), and that the tank be removed to a metals recycling facility (or waste facility) prior to (or during) preparatory construction excavation. Soil adjacent to the tank should be field screened and sampled at the time of tank removal, and samples submitted for laboratory testing, in an effort to confirm and document soil conditions at the time of tank closure. If contaminated soils are encountered proximal to the tank, provisions could be made to excavate the affected soil and transport it to either a treatment facility or landfill certified to accept petroleum-contaminated soil.

We appreciate the opportunity to be of service on this assignment. This letter is governed by the limitations of the attached report, of which it is a part. 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: W000010 (Washington)
License: 11464 (Oregon)
License: 876 (California)
License: 5195 (Illinois)
License: 0327 (Mississippi)

PRELIMINARY SUBSURFACE SAMPLING & TESTING

Vacant Building & Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Prepared for:

Columbia West Properties, Inc.
12951 Bel-Red Road, Suite 150
Bellevue, Washington 98005

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

James R. Ruef
Environmental Geologist

IFCI/WDOE-Certified Site Assessor

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

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Reference Job Number: JN 9085-1

April 27, 1999

ENVIRONMENTAL ASSOCIATES, INC.

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INTRODUCTION/SCOPE OF WORK

SITE/PROJECT DESCRIPTION

The subject property includes a rectangular-shaped parcel covering approximately 12,960 square feet of land. Improvements to the western portion of the subject property include a single-story, masonry block building enclosing approximately 7,200 square feet of space which was reportedly erected in 1914, addressed as 314 Bell Street. The eastern portion of the subject site, designated as 2301 Fourth Avenue, is occupied by an asphalt paved parking lot. Currently the subject building is vacant, and the parking lot is operated by Trust Parking. The property is located in a mixed retail, commercial, and residential area within the "Belltown" neighborhood of downtown Seattle, Washington. 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 and Site Exploration Map, attached to this report as Plates 2 and 3 respectively.

Previous Work

In March of 1999, EAI completed a Phase 1 Environmental Audit of the subject property (EAI, March 22, 1999) for Columbia West Properties, Inc. The following conditions of potential environmental significance, among others, were identified and discussed in our report:

- Unknown/unassessed subsurface impacts (if any) relating to the documented past storage and use of heating oil for the 1914-vintage subject property structure;

- Unknown/unassessed subsurface impacts (if any) relating to past practices and/or conditions associated with the documented retail gasoline station which operated on the eastern portion of the subject property spanning the years from approximately 1936 through 1967.

The reader is referred to the referenced Phase 1 Environmental Site Assessment report, as well as to the referenced "Addendum To Phase 1 Environmental Audit" letter (EAI, April 16, 1999), in all cases where additional details regarding our Phase 1 findings and conclusions are desired.

Current Study

Your expressed interests, which included the desire to conduct a preliminary evaluation of subsurface conditions to assess the potential for the presence of gasoline, diesel, and/or oil-range petroleum contaminants, presented in our proposal to you dated March 24, 1999, formed the basis for the following scope of work:

- Completing a limited geophysical screening survey, using an electromagnetic (EM) device and ground-penetrating radar (GPR), in an effort to discover if tanks associated with the former on-site gasoline service station still exist on the subject property;

- Completing four (4) Strataprobe borings with a truck-mounted unit along with soil sampling, at localities on the subject property in interpreted locations of a former tank-hold excavation and the fuel-dispenser island, and adjacent to the heating-oil underground storage tank (UST);

- 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, and by WDOE method NWTPH-Dx (diesel extended) for petroleum hydrocarbons in the diesel-through-heavy-oil-range;

- Preparation of this summary report documenting the methodology and results of the investigation.

FINDINGS

SUBSURFACE INVESTIGATION

Limited Geophysical Survey

Prior to probing and soil sampling, EAI completed a limited geophysical survey of portions of the of the subject property in an effort to detect evidence of buried tanks (if existing). An electromagnetic (EM) device was used to survey the areas located adjacent to the interpreted locality of the former gasoline service station for buried metal objects. Providing some technical background discussion, small metal objects near the surface (1 to 2 feet in depth) will have an EM response equivalent to a larger object (UST) at depth. The signal strength, size, and continuity of the response at the surface may indicate the possible presence of a UST. The EM targets that may indicate the existence of a UST are then investigated with ground-penetrating radar (GPR) to assess the relative depth, size, and ground projection of the object(s) in an effort to evaluate if the EM targets are, or are not, buried tanks.

The electromagnetic (EM) device transmits and receives an EM signal at a frequency of 6 KHz (kilohertz). The EM signal is transmitted through the subsurface which generates the flow of current through the ground. The induced ground current generates a magnetic field that is dependent on the ground conductivity and which is also received at the EM device receiver. The two (2) signals, the transmitted and the ground response signals, are balanced (nulled) for a zero response in the EM device's electronic circuitry. When the ground conditions change (i.e. when the transmitted signal encounters buried metal), the ground conductivity changes and, in turn, the balance or null point is changed, and the instrument responds with an audible signal and the deflection of a pointer relative to a calibrated scale on the EM device. Depending on the size of the buried object, the EM device

is capable of detecting buried objects as deep as 15 feet below the ground surface. In experiments, one-gallon cans have been detected at depths of as much as 3 to 4 feet, with 55-gallon drums detected at depths of as much as 8 to 9 feet below the ground surface.

The ground-penetrating radar (GPR), a GSSI SIR System 3, utilizes a 500 MHz (megahertz) antenna. The GPR antenna used for this investigation transmits a 2 nano-second pulse at a frequency of 500 MHz for the selected scan rate of 8 times per second. When the signal encounters a change in the electrical field (a change in electrical permittivity), a portion of the signal energy is reflected back to the surface. The reflected signal is received by the antenna, digitally processed, and recorded on a strip-chart recorder in an amplitude-threshold format. The character of the recorded reflection is used to interpret the source of the reflection. The top of the recordings are marked at one-meter intervals. The depth of an object is determined by the electromagnetic wave propagation rate (inverse of wave velocity) of the subsurface materials.

The EM device/GPR survey did not produce results suggestive of buried motor fuel USTs, however, it did reveal what appears to be a former tank-hold excavation (with no tanks) which has been filled. A visible "settled" area (dip) on the subject site (outlined by thin cracks in the asphalt-paved surface) coincides with the localities of the GPR images interpreted by the project geophysicist to be a filled excavation area. The interpreted excavation area has dimensions of roughly 20 feet in width by 35 feet in length, and is graphically depicted on Plate 3 attached to this report. An image of a buried object, interpreted by the project geophysicist to possibly be a small-diameter buried utility pipe, was identified along the eastern portion of the subject property and may be a storm water pipe connecting storm sewer boxes.

Strataprobe Boring and Soil Sampling

Four (4) Strataprobe borings were made on April 12, 1999 at the approximate locations noted as B-1 through B-4 on the Site Exploration Map, Plate 3. The boring locations were chosen based upon the interpreted localities of the former tank-hold excavation and fuel-dispenser island for the gasoline service station, and the locality of the on-site heating-oil UST. A truck-mounted direct-push hydraulic and percussion drive-point unit equipped with 2-inch outer diameter hollow-stem stainless steel sampling equipment was employed to complete the borings.

Under the supervision of our staff geologist, the Strataprobe unit was brought into position over each selected exploration location, blocked up, and leveled before advancing each boring. Following set-up preparations, the boring/sampling technique consisted of hydraulically advancing a three foot length split-spoon sampler into the ground. The sampler was then withdrawn and opened for examination and transfer of the soil sample to laboratory prepared glassware. The sampling process was then repeated (continuously sampled in three-foot intervals) with a clean, sterilized sampler until the desired maximum depth was achieved (or until sampler refusal caused by dense soil conditions occurred).

Samples were transferred from the sampler directly to sterilized glassware with teflon-sealed lids furnished by the project laboratory. Samples were stored in an iced chest at the site and taken to the laboratory in this condition in an effort to preserve sample integrity. Each jar was clearly labeled as to boring and sample number/depth, date, time, project, etc. EPA-recommended sample-management protocol, 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 each boring. Information recorded versus corresponding depth included soil classification (Unified Soil Classification System), color, texture, apparent moisture content, odors (if present), etc.

A small portion of each soil sample was subjected to "field screening" for volatile organic vapors using a portable organic vapor detector instrument (Photovac PID). The screening technique consisted of placing a small portion of each soil sample into a sealed jar and leaving the sample for a period of several minutes to allow volatile organic substances (such as gasoline and associated BTEX constituents) which might be contained within each soil sample to vaporize. A small probe attached to the detection instrument was then inserted into the "headspace" within each jar via a small access port in the jar lid, and a measurement of the volatile organic vapors (if any were present) was made. Field screening measurements were performed on selected soil samples taken during the course of the probing program. The results of the headspace measurements are included in the boring logs appended to this report as Plates 4, 5, 6, and 7.

Subsurface Conditions

Soils encountered during probing of boring B-1 consisted of approximately 10.5 feet of brown-to-gray, very-moist-to-wet, medium dense, gravelly sand and very hard, gravelly silt fill material with brick fragments, atop fine-grained, very hard, slightly moist, gray sandy silt (interpreted to be Denny regrade soils) to the maximum depth explored of 14 feet below the ground surface. The very moist nature of the soils encountered in the upper 10.5 feet of boring B-1 was likely caused by seasonally-perched groundwater which has "pooled" within the relatively permeable excavation soils surrounded by the relatively impermeable, very hard, Denny Regrade silty soils. The remainder of the borings (B-2, B-3, and B-4) encountered approximately 1 to 3 feet of very-moist-to-wet brown gravelly sand fill material, atop the previously described gray, very hard sandy silt Denny regrade soils. Please refer to boring logs attached to this report as Plates 4 through 7 for a description of specific subsurface conditions encountered at each boring location.

Very strong gasoline odors were noted emanating from soil sampled at boring localities B-1 and B-2 during soil probing and sampling. Please refer to the boring logs for results of volatile organic vapors detected during headspace measurements completed on selected soil samples using a Photovac photo-ionization detector (PID).

LABORATORY ANALYSIS

In accordance with Washington Department of Ecology (WDOE) site assessment protocol, laboratory analysis was performed on selected soil samples from borings B-1, B-2, and B-4 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). Following initial testing results which indicated the presence of gasoline-range petroleum hydrocarbons and BTEX constituents at levels in excess of the current WDOE Method A soil cleanup levels in samples B-1-3 (8.5 feet), B-2-3 (8.5 feet), and B-4-1 (2.5 feet), and in accordance with your verbal authorization, additional samples from greater depths (B-1-5 at 11.5 feet and B-4-2 at 5.5 feet) were laboratory analyzed in an effort to discover the maximum depth of contaminated soil at these localities.

In addition, selected soil samples from borings B-1, B-2, B-3 and B-4 were submitted for laboratory testing by WDOE Method NWTPH-Dx (diesel extended) for petroleum hydrocarbons in the diesel-through-heavy-oil-range (including heating-oil range petroleum hydrocarbons).

Soil samples submitted for laboratory analysis from each boring were chosen on the basis of relative organic vapor headspace PID measurements. The laboratory reports are appended at the end of this report. The following tables summarize the results of laboratory testing.

Laboratory 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
B-1-3/8.5 to 9 feet	5900	4.8	55	86	430
B-1-5/11.5 to 12 feet	46	0.28	2.4	1.5	7.7
B-2-3/8.5 to 9 feet	6800	25	160	120	600
B-3-2/5.5 to 6 feet	NA[2]	NA	NA	NA	NA
B-4-1/2.5 to 3 feet	140	ND[1]	ND	0.34	0.51
B-4-2/5.5 to 6 feet	ND	0.20	0.08	ND	0.11
Reporting Limit[3]	0.50	0.05	0.05	0.05	0.05
Cleanup Level[4]	100	0.5	40	20	20

NOTES: 1 - "ND" denotes analyte not detected at or above listed Reporting Limit.
2 - "NA" denotes sample not analyzed for specific analyte.
3 - "Reporting Limit" represents the laboratory lower quantitation limit.
4 - Method A soil cleanup levels as offered in the Model Toxics Control Act (MTCA), Chapter 173-340-740 WAC. Shading denotes reported concentration exceeds the current WDOE Method A cleanup level.

Laboratory Testing Results - NWTPH-Dx All results and limits in parts per million (ppm)		
Sample Number/Depth	NWTPH-Dx (diesel range)	NWTPH-Dx (heavy-oil range)
B-1-3/8.5 to 9 feet	ND[1]	ND
B-2-3/8.5 to 9 feet	ND	ND
B-3-2/5.5 to 6 feet	ND	ND
B-4-1/2.5 to 3 feet	ND	ND
Reporting Limit[3]	25	50
Cleanup Level[4]	200	200

NOTES: 1 - "ND" denotes analyte not detected at or above listed Reporting Limit.
2 - "NA" denotes sample not analyzed for specific analyte.
3 - "Reporting Limit" represents the laboratory lower quantitation limit.
4 - Method A soil cleanup levels as offered in the Model Toxics Control Act (MTCA), Chapter 173-340-740 WAC. Shading denotes that the reported concentration exceeds the current WDOE Method A cleanup level.

Relying upon the results of laboratory analysis as summarized in the preceding tables, and as included in the laboratory reports appended to this report, soil sampled at boring localities B-1 (8.5 to 9 feet below the ground surface) and B-2 (8.5 to 9 feet below the ground surface) contained concentrations of gasoline-range petroleum hydrocarbons and associated BTEX constituents in excess of the current WDOE Method A cleanup levels for these contaminants. Additionally, it appears that soil sampled at boring locality B-4 (2.5 to 3 feet below the ground surface) contains a concentration of gasoline-range petroleum hydrocarbons in excess of the current WDOE Method A cleanup level for gasoline in soil.

Subsequent testing of deeper soil samples from borings B-1 (11.5 to 12 feet below the ground surface) and B-4 (5.5 to 6 feet below the ground surface) revealed that gasoline/BTEX contaminant concentrations are compatible with WDOE Method A cleanup levels at the indicated depths sampled.

No concentrations of diesel-through-heavy-oil-range petroleum hydrocarbons (including the heating-oil petroleum hydrocarbon range) were detected in soil sampled from borings B-1, B-2, B-3, and B-4.

CONCLUSIONS/RECOMMENDATIONS

No buried motor fuel tanks associated with the former on-site gasoline service station were identified during the course of our geophysical survey, however, what appeared to be a former tank-hold excavation (tanks apparently removed and excavation filled) was discovered. In addition, an approximately 800-gallon capacity heating-oil tank was discovered beneath the boiler room floor of the subject structure. Further investigation revealed that the tank appeared to be nearly full of water, with some heating oil present.

Relying upon results of laboratory testing of selected soil samples from areas on the subject site in an interpreted former on-site underground storage tank (UST) excavation, in the interpreted locality of the fuel-dispenser island, and adjacent to the existing heating-oil tank, it would appear that soil sampled from the former locality of fuel tanks on the subject site contains concentrations of gasoline-range petroleum hydrocarbons, and gasoline-associated BTEX constituents in excess of the current Washington Department of Ecology (WDOE) Method A cleanup levels for these contaminants. In addition, soil sampled from the former interpreted locality of the fuel-dispenser island contained a concentration of gasoline-range petroleum hydrocarbons in excess of the current WDOE Method A cleanup level for gasoline. No concentrations of diesel-through-heavy-oil-range petroleum hydrocarbons (including heating-oil range petroleum) were detected in soil sampled from any of the four (4) borings, including the boring proximal to the heating-oil UST.

Supplemental soil testing of selected samples from borings B-1 and B-4 (former tank excavation and former fuel-dispenser island respectively) revealed that the depth of gasoline and BTEX contaminants exceeding the WDOE Method A cleanup levels for soil at these exploration localities may possibly be limited to an approximate maximum depth of 11 feet at locality B-1 and 5 feet at locality B-4. Owing to the preliminary nature of the scope of work for this study, the precise areal and vertical extent of the gasoline and BTEX contaminants is not fully known, and would require additional soil sampling and testing to better define. Without the benefit of additional data to better define the extent of the petroleum contaminants, a very approximate estimate of the volume of petroleum-contaminated soil on the site (using presumed dimensions of 20 feet in width, 35 feet in length, and 11 feet in depth) for the tank excavation portion of the site may be roughly 285 cubic yards of soil, and a very approximate estimate of the volume of petroleum-contaminated soil on the fuel-dispenser portion of the site (using assumed dimensions of 20 feet in length, 6 feet in width, and 5 feet in depth) may be roughly 22 cubic yards. These estimates are approximate and subject to revision based on actual conditions.

As discussed earlier in this report, it is our understanding that current plans call for the excavation and removal of soil to a depth of very approximately 30 feet below current grade as a part of site preparation for new construction. It is our recommendation that, prior to the planned construction excavation, the contaminated soils be excavated and transported to either a treatment facility or to

a landfill certified to accept such waste. Following removal of the contaminated soil, remaining soil should be sampled, and the samples submitted for laboratory analysis to confirm and document that all contaminated soil has been removed.

We further recommend that the existing on-site heating-oil tank be pumped and cleaned by a contractor certified to perform such work prior to any site demolition activities (in an effort to reduce the risk of release of the tank contents), and that the tank be removed to a metals recycling facility (or waste facility) prior to (or during) preparatory construction excavation. Soil adjacent to the tank should be field screened and sampled at the time of tank removal, and samples submitted for laboratory testing, in an effort to confirm and document soil conditions at the time of tank closure. If contaminated soils are encountered proximal to the tank, provisions could be made to excavate the affected soil and transport it to either a treatment facility of landfill certified to accept petroleum-contaminated soil.

As discussed in the Phase 1 Environmental Audit report (EAI, March 22, 1999, page 8), during exploratory drilling for geotechnical evaluation of the site by others (Earth Consultants, Inc.) on March 12, 1999, no groundwater was reportedly encountered to a depth of approximately 30 feet below the ground surface. Very-moist-to-wet soils were encountered by EAI in the interpreted locality of a former fuel-tank excavation on the site, and as a precautionary note, if excavation of contaminated soil on the former fuel-tank excavation portion of the subject site is completed during seasonal periods of heavy precipitation (fall, winter, and early spring), contaminated water "pooled" (perched) within the excavation may be encountered. If such a condition exists at the time of excavation, it is our recommendation that the water be pumped and transported to a certified treatment and/or disposal facility as part of the site cleanup.

In response to your verbal request during our telephone discussion of the findings of this study, a technical and estimated cost proposal for the cleanup tasks recommended in this report will be completed and forwarded to you under separate cover within the next several days.

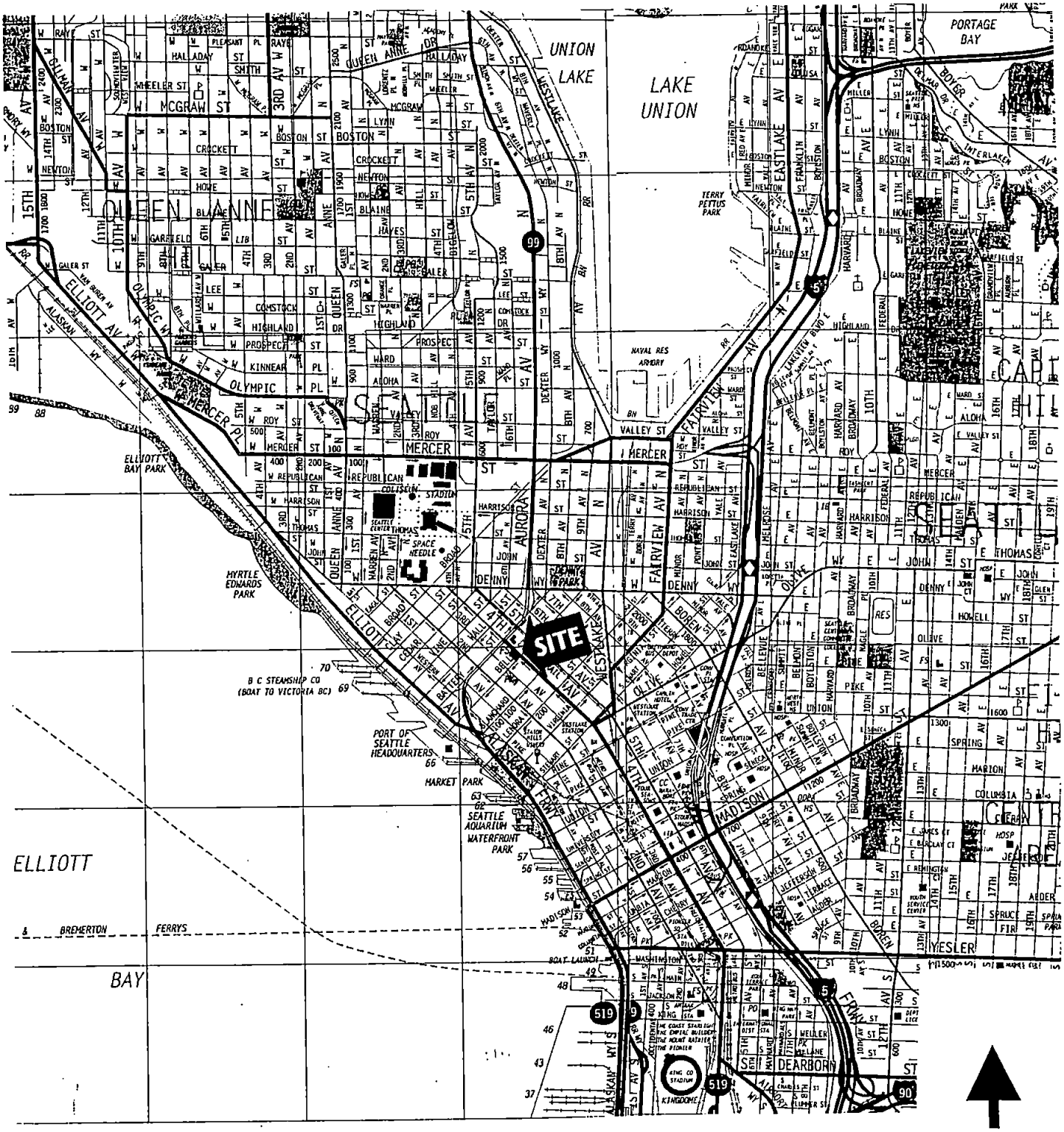
LIMITATIONS

This report has been prepared for the exclusive use of Columbia West Properties, Inc. 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 March 24, 1999. The findings and conclusions of this study are based upon observations, surveys, and testing made at separated exploration localities on the subject property. Conditions may vary between the exploration and survey localities, and 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., April 16, 1999. Addendum To Phase 1 Environmental Audit, Vacant Building and Parking Lot, NWC - 4th Avenue & Bell Street, Seattle, Washington. 3 pages, 1 figure.

Environmental Associates, Inc., March 22, 1999. Phase 1 Environmental Audit, Vacant Building and Parking Lot, NWC 4th Avenue & Bell Street, Seattle, Washington, 98121. 30 pages, 4 plates, 2 appendices.



Scale: 1 inch = 1/2 mile

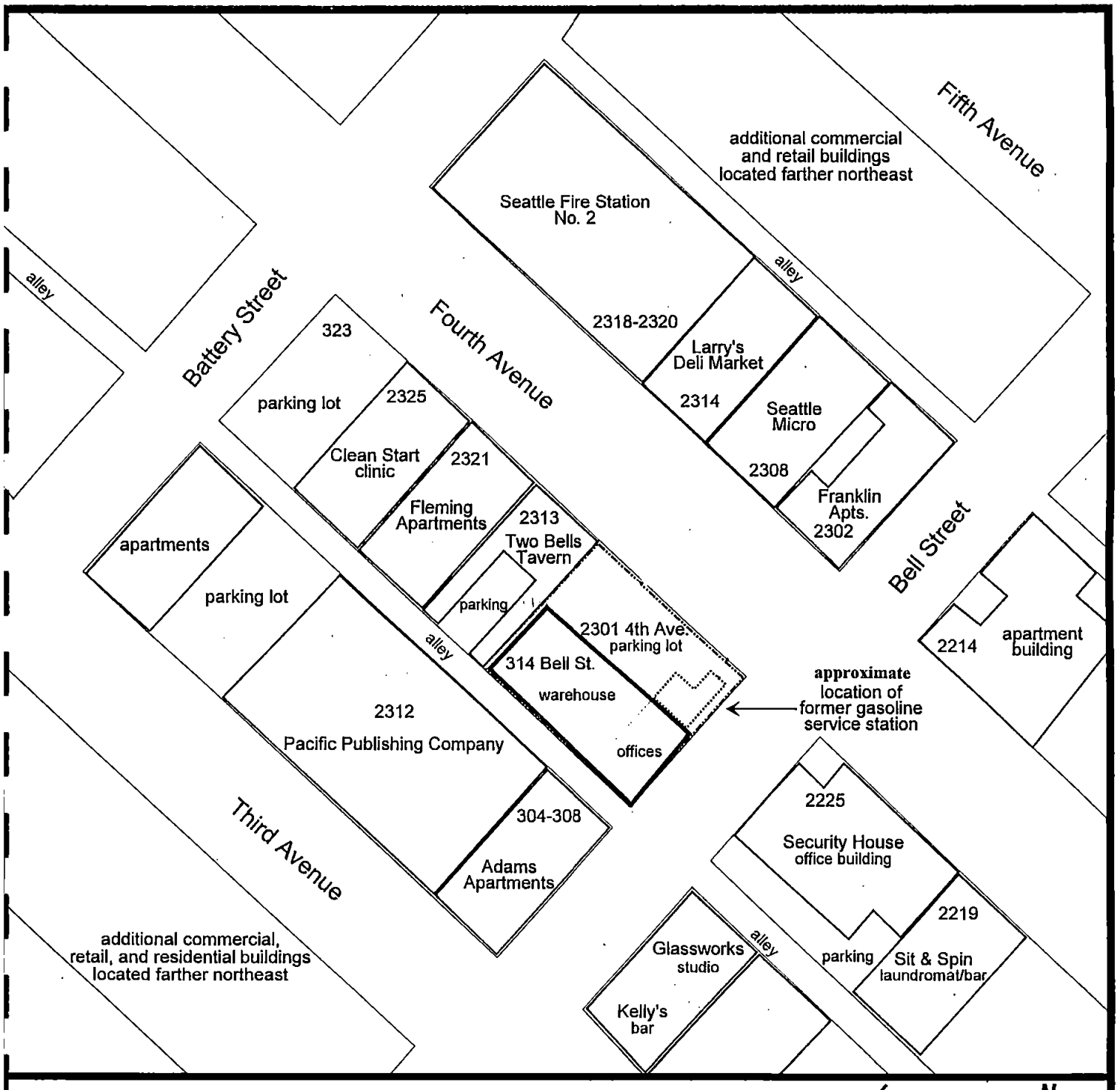
ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

VICINITY MAP

Vacant Building and Parking Lot
NWC - 4th Avenue and Bell Street
Seattle, Washington

Job Number:	*Date:*		*Plate:*
JN 9085-1	April 1999		1



Legend (approximate locations)

- Developments/buildings
- Subject property boundary

Probable direction of shallow-seated groundwater flow

N

NOT TO SCALE

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

SITE PLAN

Vacant Building and Parking Lot
NWC 4th Avenue & Bell Street
Seattle, Washington 98121

Job Number:	Date:		Plate:
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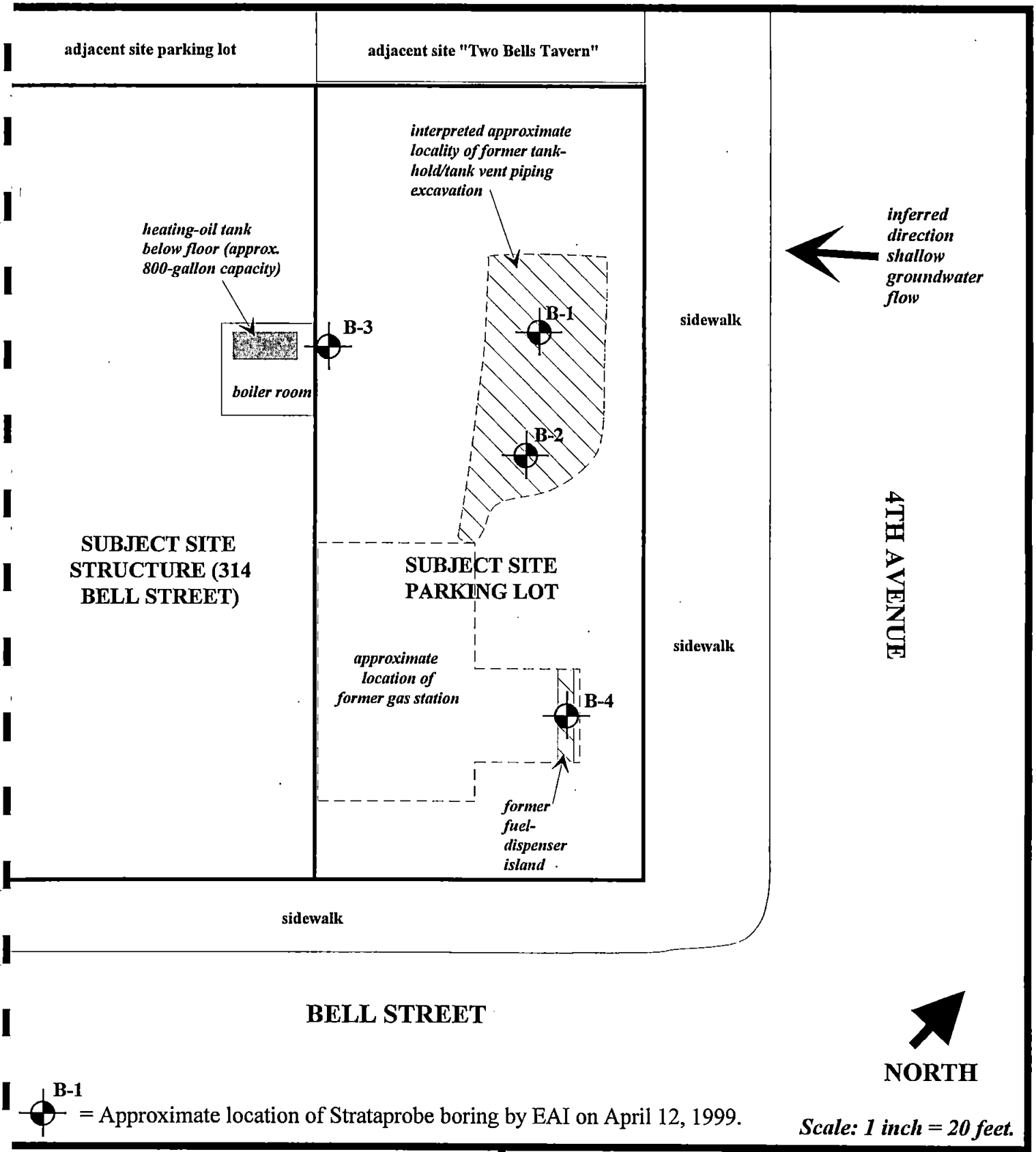

B-1 = Approximate location of Strataprobe boring by EAI on April 12, 1999.

Scale: 1 inch = 20 feet.

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

SITE EXPLORATION MAP

Vacant Building and Parking Lot
NWC - 4th Avenue and Bell Street
Seattle, Washington

Job Number:	Date:	Logged by:	Plate:
JN 9085-1	April 1999		3

BORING B-1

Sample Number	Well Const.	Water Table	Blows/ Foot	USCS	DESCRIPTION	VOC. Head-space (ppm)
0					Surface: 2-inches asphalt.	
1-1	NO WELL CONSTRUCTED	NO GROUNDWATER ENCOUNTERED	DIRECT-PUSH PROBE; NO BLOW COUNTS	FL (former tank excavation)	TANK-HOLD EXCAVATION FILL: Gravelly Sand, brown, very-moist-to-wet, medium dense, brick present.	0
5' 1-2					Changes to Gravelly Silt/Silty Fine Sand fill, dark gray, very moist, very hard (dense), gasoline odors noted, brick present.	280
1-3					Gasoline odor intensity increases.	1,260
10' 1-4						880
1-5				ML (Denny regrade material)	DENNY REGRADE SOILS: Sandy Silt, fine grained, gray, slightly moist, very hard (dense), relatively low intensity of gasoline odor. Probe refusal at 14 feet; could not extract sampler and rods from boring.	20

* Strataprobe "direct-push" boring terminated at 14.0 feet on April 12, 1999 (probe refusal).

* No groundwater encountered (very-moist-to-wet soils within former tank-hold excavation likely caused by "pooling" effect during seasonal heavy precipitation periods).

* VOC (volatile organic compound) headspace analysis measured using Photovac PID volatile gas monitor.

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

TEST BORING LOG

Vacant Building and Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Job Number:	*Date:*	*Logged by:*	*Plate:*
JN 9085-1	April 1999	JRR	4

BORING B-2

Sample Number	Well Const.	Water Table	Blows/ Foot	USCS	DESCRIPTION	VOC. Head-space (ppm)
0					Surface: 2-inches asphalt.	
2-1	NO WELL CONSTRUCTED	NO GROUNDWATER ENCOUNTERED	DIRECT-PUSH PROBE; NO BLOW COUNTS	FL	FILL: Gravelly Sand, brown, very-moist-to-wet, medium dense, brick present, slight gasoline odor at 2.5 to 3 feet.	10
5' 2-2					Sandy Silt, fine-grained, gray, slightly moist, gasoline odor noted, very hard (dense).	220
2-3				ML (Denny regrade materia)	Gasoline odor intensity increases.	1290
10' 2-4					Gasoline odor intensity decreases.	30

* Strataprobe "direct-push" boring terminated at 11.0 feet on April 12, 1999 (probe refusal).

* No groundwater encountered (very-moist-to-wet soils atop silt at 2.5 feet below ground surface).

* VOC (volatile organic compound) headspace analysis measured using Photovac PID volatile gas monitor.

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

TEST BORING LOG

Vacant Building and Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Job Number:	*Date:*	*Logged by:*	*Plate:*
JN 9085-1	April 1999	JRR	5

BORING B-3

Sample Number	Well Const.	Water Table	Blows/ Foot	USCS	DESCRIPTION	VOC. Head-space (ppm)
0				FL	Surface: 2-inches asphalt.	
					FILL: Gravelly Sand, brown, very-moist-to-wet, medium dense, brick present.	0
	3-1	NO WELL CONSTRUCTED	NO GROUNDWATER ENCOUNTERED	DIRECT-PUSH PROBE; NO BLOW COUNTS		
				ML (Denny regrade material)		
5'	3-2				Sandy Silt, fine-grained, gray, slightly moist, very hard (dense).	0

* Strataprobe "direct-push" boring terminated at 6.0 feet on April 12, 1999 (probe refusal).
* No groundwater encountered.
* VOC (volatile organic compound) headspace analysis measured using Photovac PID volatile gas monitor.

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

TEST BORING LOG

Vacant Building and Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Job Number:	*Date:*	*Logged by:*	*Plate:*
JN 9085-1	April 1999	JRR	6

BORING B-4

Sample Number	Well Const.	Water Table	Blows/ Foot	USCS	DESCRIPTION	VOC. Head-space (ppm)
0					Surface: 2-inches asphalt.	
4-1	NO WELL CONSTRUCTED	NO GROUNDWATER ENCOUNTERED	DIRECT-PUSH PROBE; NO BLOW COUNTS	FL	FILL: Gravelly Sand, brown, very-moist-to-wet, medium dense, brick present, slight petroleum odor at 2 to 3 feet.	10
5' 4-2				ML (Denny regrade material)	Sandy Silt, fine-grained, gray, slightly moist, very hard (dense).	2
4-3						0

* Strataprobe "direct-push" boring terminated at 9.0 feet on April 12, 1999.
* No groundwater encountered.
* VOC (volatile organic compound) headspace analysis measured using Photovac PID volatile gas monitor.

ENVIRONMENTAL ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

TEST BORING LOG

Vacant Building and Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Job Number:	*Date:*	*Logged by:*	*Plate:*
JN 9085-1	April 1999	JRR	7

View northwest during probing of boring B-1 (former gasoline station tank-hold excavation).

View north during probing of boring B-4 (former inferred locality of gasoline station fuel-dispenser island).

ENVIRONMENTAL
ASSOCIATES, INC.

2122 - 112th Avenue N.E., Ste. B-100
Bellevue, Washington 98004

SITE PHOTOGRAPHS

Vacant Building and Parking Lot
NWC - 4th Avenue & Bell Street
Seattle, Washington

Job Number:	Date:		Plate:
JN 9085-1	April 1999		8

APPENDIX

Laboratory Reports

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

COPY RECEIVED
APR 16 1999

April 15, 1999

Jim Ruef
Environmental Associates, Inc.
2122 112th Avenue NE, Suite B-100
Bellevue, WA 98004

Re: Analytical Data for Project JN 9085-1
Laboratory Reference No. 9904-079

Dear Jim:

Enclosed are the analytical results and associated quality control data for samples submitted on April 13, 1999.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (425) 883-3881 • Fax (425) 885-4603

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX

Date Extracted: 4-13-99
Date Analyzed: 4-13-99

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-1-3**			**B-2-3**		
Lab ID:	04-079-03			04-079-08		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**4.8**		1.2	**25**		1.1
Toluene	**55**		1.2	**160**	E	1.1
Ethyl Benzene	**86**		1.2	**120**		1.1
m,p-Xylene	**310**	E	1.2	**410**	E	1.1
o-Xylene	**120**		1.2	**190**	E	1.1
TPH-Gas	**5900**		120	**6800**		110
Surrogate Recovery: Fluorobenzene	--	S		--	S	

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX

Date Extracted:	4-13-99
Date Analyzed:	4-13-99
Matrix: Soil	
Units: mg/Kg (ppm)	
Client ID:	**B-4-1**
Lab ID:	04-079-12

	Result	Flags	PQL
Benzene	**ND**		0.29
Toluene	**ND**		0.29
Ethyl Benzene	**0.34**		0.29
m,p-Xylene	**0.51**		0.29
o-Xylene	**ND**		0.29
TPH-Gas	**140**		29
Surrogate Recovery: Fluorobenzene	87%		

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted:	4-13-99
Date Analyzed:	4-13-99
Matrix: Soil	
Units: mg/Kg (ppm)	
Lab ID:	MB0413S1

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0
Surrogate Recovery: Fluorobenzene	100%		

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 4-13-99
Date Analyzed: 4-13-99

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	04-067-12 Original	04-067-12 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	93%	91%		

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 4-13-99
Date Analyzed: 4-13-99

Matrix: Soil
Units: mg/Kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	04-067-12 **MS**	Percent Recovery	04-067-12 **MSD**	Percent Recovery	RPD
Benzene	**0.975**	**97**	**0.961**	**96**	1.4
Toluene	**1.01**	**101**	**0.999**	**100**	1.2
Ethyl Benzene	**1.03**	**103**	**1.02**	**102**	1.3
m,p-Xylene	**1.02**	**102**	**1.01**	**101**	1.8
o-Xylene	**1.02**	**102**	**1.02**	**102**	0.39
Surrogate Recovery:					
Fluorobenzene	93%		92%		

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-Dx

Date Extracted:	4-13-99
Date Analyzed:	4-13&14-99
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	B-1-3	B-2-3	B-3-2
Lab ID:	04-079-03	04-079-08	04-079-11
Diesel Fuel:	ND	ND	ND
PQL:	29	29	29
Heavy Oil:	ND	ND	ND
PQL:	59	57	58
Surrogate Recovery:			
o-Terphenyl	82%	68%	64%
Flags:	N	N	

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-Dx

Date Extracted:	4-13-99
Date Analyzed:	4-13&14-99
Matrix:	Soil
Units:	mg/Kg (ppm)
Client ID:	B-4-1
Lab ID:	04-079-12
Diesel Fuel:	ND
PQL:	29
Heavy Oil:	ND
PQL:	57
Surrogate Recovery:	
o-Terphenyl	59%
Flags:	N

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	4-13-99
Date Analyzed:	4-13-99
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0413S1
Diesel Fuel:	ND
PQL:	25
Heavy Oil:	ND
PQL:	50
Surrogate Recovery:	
o-Terphenyl	83%
Flags:	

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	4-13-99
Date Analyzed:	4-13-99
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	04-065-02	04-065-02 DUP
Diesel Fuel:	116	115
PQL:	25	25
RPD:	1.0	
Surrogate Recovery:		
o-Terphenyl	95%	112%

Flags:

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	4-13-99	
Date Analyzed:	4-13-99	
Matrix:	Soil	
Units:	mg/Kg (ppm)	
Lab ID:	04-079-11	04-079-11 DUP
Diesel Fuel:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	64%	67%

Date of Report: April 15, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

Date Analyzed: 4-13-99

% MOISTURE

Client ID	Lab ID	% Moisture
B-1-3	04-079-03	15
B-2-3	04-079-08	13
B-3-2	04-079-11	14
B-4-1	04-079-12	13

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeniety. The sample was re-extracted and re-analyzed with similar results.

M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample.

O - Hydrocarbons in the heavy oil range (>C24) are present in the sample.

P - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample; NWTPH-Dx recommended.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

X - Sample underwent silica gel cleanup procedures.

Y - Sample underwent acid cleanup procedures.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody

Page 1 of 2

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Environmental Associates, Inc.
Project No.: JN 9085-1
Project Name: 4th & Bell
Project Manager: Jim Ruef

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ Verbals by Fri. ? (other)

Project Chemist: AB
Laboratory No. 04-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	B-1-1	4-12-99	0818	~~WS~~ S	1														
2	B-1-2		0822	~~WS~~ S	1														
3	B-1-3		0828	~~WS~~ S	1		X	X											X
4	B-1-4		0840	S	1														
5	B-1-5		0845	S	1														
6	B-2-1		0910	S	1														
7	B-2-2		0919	S	1														
8	B-2-3		0932	S	1		X	X											X
9	B-2-4		0947	S	1														
10	B-3-1		1005	S	1														
11	B-3-2		1031	S	1			X											X
12	B-4-1	4-12-99	1051	S	1		X	X											X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
James Ruef	4-13-99	Rachel Anderson	4.13.99
FIRM EAI	TIME 1000	FIRM On Site	TIME 10:00 Am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Environmental Associates, Inc.
Project No.: JN 9085-1
Project Name: 4th & Bell
Project Manager: Jim Ruef

Turn Around Requested: (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☑ Verbals by Fri. ? (other)

Project Chemist: DB
Laboratory No. 04-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
13	B-4-2	4.12.99	1100	S	1														
14	B-4-3	4.12.99	1115	S	1														

RELINQUISHED BY	DATE	RECEIVED BY	DATE
James Ruef	4-12-99	Richard Anderson	4.13.99
FIRM EAI	TIME 1000	FIRM OnSite	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME

REVIEWED BY | DATE REVIEWED

COMMENTS:

DISTRIBUTION LEGEND: White - OnSite Copy; Yellow - Report Copy; Pink - Client Copy

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

April 20, 1999

Jim Ruef
Environmental Associates, Inc.
2122 112th Avenue NE, Suite B-100
Bellevue, WA 98004

Re: Analytical Data for Project JN 9085-1
Laboratory Reference No. 9904-079

Dear Jim:

Enclosed are the analytical results and associated quality control data for samples submitted on April 13, 1999.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Chemist

Enclosures

Date of Report: April 20, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX

Date Extracted: 4-16-99
Date Analyzed: 4-16-99

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-1-5**			**B-4-2**		
Lab ID:	04-079-05			04-079-13		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**0.28**		0.061	**0.20**		0.062
Toluene	**2.4**		0.061	**0.080**		0.062
Ethyl Benzene	**1.5**		0.061	**ND**		0.062
m,p-Xylene	**5.5**		0.061	**0.11**		0.062
o-Xylene	**2.2**		0.061	**ND**		0.062
TPH-Gas	**46**		6.1	**ND**		6.2
Surrogate Recovery:						
Fluorobenzene	86%			83%		

Date of Report: April 20, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted:	4-16-99
Date Analyzed:	4-16-99
Matrix: Soil	
Units: mg/Kg (ppm)	
Lab ID:	MB0416S1

	Result	Flags	PQL
Benzene	ND		0.050
Toluene	ND		0.050
Ethyl Benzene	ND		0.050
m,p-Xylene	ND		0.050
o-Xylene	ND		0.050
TPH-Gas	ND		5.0
Surrogate Recovery:			
Fluorobenzene	95%		

Date of Report: April 20, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 4-16-99
Date Analyzed: 4-16-99

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	04-104-03 Original	04-104-03 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	77%	82%		

Date of Report: April 20, 1999
Samples Submitted: April 13, 1999
Lab Traveler: 04-079
Project: JN 9085-1

NWTPH-G/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 4-16-99
Date Analyzed: 4-16-99

Matrix: Soil
Units: mg/Kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	04-104-03 **MS**	Percent Recovery	04-104-03 **MSD**	Percent Recovery	RPD
Benzene	**0.892**	**89**	**0.890**	**89**	0.28
Toluene	**0.905**	**90**	**0.899**	**90**	0.61
Ethyl Benzene	**0.906**	**91**	**0.899**	**90**	0.83
m,p-Xylene	**0.903**	**90**	**0.895**	**89**	0.95
o-Xylene	**0.903**	**90**	**0.899**	**90**	0.44
Surrogate Recovery:					
Fluorobenzene	84%		84%		

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

D - Data from 1:____ dilution.

E - The value reported exceeds the quantitation range, and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

G - Insufficient sample quantity for duplicate analysis.

J - The value reported was below the practical quantitation limit. The value is an estimate.

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M - Predominantly _____ range hydrocarbons present in the sample.

N - Hydrocarbons in the gasoline range (C7-toluene) are present in the sample.

O - Hydrocarbons in the heavy oil range (>C24) are present in the sample.

P - Hydrocarbons in the diesel range (C12-C24) are present in the sample which are elevating the oil result.

Q - The RPD of the results between the two columns is greater than 25.

R - Hydrocarbons outside the defined gasoline range are present in the sample; NWTPH-Dx recommended.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

X - Sample underwent silica gel cleanup procedures.

Y - Sample underwent acid cleanup procedures.

Z - Interferences were present which prevented the quantitation of the analyte below the detection limit reported.

ND - Not Detected
MRL - Method Reporting Limit
PQL - Practical Quantitation

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Environmental Associates, Inc.
Project No.: JN 9085-1
Project Name: 4th & Bell
Project Manager: Jim Ruef

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ ~~Fri.~~ Verbals by ? (other)

Project Chemist: AB
Laboratory No. 04-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
1	B-1-1	4-12-99	0818	~~W~~ S	1														
2	B-1-2		0822	~~W~~ S	1														
3	B-1-3		0828	~~W~~ S	1		X	X											X
4	B-1-4		0840	S	1														
5	B-1-5		0845	S	1		⊗												
6	B-2-1		0910	S	1														
7	B-2-2		0919	S	1														
8	B-2-3		0932	S	1		X	X											X
9	B-2-4		0947	S	1														
10	B-3-1		1005	S	1														
11	B-3-2		1031	S	1			X											X
12	B-4-1	4-12-99	1051	S	1		X	X											X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
James Ruef	4-13-99	Rachel Anderson	4.13.99
FIRM EAI	TIME 1000	FIRM OnSite	TIME 10:00 Am
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ = added 4.16.99

Chain of Custody

OnSite Environmental Inc.
14924 NE 31st Circle • Redmond, WA 98052
Fax: (425) 885-4603 • Phone: (425) 883-3881

Company: Environmental Associates, Inc.
Project No.: JN 9085-1
Project Name: 4th & Bell
Project Manager: Jim Ruef

Turn Around Requested (Check One)
- ☐ Same Day
- ☐ 24 Hours
- ☐ 48 Hours
- ☐ Standard
- ☒ Verbals by Fri. 2 (other)

Project Chemist: DB
Laboratory No. 04-079

Requested Analysis

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C	PCB's by 8082	Pesticides by 8081	Total RCRA Metals (8)	TCLP Metals	VPH	EPH	% Moisture
13	B-4-2	4.12.99	1100	S	1		⊗												
14	B-4-3	4.12.99	1115	S	1														

RELINQUISHED BY	DATE	RECEIVED BY	DATE
James Ruef	4-12-99	Rachel Anderson	4.13.99
FIRM EAI	TIME 1000	FIRM OnSite	TIME
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ added 4.16.99