REMEDIAL ENVIRONMENTAL ASSESSMENT

FORMER BLACKSTOCK LUMBER PROPERTY

601 Elliot Avenue West
Seattle, Washington

Prepared for

Blackstock Properties Limited

W-8424-1

February, 1993

RZA AGRA, Inc.
Engineering & Environmental Services

AGRA
Earth & Environmental Group

RZA AGRA, Inc.
Engineering & Environmental Services

11335 NE 122nd Way
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17 February 1993

W-8424-1

Blackstock Properties Limited
P.O. Box 9405
Seattle, Washington 98109

Attn: **Mr. Jim Blackstock**

Subject: Remedial Environmental Assessment
Former Blackstock Lumber Property
601 Elliot Avenue West
Seattle, Washington

Dear Mr. Blackstock:

RZA AGRA, Inc. (RZA AGRA) is pleased to present this report documenting a remedial environmental assessment conducted at the above referenced site. The report includes a description of all field activities performed for this study, the results of analytical testing of soil and water samples, and our conclusions and recommendations. In general, we feel that the results of this assessment were favorable. While there is some petroleum contaminated soil remaining in the subsurface environment at the site, initial groundwater analysis indicates that this contamination has not impacted the near surface local groundwater. Since it is not practicable to remove the remaining contamination, due to groundwater conditions and the proximity of the contamination to an active Burlington Northern railroad loading spur, we believe it is important to demonstrate that there has been no adverse impact to the groundwater at the site. Monitoring the groundwater wells quarterly for a period of one year will document that the groundwater has not been impacted by petroleum hydrocarbons via contact with contaminated soils. Barring any unforeseen problems, we will recommend at the end of the monitoring program that the remaining contaminated soil be left in place. Again, this recommendation will be based on the impracticality and excessive cost of removing the contaminated soil, as well as the apparent immobility of the contaminant.

We appreciate the opportunity to be of service to Blackstock Properties, Ltd. If you have any questions or concerns regarding this report, or any other aspect of this project, please do not hesitate to call at your earliest convenience.

Respectfully Submitted,
RZA AGRA, Inc.

Carol A. Hutley, P.E.
Project Environmental Engineer

for Daryl S. Petrarca
Site Assessment Manager

CAH/ch/DSP

Independent Action Report Review

Site Name: Blackstock Lumber 2/17/93

Inc. #: 1456 Date of Report: 2-93

County: King Date Report Rec'd: 3-12-93

Reviewed by: W. Moon

Comments (e.g.free prod.,tank info.,contaminant migration,PCS treated?):

Bunker C cont at 5100 ppm TPH.

GW samples indicate no cont.

REMEDIAL ENVIRONMENTAL ASSESSMENT

Former Blackstock Lumber Property

601 Elliot Avenue West

Seattle, Washington

Prepared for:

Blackstock Properties Limited

P.O Box 9405

Seattle, Washington 98119

Prepared by:

RZA AGRA, Inc.

11335 NE 122nd Way, Suite 100

Kirkland, Washington 98034

W-8424-1

February 1993

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BLACKSTOCK PROPERTIES, LTD.
610 ELLIOT AVENUE WEST
SEATTLE, WASHINGTON 98109

1.0 SUMMARY

The following report presents the results of a remedial assessment conducted at the former Blackstock Lumber Property, located at 601 Elliot Avenue West, in Seattle, Washington. The purpose of this assessment was to evaluate the extent of petroleum-impacted soils encountered during previous environmental studies conducted by Earth Consultants, Inc. (ECI). In addition, since removal of the contaminated soil would be both costly and impractical due to a shallow water table and the proximity of the contamination to an active rail line, it was also necessary to assess the impact of petroleum-affected soils on local groundwater. Data collected indicates that the area of contamination is limited and that there has been no apparent impact on groundwater in the area. This is particularly important in the context that the site is located in an industrial area and the contamination is apparently limited to an area where a structure will not likely be built. These two factors will help limit public exposure to the contaminants. A brief summary of our findings are presented below:

- Geology: In general, site soils consist of loose, wet, brown, Gravel with some sand, underlain by loose, saturated, gray, fine to medium Sand with some silt and shell fragments. As depth increases the soils become more silty and contain a trace of organic material. The Gravel layer extended to depths of 3 to 4 feet below ground surface. The Sand and silty Sand materials extended to the limits of boring at approximately 16.5 feet below grade.

- Hydrogeology: The groundwater table at this site typically fluctuates between approximately 3 and 4 feet below ground surface. Although the site is in proximity to Elliot Bay on Puget Sound, no tidal influence was detected in the groundwater monitoring wells on site. Groundwater recharge is highly variable over the site. One monitoring well installed (MW-1) was pumped dry during purging, while a second well (MW-3) showed little or no drawdown when subjected to pumping at a rate of 10 gallons per minute (gpm).

- Previous environmental assessment at this site revealed the presence of Bunker "C" contamination in soils near a historical building on the west central portion of the site. Contaminated soil above the groundwater table was excavated and disposed of at the Roosevelt Regional Landfill. Soil below the groundwater table could not be excavated due to its proximity to an active Burlington Northern loading spur. Bioremediation was not a viable option for reducing contaminant levels since long-chain hydrocarbons are resistant to biological degradation, particularly in a potentially anaerobic

- The purpose of the current study was to evaluate the extent of the hydrocarbon contamination and to assess the impact of the contaminant on local groundwater. For this purpose eight soil borings were advanced to depths of 10 to 15 feet below grade. Three of the borings were completed as groundwater monitoring wells.

- Analytical Results - Soil: Fifteen soil samples collected during drilling were submitted to a subcontract laboratory for analysis of total petroleum hydrocarbons utilizing the WTPH 418.1 method. Four of the samples contained petroleum hydrocarbons at levels above the Washington Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Cleanup Regulation Method A cleanup criteria for long-chain hydrocarbons (200 parts per million). The soil which is impacted at levels above MTCA limits is present in a triangularly-shaped area roughly 40 square feet in size. The thickness of the impacted soil layer is approximately 7 feet. Based on this information we estimate that approximately 10 cubic yards of significantly impacted soil remains in the subsurface environment.

- Analytical Results - Water: Three water samples collected from the newly installed groundwater monitoring wells on site were submitted to a subcontract laboratory for analysis of total petroleum hydrocarbons utilizing the WTPH 418.1 Method. No petroleum hydrocarbons were detected in the samples.

- It appears that the volume of petroleum impacted soil remaining on site is likely minimal; approximately 10 cubic yards. In addition, the local groundwater does not exhibit evidence of petroleum contamination. The groundwater will be monitored quarterly over the next year to document that no adverse impact is occurring; however, since this contamination has likely been in the subsurface environment for more than 10 years already, we do not anticipate future groundwater impacts.

This summary is provided for reference. It should be used only in conjunction with the full text of the report which follows. The report contains documentation and data which support the conclusions presented in the summary.

2.0 PROJECT DESCRIPTION

This report presents the results of a subsurface exploration program conducted at the former Blackstock Lumber Property, at 601 Elliot Avenue West, in Seattle, Washington (see Figure 1 - Site Location). The location of exploratory borings, groundwater monitoring wells, and other pertinent site features is shown on the Site and Exploration Plan, Figure 2 .

The purpose of this study was to 1) Evaluate the horizontal and vertical extent of Bunker "C" impacted soil discovered during previous site assessment work and 2) Document whether or not petroleum-affected soils have adversely impacted local groundwater. The scope of services for the study included advancing eight shallow soil borings (10-15 feet); installing three groundwater monitoring wells; collecting soil and groundwater samples; analyzing samples for petroleum hydrocarbons or other pertinent analytes; and, preparation of this report documenting our activities, conclusions, and recommendations.

This report has been prepared for the exclusive use of Blackstock Properties, Ltd. and its agents, for specific application to this site. Field activities and report preparation have been conducted in accordance with generally accepted environmental practices. No other warranty, express or implied, is made. In the event that there are any physical changes on the site or in the surrounding area, the conclusions and recommendations contained in this report should be reviewed and amended, as necessary, by RZA AGRA, Inc.

3.0 BACKGROUND

In July of 1991, Northwest EnviroService, Inc. excavated and removed five underground storage tanks (USTs) at this site. Soil sampling and site assessment services were provided by Earth Consultants, Inc. (ECI). The tanks ranged in capacity from 300 gallons to 10,000 gallons and contained various petroleum products including gasoline, diesel, and heating oil. Petroleum contamination was discovered in soils near a UST which was utilized to store a petroleum product later identified as Bunker "C" heating oil. A portion of the contaminated soil (above the water table) was excavated and placed in a stockpile with other soil from the excavation. Contamination present beneath a historical building foundation discovered during excavation was left in place for removal at a later date. ECI collected a large number of soil samples from the stockpile in order to characterize the nature and extent of petroleum contamination present. Analytical results from this phase of the project work revealed that petroleum hydrocarbon concentrations in the site soils ranged from 150 parts per million (ppm) to 8600 ppm. The majority of the contamination was characterized as diesel range petroleum compounds.

During October of 1991, two groundwater monitoring wells were installed at the site under the direction of ECI, in order to assess the condition of groundwater near the historical location of three underground storage tanks, referenced as tanks number 3, 4, & 5 in the ECI reports. It is our understanding, based upon verbal information provided by ECI, that no petroleum contamination was detected in the groundwater at the site.

RZA AGRA began work at this site in July of 1992. Our objectives were to more fully characterize the stockpiled soil at the site and to provide our client with an efficient, cost-effective method of remediating or disposing of the soil. The stockpiled soils consisted primarily of sandy Gravels and gravelly Sands containing scattered cobbles and debris. Areas of discoloration were noted in some of the test pits and soils in certain locations exuded strong petroleum-like odors. Results of analytical testing performed on the soil samples collected from the stockpile indicted that one-third to one-half of the soil was likely impacted with petroleum at levels above the cleanup action levels established by Ecology. The petroleum-impacted soil at the former Blackstock Lumber Property was hauled to the Regional Disposal Company Transfer Station on 3rd Avenue in Seattle for transport to Roosevelt Regional Landfill in Eastern Washington.

4.0 SUBSURFACE EXPLORATION

The subsurface exploration program consisted of backfilling the open excavation on site and then advancing eight soil borings near the area where petroleum hydrocarbons were discovered during previous studies. The borings ranged in depth from 11.5 feet to 16.5 feet. Three of the borings were completed as 2-inch diameter groundwater monitoring wells which were utilized to gather data on the physical and chemical parameters of the local groundwater. They will also be used over the next year to monitor changing conditions in the near surface groundwater aquifer below the site. At the time of drilling, groundwater was encountered at depths ranging from 3 to 3.5 feet below grade. It should be noted that petroleum-like odors were detected in several of the soil samples collected during drilling, and that a sweet, chemical-like odor was detected while drilling MW-1. Analytical testing was modified in accordance with these observations. The locations of borings and monitoring wells are shown on the Site and Exploration Plan, Figures 2.

During drilling, soil samples were collected at five-foot intervals utilizing the Standard Penetration Test Method (ASTM:D 1586) to obtain disturbed but representative samples. All augers, samplers, and drilling tools were decontaminated by steam cleaning prior to each use. Soil samples collected were observed for visible signs of contamination and classified as to soil type. Representative portions of each sample were placed in laboratory cleaned glass jars sealed with Teflon-lined screw caps. The samples were placed in

a cooler for preservation and transported to Friedman Bruya, Inc., in Seattle, Washington for analysis. A detailed description of exploration procedures, boring logs, and as-built diagrams for the monitoring wells are presented in Appendix A.

4.1 Subsurface Soil Conditions

Our explorations generally encountered 3 to 4 feet of loose, wet, brown Gravel with some sand, which was underlain by loose, saturated, gray, silty, fine to medium Sand with some silt and shell fragments. With depth, the Sand became more silty and contained traces of organic material. The Sand layer extended to the limit of explorations at approximately 16.5 feet.

4.2 Groundwater Conditions

Groundwater conditions were evaluated using data gathered during drilling, development, and sampling of the monitoring wells installed for this exploration program. Top of casing elevations for the wells were surveyed with respect to an arbitrary datum (storm drain) on site, utilizing differential survey techniques. The elevation of the datum was set at 100 feet and top of casing elevations for the wells were measured relative to the established datum. Measurement of the stabilized water elevations indicate that groundwater was present at depths ranging from 2.5 to 3.0 feet below grade during sampling. Groundwater elevations obtained during the assessment are presented in Table 1, along with other pertinent well parameters.

The groundwater gradient at this site is relatively flat, based upon our measurement of the water surface elevations in the monitoring wells on site. Water surface measurements in MW-1 and MW-3, which are approximately 55 feet apart, vary by only .02 feet. The water surface in ECI MW-2 located approximately 100 feet south of the new monitoring wells was roughly .16 feet below the levels in the new wells. While this suggests that the groundwater flow direction is to the southwest, the observed heterogeneous nature of the fill material, well productivity, and well recovery rates at this site may prevent accurate assessment of the groundwater gradient and flow direction. ECI MW-2 was installed by Earth Consultants, Inc. during a previous assessment.

The groundwater gradient and flow direction have been estimated for the near surface aquifer based upon data gathered during the exploration program. Since only three wells were installed, and those wells have been monitored only once, it should be recognized that estimates of the gradient and flow direction are generalized assumptions based upon simplified assumptions and limited data. Groundwater conditions may vary greatly depending on seasonal precipitation, changes in site utilization, or other factors.

5.0 QUANTITATIVE ANALYSIS

Analytical testing services for this project were provided by Friedman Bruya, Inc. of Seattle, Washington. All soil and water samples submitted for testing were collected in laboratory cleaned contains, preserved according to Ecology guidelines, and transported to the laboratory under strict RZA AGRA chain-of-custody protocol. Selected soil and water samples were analyzed using the following test methods:

1. WTPH 418.1 for total petroleum hydrocarbons
2. EPA 8270 - Polynuclear Aromatic Hydrocarbons (PNAs)
3. EPA 8040 - Phenols
4. ICP Analysis for total arsenic and copper

Soil samples were selected for analysis based upon visual signs of apparent contamination, as well as location and depth. Water samples from each of the three new monitoring wells installed were analyzed. A groundwater quality control trip blank was provided by the analytical laboratory. The results of analytical testing of soils are presented in Table 2. The results of analytical testing of groundwater are presented in Table 3. Laboratory reports and chain-of-custody records are included in Appendix B.

5.1 Analytical Results - Soil

Selected soil samples collected during the field work for this project were submitted to Friedman Bruya, Inc. for analysis of specific analytes. Samples which exhibited overt signs of contamination such as petroleum odor or discoloration were preferentially selected; however, at least one sample from each soil boring was analyzed. Samples from Borings B-1, B-2, and MW-2 exhibited the strongest petroleum odors and were, in some cases, discolored. Based on visual and olfactory observations all three samples collected from B-1 and MW-2 were submitted for analysis. The top and bottom samples from B-2 were submitted. The samples collected at a depth of approximately 5 feet from these three borings contained petroleum in concentrations of 1,200, 1,900, and 5,100 parts per million (ppm), respectively. The sample collected from a depth of approximately 10 feet in MW-2 contained petroleum at a concentration of 2,300 ppm. The remaining samples from these three borings did not contain petroleum at concentrations above 20 ppm. Soil samples collected from Borings B-3, B-4, B-5, MW-1, and MW-3 did not display any overt signs of contamination. Therefore, with the exception of MW-1, only the samples collected from a depth of approximately 5 feet were submitted for analysis. Since MW-1 is in proximity to MW-2 and the suspected region of contamination, all three samples from this boring were submitted for analysis. None of the samples from these five borings contained petroleum hydrocarbon concentrations above 60 ppm; most

contained concentrations of 10 ppm or less. These concentrations are all below the MTCA Method A cleanup level of 200 ppm for petroleum hydrocarbons other than gasoline.

The soil sample collected at a depth of 13.5 - 15.0 feet in MW-1 was analyzed for phenolic compounds, PNAs, arsenic, and copper. These analyses were conducted based upon the fact that the RZA AGRA field representative noted a sweet, non-petroleum, chemical odor emanating from this boring during drilling. No phenols or PNAs were detected in the sample. Arsenic and copper levels were well within the range for normal background soil levels of these metals. It was later noted, during collection of groundwater samples, that one of the wells had a slight septic odor. This may account for the odor noted during drilling. Organic odors can be difficult to identify and the olfactory sense is highly variable between individuals.

5.2 Analytical Results - Groundwater

Groundwater samples from all three new monitoring wells on site were submitted for analysis of petroleum hydrocarbons. None of the samples contained detectable levels of petroleum compounds. Since the soil analyses did not reveal any phenolic compounds or PNAs in the sample of interest, no additional analyses were performed on the water samples.

6.0 CONCLUSIONS

Soil sample analysis revealed that petroleum hydrocarbon (Bunker "C") contamination was present in an area approximately 40 square feet in size. The thickness of this contaminant layer is estimated at approximately 7 feet. Based on this information we estimate that the volume of petroleum-impacted soil remaining at this site to be roughly 10 cubic yards.

The area of contamination is in proximity to an active Burlington Northern loading spur and could likely not be removed without removing a section of track. Likewise, *in situ* bioremediation is not feasible either technically or economically. Bunker "C" is generally a very persistent contaminant which does not respond readily to microbial degradation. Since the contamination is located below the water table, it would be very difficult to control aeration of the treatment environment and ensure the aerobic conditions necessary for efficient microbial degradation. In addition, it would likely be necessary to heat the subsurface environment. Again, this is a difficult and complex operation requiring an expensive energy source such as an industrial boiler. Hydraulic control is the final critical element in any *in situ* remediation project. Effectively controlling the high productivity and sporadic behavior of the near surface aquifer at this site would present quite a challenge.

efficient microbial degradation. In addition, it would likely be necessary to heat the subsurface environment. Again, this is a difficult and complex operation requiring an expensive energy source such as an industrial boiler. Hydraulic control is the final critical element in any *in situ* remediation project. Effectively controlling the high productivity and sporadic behavior of the near surface aquifer at this site would present quite a challenge.

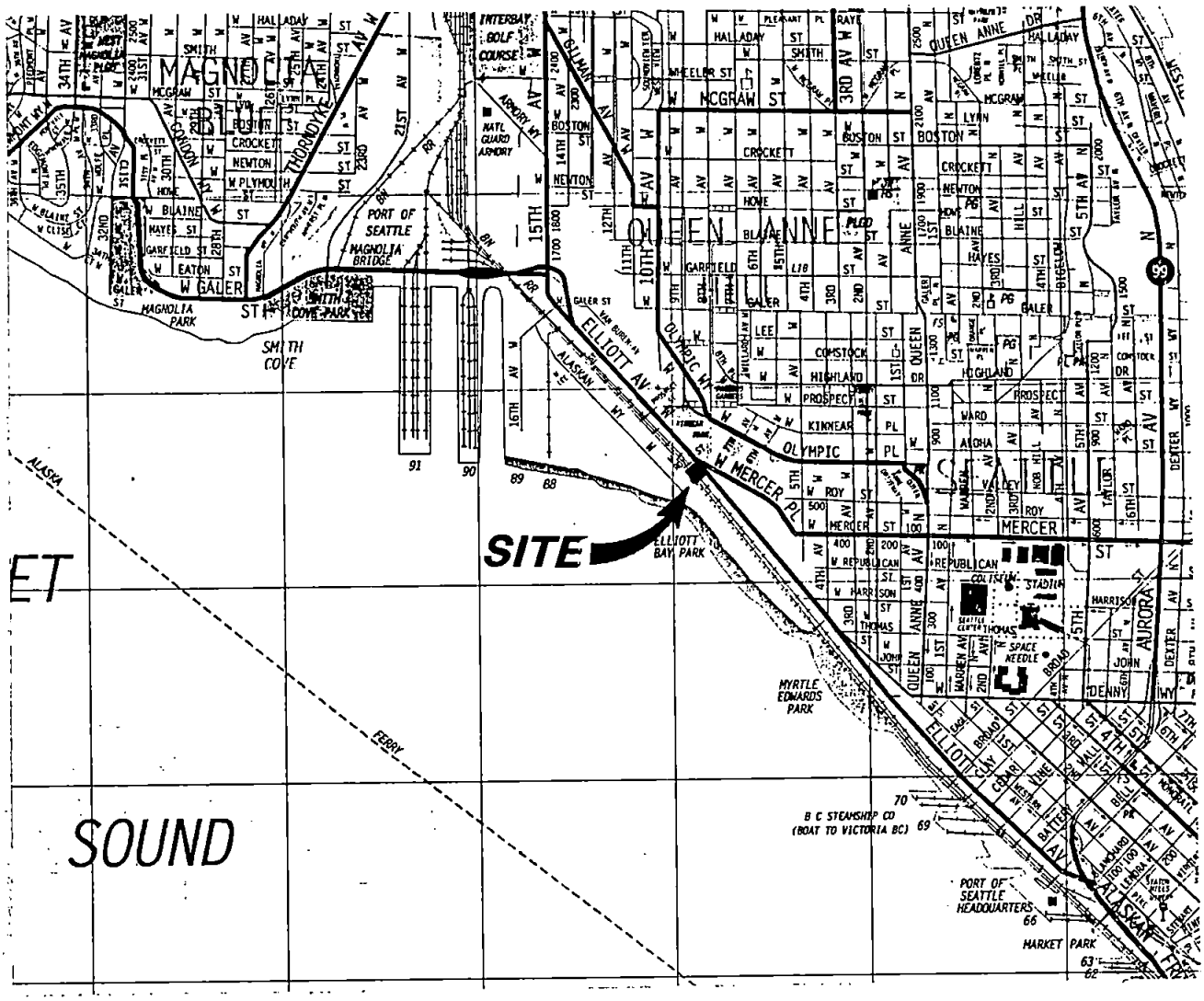
The initial results of groundwater sampling and analysis are very encouraging and indicate that the local groundwater has not been adversely impacted by petroleum hydrocarbons. The results of soil and groundwater analyses are particularly important in the context that this site is located in an industrial area and contamination is apparently confined to an area where it is not likely that a structure will be built. These factors will help limit exposure of the general public to the contaminant. We recommend that the groundwater conditions continue to be monitored on a quarterly basis during the next year in accordance with general Ecology guidelines. At the end of that time, if no adverse groundwater conditions have been detected, we will recommend that you seek Ecology's concurrence that no further remedial activities are warranted at this site.

We appreciate the opportunity to be of continued service to Blackstock Properties, Ltd. If you have any questions regarding this report, or any other aspect of this project, please do not hesitate to contact us at your earliest convenience.

Sincerely,
RZA AGRA, Inc.

Carol A. Hutley, P.E.
Project Environmental Engineer

Daryl S. Petrarca, REA
Site Assessment Manager



RZA-AGRA
ENGINEERING & ENVIRONMENTAL SERVICES

11335 N.E. 122nd Way
Suite 100
Kirkland, Washington
98034-6918

W.O.	W-8424-1
DESIGN	CAH
DRAWN	MJF
DATE	FEB 1993
SCALE	N.T.S.

BLACKSTOCK PROPERTIES LTD.
SEATTLE, WASHINGTON

LOCATION MAP

FIGURE 1

ELLIOTT AVENUE WEST

PROPERTY LINE

WOOD WALL

ASPHALT YARD
(NORTH YARD)

WEST MERCER STREET
(ASPHALT)

FORMER
UST #2

BUINDING
(REMOVED)

FORMER
UST #4

MW-3

ECI
MW-2

LIMITS OF FORMER
EXCAVATION (BACKFILLED)

FORMER
UST #3

FORMER
UST #5

1900 ppm
at 5' →
Saturation Zone

B-3

B-2 B-1 B-3

B-5

FENCE

1,200 ppm
at 5' → saturation zone

LOADING SPUR

MW-1 MW-2

TPH from 5100
down to 2300
at 5 to 10' depth
Groundwater at @ 3'

BURLINGTON NORTHERN RAILROAD LINES
(NOT SHOWN)

LEGEND

B-5 — BORING NUMBER AND LOCATION

MW-3 — MONITORING WELL NUMBER AND LOCATION

LIMITS OF FORMER EXCAVATION

0 30 60
SCALE IN FEET

RZA AGRA, INC.
Engineering & Environmental Services

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Kirkland, Washington 98034-6918

W.O.	W-8424-1
DESIGN	CAH
DRAWN	MJF
DATE	FEB 1993
SCALE	1"=30'

BLACKSTOCK PROPERTIES, LTD.
SEATTLE, WASHINGTON

SITE AND EXPLORATION PLAN

FIGURE 2

DRAWING NO. \8A\W-8424-1\SITE.DWG

APPENDIX A

SUBSURFACE EXPLORATION PROCEDURES

BORING LOGS

MONITORING WELL AS-BUILT DIAGRAMS

W-8424-1

Subsurface Exploration

Eight soil borings were drilled for the purpose of this study. The borings were advance to depth ranging from 11.5 to 16.5 feet below ground surface, utilizing a truck mounted CME drill rig driving 6 ¼-inch diameter hollow-stem augers. The explorations were logged by an experienced environmental geologist. The geologist classified the subsurface material encountered during drilling, completed detailed logs for the borings, and maintained custody of samples collected from the borings.

Characterization of Soils

Disturbed, representative soil samples were obtained at five-foot intervals during drilling. Samples were collected with a split spoon sampler, in accordance with the Standard Penetration Test procedure described in ASTM D 1586. The testing and sampling procedure consists of driving a standard, 2-inch diameter split-barrel (split spoon) sampler a distance of 18 inches into the soil at the bottom of the boring, using a 140-pound drop hammer free-falling a distance of 30 inches. The number of hammer blows needed to the sampler each 6-inch interval is recorded. The number of hammer blows required to drive the sampler the final 12 inches is also recorded and is considered the standard penetration resistance ("N") or blow count. The total number of blows recorded during each 6-inch interval provides a measure of the relative density of granular soils of the relative consistency of cohesive soils.

Soil Sampling Procedures

Soil samples were collected at 5-foot intervals during the drilling process. Samples were recovered from the borings using procedures designed to minimize the risk of cross-contamination of samples. Prior to each sampling event, the sampling tools were cleaned. In addition, the drilling equipment was cleaned prior to beginning each boring. The sampling tools were cleaned using a stiff brush and detergent solution consisting of Liquinox and water. After washing the tools were rinsed with potable water and distilled water. The drilling equipment was cleaned using a steam cleaner.

Soil samples were classified as to soil type. Representative portions of each sample collected were placed in laboratory-cleaned, glass jars sealed with Teflon-lined screw caps. Samples were stored and transported in a chilled ice chest in order to preserve the samples and prevent the loss of volatile organic components from the samples.

The boring logs presented in this appendix are based upon field observations made during drilling, including the visual appearance of samples recovered from the borings. The various types of soils encountered are indicated on the logs, along with the depths were soil types or characteristics changed. It should be noted that soil changes may occur gradually, and if changes occur between sampling intervals, the exact location of the change was interpreted based on observations. Subsurface water conditions were evaluated by

observing the moisture content of the soil samples, free water on the sampling rods, and depths to water in the finished monitoring wells.

Monitoring Well Construction

The three monitoring wells installed were constructed of 2-inch inside diameter, Schedule 40, PVC casing threaded to appropriate lengths of 0.020-inch slot, PVC well screen. Graded silica sand (10/20) was placed in the annular space surrounding the casing as the drilling augers were removed from the boring. Above the screened portion of the wells, the annulus was backfilled with a bentonite mixture. Above this, a concrete seal approximately 1.5 feet thick was placed to prevent contamination of the well with surface runoff. Each well was completed with a flush-mounted, locking, weather-proof monument. The boring logs and monitoring well as-built drawings are included in this appendix.

Monitoring Well Development

Prior to groundwater sampling the monitoring wells were developed utilizing a small capacity (10 gpm) Honda pump. Water was removed from each well until the well was dry, or until water removed from the well was visibly free of silt and sand. Well development assures proper seating of the annular sand pack, which prevents fine grained materials from entering and clogging the wells. It also removes drilling artifacts from the wells and helps ensure that samples collected at a later time will be representative of true formation water.

Groundwater Sampling

The groundwater sampling procedures for the monitoring wells included purging three to five well casing volumes of water from each well prior to sampling. Purging was performed using a small capacity Honda pump. After purging wells were allowed to recover and were then sampled using disposable PVC bailers. The use of a new or thoroughly cleaned bailer to collect each sample reduces the potential for cross-contamination of samples. The bailer is lowered slowly into the well during sample collection in order to minimize disturbance of any volatile organic compounds which may be present. If these compounds are present, and the well water is agitated, loss of volatile compounds and correspondingly inaccurate analytical finding may result. Once the bailor is removed from the well, water is carefully decanted into appropriately sized and preserved, laboratory-cleaned containers. Since the water at this site was being tested for total petroleum hydrocarbons (W418.1) water samples were placed in 1-liter, amber glass bottles. Samples were placed in a chilled cooler and transported to the subcontract laboratory under RZA AGRA chain-of-custody protocol.

PROJECT: *Fomer Blackstock Lumber* W.O. *W-8424-1* BORING NO. *B-1*

DEPTH (feet)	SOIL DESCRIPTION Approximate ground surface elevation:	SAMPLE TYPE	SAMPLE NUMBER	GROUND WATER	STANDARD PENETRATION RESISTANCE Blows per foot	Page 1 of 1 TESTING
0	*Loose, wet, brown, GRAVEL with some sand (Fill)*			ATD		
5	*Loose, saturated, gray, fine to medium SAND with some silt and some shell fragments, strong petroleum odor (Dredge Sediments)*		S-1			OVM=2 W418.1
10	*Loose, saturated, gray, silty, fine o medium SAND with silt lenses and some gravel, trace organics*		S-2			OVM=1 W418.1
15			S-3			OVM=0 W418.1
	Boring terminated at approximately 16.5 feet					
20						
25						
30						

0 10 20 30 40 50

MOISTURE CONTENT

Plastic limit — Natural — Liquid limit

LEGEND

2-inch OD split-spoon sample

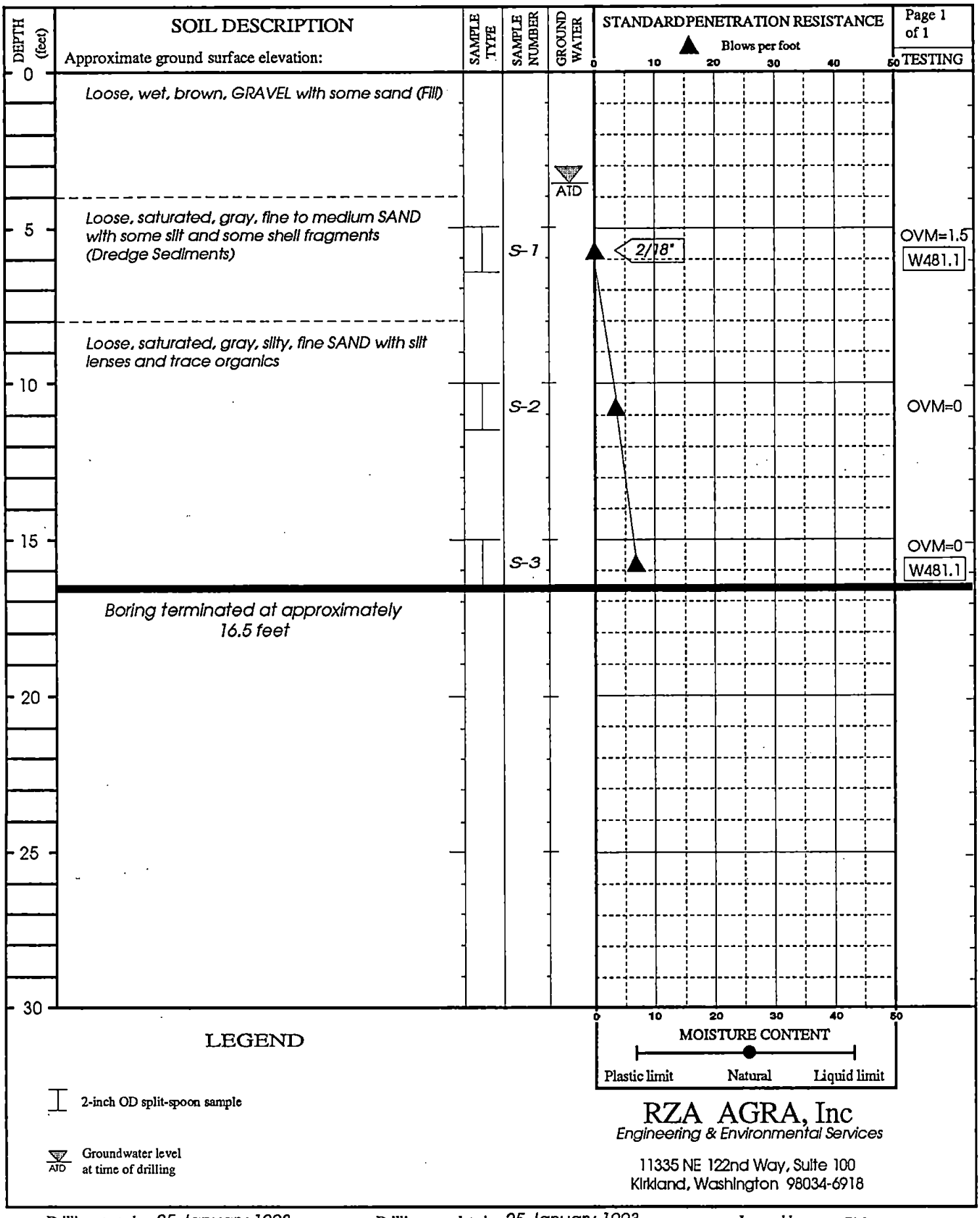
ATD Groundwater level at time of drilling

RZA AGRA, Inc
Engineering & Environmental Services

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

PROJECT: *Fomer Blackstock Lumber* W.O. *W-8424-1* BORING NO. *B-2*



RZA AGRA, Inc
Engineering & Environmental Services

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

PROJECT: *Fomer Blackstock Lumber* W.O. *W-8424-1* BORING NO. *B-3*

DEPTH (feet)	SOIL DESCRIPTION Approximate ground surface elevation:	SAMPLE TYPE	SAMPLE NUMBER	GROUND WATER	STANDARD PENETRATION RESISTANCE Blows per foot 0 10 20 30 40 50	Page 1 of 1 TESTING
0	*Loose, wet, brown, GRAVEL with some sand (Fill)*					
				ATD		
5	*Loose, saturated, gray, fine to medium SAND with some silt and some shell fragments (Dredge Sediments)*	I	S-1			OVM=0 W418.1
	Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics					
10		I	S-2			OVM=0
	Boring terminated at approximately 11.5 feet					
15						
20						
25						
30						

LEGEND

I 2-inch OD split-spoon sample

ATD Groundwater level at time of drilling

0 10 20 30 40 50
MOISTURE CONTENT
Plastic limit — Natural — Liquid limit

RZA AGRA, Inc
Engineering & Environmental Services
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

PROJECT: *Fomer Blackstock Lumber* W.O. *W-8424-1* BORING NO. *B-4*

DEPTH (feet)	SOIL DESCRIPTION Approximate ground surface elevation:	SAMPLE TYPE	SAMPLE NUMBER	GROUND WATER	STANDARD PENETRATION RESISTANCE Blows per foot	Page 1 of 1 TESTING
0	*Loose, wet to saturated, gray, fine to medium SAND with some silt and some shell fragments (Dredge Sediments)*					
				ATD		
5			S-1			OVM=0 W418.1
	Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics					
10			S-2			OVM=0
	Boring terminated at approximately 11.5 feet					
15						
20						
25						
30					0 10 20 30 40 50	

MOISTURE CONTENT

Plastic limit — Natural — Liquid limit

LEGEND

2-inch OD split-spoon sample

ATD Groundwater level at time of drilling

RZA AGRA, Inc
Engineering & Environmental Services

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

PROJECT: *Fomer Blackstock Lumber* W.O. *W-8424-1* BORING NO. *B-5*

DEPTH (feet)	SOIL DESCRIPTION Approximate ground surface elevation:	SAMPLE TYPE	SAMPLE NUMBER	GROUND WATER	STANDARD PENETRATION RESISTANCE Blows per foot	Page 1 of 1 TESTING
0	*Loose, wet to saturated, gray, fine to medium SAND with some silt and some shell fragments (Dredge Sediments)*			ATD		
5			S-1			OVM=0 W418.1
10	*Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics*		S-2			OVM=0
	Boring terminated at approximately 11.5 feet					
15						
20						
25						
30						

0 10 20 30 40 50

MOISTURE CONTENT

Plastic limit — Natural — Liquid limit

LEGEND

2-inch OD split-spoon sample

ATD Groundwater level at time of drilling

RZA AGRA, Inc
Engineering & Environmental Services

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

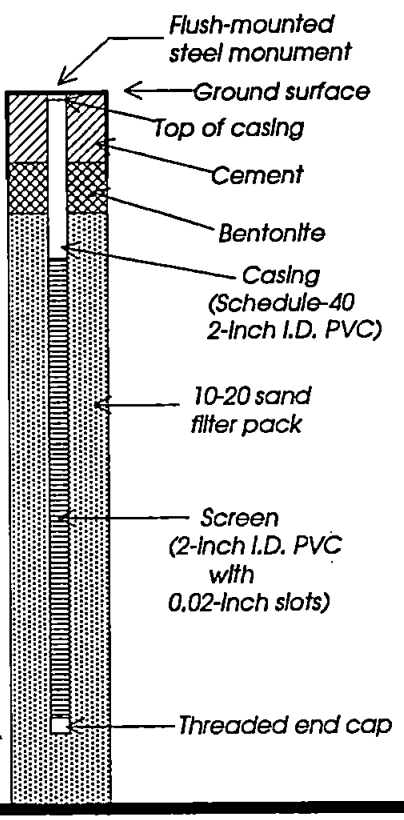
PROJECT: *Former Blackstock Lumber* W.O. *W-8424-1* WELL NO. *MW-1*

Elevation reference: Well completed:
Ground surface elevation: Casing elevation:

AS-BUILT DESIGN

Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	*Loose, wet, brown, GRAVEL with some sand (Fill)*					ATD	
5	*Loose, saturated, gray, fine to medium SAND with some silt and some shell fragments Dredge Sediments)*		S-1	3/ 18"	0		W418.1
10	*Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics*		S-2	10	0		W418.1 8040 8270 6010Ar 6010Cu
15			S-3	3	0		
	Bottom of boring at 15 feet.						
20							
25							
30							



LEGEND

2-Inch O.D. split-spoon sample

ATD Observed groundwater level ATD = at time of drilling

RZA AGRA, Inc.
Geotechnical & Environmental Group

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

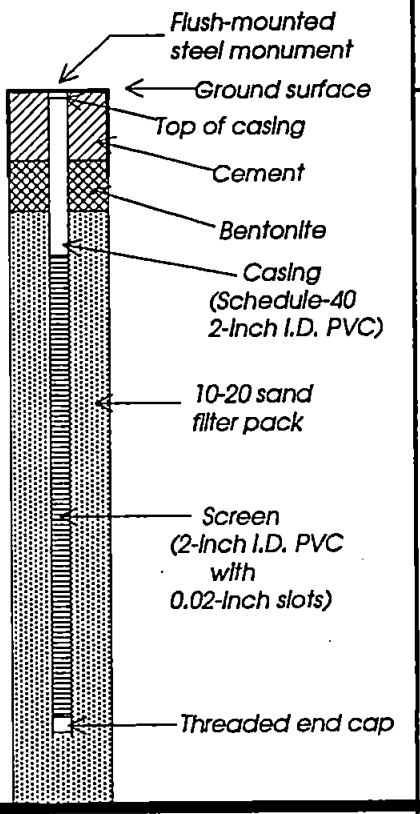
PROJECT: *Former Blackstock Lumber* W.O. *W-8424-1* WELL NO. *MW-2*

Elevation reference: Well completed:
Ground surface elevation: Casing elevation:

AS-BUILT DESIGN

Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	*Loose, wet to saturated, brown, GRAVEL with some sand (Fill)*					ATD	
5	*Loose, saturated, gray, fine to medium SAND with some silt and some shell fragments (Dredge Sediments)*		S-1	4	7.5		W418.1
10	*Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics*		S-2	5	0		W418.1
15			S-3	7	0		W418.1
	Bottom of boring at 15 feet.						
20							
25							
30							



LEGEND

2-inch O.D. split-spoon sample

ATD Observed groundwater level ATD = at time of drilling

RZA AGRA, Inc.
Geotechnical & Environmental Group

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

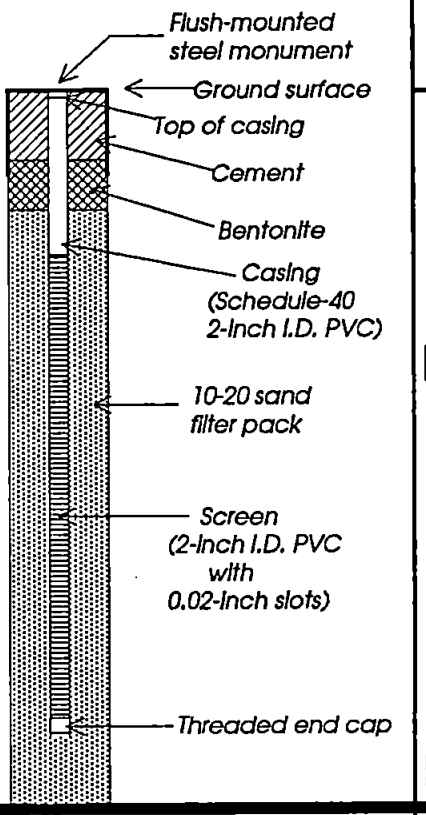
PROJECT: *Former Blackstock Lumber* W.O. *W-8424-1* WELL NO. *MW-3*

Elevation reference: Well completed:
Ground surface elevation: Casing elevation:

AS-BUILT DESIGN

Page 1 of 1

DEPTH (feet)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	BLOW COUNTS	OVM READING	GROUND WATER	TESTING
0	*Loose, wet to saturated, fine to medium SAND with some silt and silt lenses Dredge Sediments)*					ATD	
5			S-1	4	0		W418.1
10			S-2	2/ 18"	0		
15	*Loose, saturated, gray, silty, fine SAND with silt lenses and trace organics*		S-3	5	0		W418.1
	Bottom of boring at 15 feet.						
20							
25							
30							



LEGEND

2-Inch O.D. split-spoon sample

ATD Observed groundwater level ATD = at time of drilling

RZA AGRA, Inc.
Geotechnical & Environmental Group

11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918

Drilling started: *25 January 1993* Drilling completed: *25 January 1993* Logged by: *ELS*

APPENDIX B
LABORATORY REPORTS
CHAIN-OF-CUSTODY RECORDS
W-8424-1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

February 2, 1993

Carol Hutley, Project Leader
RZA - AGRA
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034

Dear Ms Hutley:

Enclosed are the results from the testing of material submitted on January 26, 1993 from Project 8424-1, Blackstock.

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

Sincerely,

Stephen Zappone
Chemist

SDZ/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLE FOR PENTACHLOROPHENOL

Results Reported as µg/g (ppm)

Sample ID	Pentachlorophenol
MW-1 S-3	<0.5
Quality Assurance	
Blank	<0.5
MW-1 S-3 (Duplicate)	<0.5
MW-1 S-3 (Matrix Spike) % Recovery	60%
MW-1 S-3 (Matrix Spike Duplicate) % Recovery	110%
Spike Blank % Recovery	91%
Spike Level	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLE FOR ARSENIC AND COPPER

Results Reported as μg/g (ppm)

Sample ID	Arsenic	Copper
MW-1 S-3	2.4	18
Quality Assurance		
Blank	<0.1	<0.1
MW-1 S-3 (Duplicate)	1.3	12
MW-1 S-3 (Matrix Spike) % Recovery	83%	85%
MW-1 S-3 (Matrix Spike Duplicate) % Recovery	83%	88%
Spike Blank % Recovery	86%	99%
Spike Level	50	25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

February 2, 1993

Carol Hutley, Project Leader
RZA - AGRA
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034

Dear Ms. Hutley:

Enclosed are the results from the testing of material submitted on January 29, 1993 from Project W8424, Blackstock.

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

Sincerely,

Stephen D. Zappone
Chemist

SDZ/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 29, 1993
Project: W8424, Blackstock

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS BY IR (METHOD 418.1) (MODIFIED TO REPORT RESULTS AS DIESEL)
Results Reported as mg/L (ppm)

Sample #	Total Petroleum Hydrocarbons
MW-1	<0.2
MW-2	<0.2
MW-3	<0.2
Trip Blank	<0.2
Quality Assurance	
Tap Water Blank	<0.2
MW-3 (Duplicate)	<0.2
Tap Water (Matrix Spike) % Recovery	92%
Tap Water (Matrix Spike Duplicate) % Recovery	95%
Spike Blank % Recovery	94%
Spike Level	5

[redacted]

AN & BRUYA, INC.
16th Avenue West
e, WA 98119

SAMPLE CHAIN OF CUSTODY

Send Report To:
Company RZA AGRA Contact CAROL HUTLEY
Address 11835 NE 122ND WAY SUITE 100
City, State, Zip KIRKLAND, WA.
Phone # 820 4669 Date 1/29/93

SITE NO.	PROJECT NAME	PURCHASE ORDER #
WB424	BLACKSTOCK	

SAMPLERS (signature)

PROJECT LOCATION

REMARKS

SAMPLE DISPOSAL INFORM.
- o Dispose after 30 days
- o Return Samples
- o Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
MW-1	1/29 1145	W	1	36760	W-418.1 & PAH-SIM HCL
MW-2	1/29 1120	W	1	36761	"
MW-3	1/29 1100	W	4	36762-65	"
TRIP BLANK	1/29	W	1	36766	"

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by:				
Received by: GEOFF SAUNDERS				
Relinquished by:	GEOFF SAUNDERS	RZA AGRA	1/29	1220
Received by:	C R HICKS	FBI	1-29-93	12:20pm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS BY IR (METHOD 418.1) (MODIFIED TO REPORT RESULTS AS DIESEL)

Results Reported as µg/g (ppm)

Sample #	Total Petroleum Hydrocarbons
MW-1 S-1	<10
MW-1 S-3	<10
MW-2 S-1	5,100
MW-2 S-2	2,300
MW-2 S-3	10
MW-3 S-1	20
MW-3 S-3	<10
B-1 S-1	1,200
B-1 S-2	20
B-1 S-3	<10
B-2 S-1	1,900
B-2 S-3	10
B-3 S-1	60
B-4 S-1	10
B-5 S-1	<10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS BY IR (METHOD 418.1) (MODIFIED TO REPORT RESULTS AS DIESEL)

Results Reported as µg/g (ppm)

Quality Assurance

Sample #	Total Petroleum Hydrocarbons
Blank	<10
B-1 S-3 (Duplicate)	<10
B-1 S-3 (Matrix Spike) % Recovery	97%
B-1 S-3 (Matrix Spike Duplicate) % Recovery	93%
B-4 S-1 (Duplicate)	10
B-4 S-1 (Matrix Spike) % Recovery	102%
B-4 S-1 (Matrix Spike Duplicate) % Recovery	91%
Spike Blank % Recovery	100%
Spike Level	250

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLE FOR POLYNUCLEAR AROMATIC HYDROCARBONS (PNA) USING GC/MS (METHOD 8270)

Results Reported as µg/g (ppm)

Sample ID	MW-1 S-3
Analyte:	
Naphthalene	<0.5
Acenaphthylene	<0.5
Acenaphthene	<0.5
Fluorene	<0.5
Phenanthrene	<0.5
Anthracene	<0.5
Fluoranthene	<0.5
Pyrene	<0.5
Benzo[a]anthracene	<0.5
Chrysene	<0.5
Benzo[b]fluoranthene	<0.5
Benzo[k]fluoranthene	<0.5
Benzo[a]pyrene	<0.5
Dibenz[ah]anthracene	<0.5
Idenopyrene	<0.5
Benzo[ghi]perylene	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLE FOR POLYNUCLEAR AROMATIC HYDROCARBONS (PNA) USING GC/MS (METHOD 8270)

Results Reported as µg/g (ppm)
Quality Assurance

Sample #	Blank	MW-1 S-3 (Duplicate)
Analyte:		
Naphthalene	<0.5	<0.5
Acenaphthylene	<0.5	<0.5
Acenaphthene	<0.5	<0.5
Fluorene	<0.5	<0.5
Phenanthrene	<0.5	<0.5
Anthracene	<0.5	<0.5
Fluoranthene	<0.5	<0.5
Pyrene	<0.5	<0.5
Benzo[a]anthracene	<0.5	<0.5
Chrysene	<0.5	<0.5
Benzo[b]fluoranthene	<0.5	<0.5
Benzo[k]fluoranthene	<0.5	<0.5
Benzo[a]pyrene	<0.5	<0.5
Dibenz[ah]anthracene	<0.5	<0.5
Idenopyrene	<0.5	<0.5
Benzo[ghi]perylene	<0.5	<0.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLE FOR POLYNUCLEAR AROMATIC HYDROCARBONS (PNA) USING GC/MS (METHOD 8270)

Results Reported as % Recovery

Quality Assurance

Sample #	MW-1 S-3 Matrix Spike % Recovery	MW-1 S-3 Matrix Spike Duplicate % Recovery	Spike Level
Analyte:			
Naphthalene	80%	82%	25
Acenaphthylene	87%	84%	25
Acenaphthene	87%	44%	25
Fluorene	76%	75%	25
Phenanthrene	72%	64%	25
Anthracene	83%	72%	25
Fluoranthene	77%	74%	25
Pyrene	43%	43%	25
Benzo[a]anthracene	66%	74%	25
Chrysene	79%	76%	25
Benzo[b]fluoranthene	70%	65%	25
Benzo[k]fluoranthene	80%	75%	25
Benzo[a]pyrene	64%	64%	25
Dibenz[ah]anthracene	66%	63%	25
Idenopyrene	69%	63%	25
Benzo[ghi]perylene	57%	53%	25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 2, 1993
Date Received: January 26, 1993
Project: 8424-1, Blackstock

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR POLYNUCLEAR AROMATIC HYDROCARBONS (PNA) USING GC/MS (METHOD 8270)

Results Reported as % Recovery
Quality Assurance

Sample #	Spike Blank	Spike Level
Analyte:		
Naphthalene	82%	25
Acenaphthylene	87%	25
Acenaphthene	87%	25
Fluorene	77%	25
Phenanthrene	63%	25
Anthracene	91%	25
Fluoranthene	74%	25
Pyrene	55%	25
Benzo[a]anthracene	76%	25
Chrysene	85%	25
Benzo[b]fluoranthene	150%	25
Benzo[k]fluoranthene	150%	25
Benzo[a]pyrene	150%	25
Dibenz[ah]anthracene	130%	25
Idenopyrene	150%	25
Benzo[ghi]perylene	140%	25

RZA-AGRA
Environmental & Engineering Services
11335 Northeast 122nd Way
Kirkland, Washington 98034-6918
(206) 820-4669/FAX (206) 821-3914

Chain of Custody Record / Analysis Request

1-26-93 2454

No. 11098

Project Name: Blackduck Lumber Job No.: W8424-1
Project Manager: Carol Hatley Phone #:
Sampler: Eric Smith

Analysis Requested: (circle, check box or write preferred method in box)

RZA-AGRA Sample ID	Lab Samp ID	Date Collected	Time Collected	Matrix (S=soil, W=water, A=air)	# Containers/Preservation: 40 ml VOA /	1 L Glass /	8 oz Glass /	4 oz Glass			CHILL
B-2 S-1	36647	1/25/93	1:45	S				X			X
" S-2	36648		2:00								
" S-3	36649		2:10								
B-3 S-1	36638		2:40								
" S-2	36639		2:50								
B-4 S-1	36640		3:25								
" S-2	36641		3:20								
B-5 S-1	36642		3:40								
" S-2	36643		3:50								
	36644										
	36645										
	36646										

BTEX by EPA 8020 Soil / EPA 602 Water	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D	TPH by EPA 8015 Mod.	WTPH-418.1 Modified	TPH by EPA 418.1	LEAD EPA 6010 7420 7421 Soil / Total / Dissolved EPA 7421 Water / TOTAL METALS Arsenic Copper	TCLP EPA 1311	PCBs EPA 8080 Soil EPA 608 Water	VOCs EPA 8010 8020 Soil EPA 601 602 Water	GC/MS EPA 8240 Volatiles	GC/MS EPA 8270 Semi-volatiles	PCP's	PAH's	Hold for Further Analysis	RUSH (see below)
						X								X	X	X	
						X										X	
						X		[redacted]						[redacted]	[redacted]	X	
						X								X		X	
						X										X	X
																X	
						X										X	
																X	
						X										X	
																X	

RELINQUISHED BY SAMPLER:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Eric L Smith	Signature:	Signature:
Printed Name: Eric L Smith	Printed Name:	Printed Name:
Firm: RZA	Firm:	Firm:
Date/Time: 1/26/93 / 1050	Date/Time:	Date/Time:
RECEIVED BY:	RECEIVED BY:	RECEIVED BY:
Signature: Gene Smith	Signature: CR Hicks	Signature:
Printed Name: Gene Smith	Printed Name: CR HICKS	Printed Name:
Firm: ENA	Firm: FBI	Firm:
Date/Time: 1-26-93 / 11:35	Date/Time: 1-26-93 2:45PM	Date/Time:

LABORATORY: Friedman-Bruya
Total # Containers: 23
Condition of Containers?
Condition of Seals?

Special Handling
Turnaround:
- ☐ 8 hour RUSH
- ☐ 24 hour
- ☐ 5 business day
- ☐ 10 business day
- ☑ other _____ (#) business day

PURPOSE OF SAMPLING / COMMENTS:
Only 418.1 on this page
- Samples may contain animal fat and may require extra Silica gel Cleanup.

Form 100A

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator; GOLDENROD - to lab in advance

RZA-AGRA

Environmental & Engineering Services
11335 Northeast 122nd Way
Kirkland, Washington 98034-6918
(206) 820-4669/FAX (206) 821-3914

No. 11097

Chain of Custody Record / Analysis Request

1-26-93 2:45pm

Project Name: Blackstock Job No.: 8424-1
Project Manager: Carol Hutley Phone #: 820-4669
Sampler: Eric Smith

RZA-AGRA Sample ID	Lab Samp ID	Date Collected	Time Collected	Matrix (S=soil, W=water, A=air)	# Containers/Preservation: 40 ml VOA / 1 L Glass / 8 oz Glass / 4-oz Glass / CHILL	BTEX by EPA 8020 Soil / EPA 602 Water	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D	TPH by EPA 8015 Mod.	WTPH-418.1 Modified	TPH by EPA 418.1	LEAD EPA 6010 7420 7421 Soil / Total / Dissolved EPA 7421 Water	TOTAL METALS - Arsenic Copper	TCLP EPA 1311	PCBs EPA 8080 Soil EPA 608 Water	VOCs EPA 8010 8020 Soil EPA 601 602 Water	GC/MS EPA 8240 Volatiles	GC/MS EPA 8270 Semi-volatiles	PCP	PAHs	Hold for Further Analysis	RUSH (see below)
MW-1 S1	36635	1/25/93	7:50	S	4							X											X	
" S2	36636		8:25									X											X	
" S3	36637		8:45									X			X						X	X	X	
MW-2 S1	36638		9:55									X											X	
" S2	36639		10:10									X											X	
" S3	36640		10:20									X											X	
MW-3 S1	36641		10:05									X											X	
" S2	36642		11:00																				X	
" S3	36643		11:10									X											X	
B-1 S1	36644		12:50									X					PAH 8270						X	
" S2	36645		1:10									X											X	
" S3	36646		1:25									X											X	

RELINQUISHED BY SAMPLER:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: Eric L Smith	Signature:	Signature:
Printed Name: Eric L Smith	Printed Name:	Printed Name:
Firm: RZA	Firm:	Firm:
Date/Time: 1/26/93 / 10:30	Date/Time:	Date/Time:
RECEIVED BY:	RECEIVED BY:	RECEIVED BY:
Signature: Gene Orcutt	Signature: C L Hicks	Signature:
Printed Name: GENE ORCUTT	Printed Name: C L HICKS	Printed Name:
Firm: ENA	Firm: FBI	Firm:
Date/Time: 1-26 / 11:35	Date/Time: 1:26-93 245 PM	Date/Time:

LABORATORY: Friedman Bruya Inc
Total # Containers:
Condition of Containers?
Condition of Seals?

Special Handling
Turnaround:
- ☐ 8 hour RUSH
- ☐ 24 hour
- ☐ 5 business day
- ☐ 10 business day
- ☐ other _____ (#) business day

PURPOSE OF SAMPLING / COMMENTS:
Rush - Please call when results are available

Note: These samples may contain animal fats - may require extra silica gel cleanup

FORM 00A

DISTRIBUTION: WHITE - return to originator; YELLOW - lab; PINK - retained by originator; GOLDENROD - to lab in advance