SECOR
International Incorporated

Phase II Subsurface Investigation
Bruce Titus Nissan Subaru
4030 South Tacoma Way
Tacoma, Washington

SECOR PN: 001.01268

Submitted by
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Prepared For
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1.0 INTRODUCTION

SECOR International Incorporated (SECOR) is pleased to present this Phase II Subsurface Investigation Assessment (Phase II) report to Bank One. SECOR was authorized to prepare this report by Bank One in accordance with the SECOR proposal dated September 7, 2001. SECOR was contracted to conduct a Phase II Subsurface Investigation by Bank One to assess the subsurface soil and groundwater conditions on the subject property. This report presents a summary of the work accomplished, results of analysis of soil and groundwater samples collected, and conclusions of the investigation.

1.1 OBJECTIVE

The objective of this Phase II was to assess the subsurface soil and groundwater quality on the subject property for the presence of contamination.

1.2 BACKGROUND

SECOR completed a Phase I Environmental Site Assessment (ESA) for the subject property in June, 2001. The findings of the ESA were provided in a report submitted to Bank One on July 10, 2001.

During the course of SECOR's Phase I ESA, the following recognized environmental conditions were identified on the subject property:

- Historical use of the subject property operating as a lumber yard, an oil blending and compounding plant, and a used car lot with an automotive service center from at least 1930 to 1986. Due to the types of materials used and historic business practices that were common in those industries, the subsurface media at the subject property may have been adversely impacted.

- Staining and poor house keeping practices observed in the areas of the part washing stations, tool room, the vehicle work station areas, and the used oil tank cage. These observations made throughout the subject property, may be an indication that a subsurface condition exists at the subject property.

- The integrity of the hydraulic hoists, trench drain, and OWS could not be confirmed during this investigation. Based on the age of the facilities (12 years old) and the lack of integrity testing, the subsurface media at the subject property may have been adversely impacted.

1.3 SITE LOCATION AND DESCRIPTION

The subject property is occupied by Bruce Titus Nissan Subaru Dealership, a retail car sales facility, and is located in a commercial/industrial area at 4030 South Tacoma Way, Tacoma, Washington. Current development consists of one two-story, approximately 20,680-square-foot building consisting of a sales/reception area, associated offices, and a vehicle service area. In addition to retail car sales, the facility provides vehicle maintenance (e.g. oil changes, tune-ups, system upgrades, etc.). The subject property has been operating as a car dealership and auto service facility since the initial construction (1989) of the existing facility. Reportedly, there are no underground storage tanks located on the subject property. However, there are several new motor oil above ground storage tanks (ASTs), a new transmission fluid AST, antifreeze ASTs, and a used oil AST. Historical use of the subject property included a lumber yard, an oil blending and compounding plant, and a used car lot with an automotive service center from at least 1930 to 1986.

The subject property is bordered to the north by a veterinary clinic and additional parking for the subject property followed by a vacant used car lot; to the west by railroad tracks followed by undeveloped land; to the south by a machine design and manufacturing facility; to the southeast by a used car lot; and to the east by South Tacoma Way followed by a new and used car dealership.

The topography in the vicinity of the subject property slopes slightly downward to the west. Shallow groundwater is expected to follow the surface contour to the west; however, local groundwater flow direction may vary. The subject property location is shown on Figure 1.

1.4 LOCAL GEOLOGIC AND HYDROGEOLOGIC SETTING

The Puget Sound Region is underlain by Quaternary sediments deposited by a number of glacial episodes. Deposition occurred during a number of glacial advances and retreats which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that are typically situated over deposits of glacial till. Outwash sediments consisting of sand, silt, and clay were deposited by rivers, streams, and post-glacial lakes during the glacial retreats. With the exception of the most recent recessional deposits, the outwash sediments have been over-consolidated by the overriding ice sheets.

The glacial drift is comprised of unconsolidated sand, gravel, silt, and clay, and partially consolidated glacial till. The sand and gravel units in the drift form the principal aquifers. These aquifers typically receive ample recharge from the heavy precipitation characteristic of western Washington. The drift in the Puget Sound region varies greatly in composition, and accordingly, in water-yielding capability. Typically, wells in glacial drift that tap silt, clay or till in the Puget Sound region (i.e., approximately 75 to 100 feet bgs) may have yields on the order of 100 gallons per minute (gpm). Deeper wells tapping thick, saturated layers of highly permeable gravel and coarse sand (typically at depths greater than 250 feet bgs) can yield more than 1,000 gpm.

Field observations during SECOR's Phase II indicated that subsurface soil over the subject property consisted of apparent fill material from depths ranging to 8 to 15 feet below ground surface from east to west, respectively, underlain by fine to medium sands, with trace silts and trace gravels. SECOR observed consistent formations of sands with trace gravels from approximately 15 to 20 bgs to a maximum exploratory depth of 50 feet bgs. Groundwater was encountered at approximately 45-feet below ground surface (bgs) during field activities. The boring logs are presented in Appendix A.

2.0 FIELD INVESTIGATION

The field investigation was implemented in accordance with SECOR's proposal dated September 7, 2001. An overview of the methods, procedures, and rational used during the field investigation is presented as follows.

2.1 FIELD PROGRAM

SECOR supervised the drilling of eight soil borings (B-1 through B-8 on September 19 and September 20, 2001). The soil borings were advanced at the locations depicted on Figure 2. Four borings were advanced outside the automobile center on the perimeter and central portions of the subject property: one north of the sales portion of the building near the former lumber yard (B-1), two on the eastern portion of the subject property near the former oil blending and compounding plant (B-2) and the former used car lot (B-3), and one on the southwestern corner of the subject property north of the used oil cage (B-4). Four borings were advanced inside the automotive service center: one west of the oil water separator (B-5), one on the north end of the building near a parts washer and hydraulic hoists (B-6), one on the south side of the building near hydraulic hoists and a trench drain (B-7), and one on the west side of the building near the service egress/ingress (B-8).

2.1.1. Health and Safety

A site-specific Health and Safety Plan (HASP) was generated for the subject property as part of the project. The HASP identified potential physical and chemical hazards associated with the proposed field activities, and established personnel protection standards and mandatory safety practices and procedures for use during the field activities. The HASP also included information on suspected chemical compounds to be encountered, a list of monitoring equipment, the required protective clothing and equipment, a map and directions to the nearest hospital, and a list of emergency telephone numbers. The HASP was available on-site at all times during the field activities. All SECOR personnel and subcontractors working on-site were required to review, sign, and comply with the provisions put forth in the HASP.

2.1.2. Utility Clearance

Prior to the boring installation, SECOR arranged to have a municipal underground utility location service identify subsurface municipal utilities located in public rights-of-way. In addition, SECOR contracted with a private underground utility location service, Applied Professional Services (APS), to clear the marked proposed boring locations on the subject property.

2.1.3. Soil Borings

SECOR contracted Cascade Drilling, Inc. of Woodinville, Washington to provide drilling services. Borings B-1 through B-4 were advanced using a truck-mounted hollow stem auger (HSA) drilling rig. Soil borings B-5 through B-8 were advanced using a trailer mounted, limited access hollow-stem auger (HSA) drilling rig. Each rig used nominal 4-inch inside diameter (ID), 8-inch outside diameter (OD) augers. The borings were advanced to maximum depths of between approximately 30 to 50-feet bgs. The soil borings were backfilled with hydrated, medium bentonite chips (hydrated) and patched with asphalt following completion of work.

Soil samples were collected using a nominal 3-inch diameter split-spoon sampler. The sampler was advanced approximately 18 inches into undisturbed soil in front of the drill bit using a 140-pound hammer dropped approximately 30 inches. Soil samples were collected at approximately 5-foot intervals. SECOR personnel recorded soil types and other field observations on a field-boring log for each boring location. Field boring logs are included in Appendix A.

Soil samples were screened in the field using a photoionization detector (PID), visual and olfactory observations, and sheen tests. A portion of the soil sample collected from the sampler was placed in an airtight plastic bag, where volatile constituents were given time to accumulate in the air within the bag (the headspace). The headspace was then field screened by placing the PID probe in the headspace. The PID was calibrated daily with 100 parts per million (ppm) isobutylene gas. PID readings for collected soil samples are noted on the boring logs in Appendix A.

Soil samples were visually examined and the general soil lithology was recorded in the field boring log. Soil samples from each of the borings were prepared for laboratory analysis by removing the sleeves from the sampler spoon and then capping the sample with Teflon tape and plastic end caps. Soil samples collected during the September 19 and September 20, 2001, investigation were uniquely labeled and transferred to On-Site Environmental, Inc. of Redmond, Washington (On-Site) for laboratory analysis. Remaining soil in the sampler was used to obtain PID headspace readings.

Quality assurance procedures included decontamination of all sampling equipment prior to use, and between each sampling location. Decontamination was completed with an Alconox soap wash, and rinsing with distilled water.

2.1.4. Temporary Well Installation and Groundwater Sampling

A temporary monitoring well was installed in soil borings B-4 and B-5. The temporary wells were constructed using a 10-foot section of 0.010-inch slotted PVC well screen threaded to PVC blank riser pipe. The well screens were installed at depths of between approximately 40 and 50-feet below ground surface. A sand pack consisting of #2/12 RMC Lonestar silica sand was installed across the screened interval in each temporary well.

Approximately three pore volumes (5-gallons) of water was purged from each temporary monitoring well prior to sampling to remove fine-grain sediment from the well water. The water was purged using a decontaminated, down-hole displacement pump.

SECOR collected a grab groundwater sample from both temporary wells. Groundwater samples were placed in laboratory prepared containers, labeled and stored in a cooler containing ice prior to transport to On-Site Environmental. After sampling, the pump and casing were removed and the boring was back-filled with medium bentonite chips (hydrated). Monitoring well construction and boring data are presented on the boring logs in Appendix B.

2.2 LABORATORY ANALYTICAL PROGRAM

Targeted contaminants of concern at the subject property were identified based on the current and historical use of the subject property and Washington Department of Ecology (Ecology) requirements. Two groundwater samples (collected from B-4 and B-5) and a total of 46 soil samples (collected from B-1 through B-8) were collected from the subject property on September 19 and September 20, 2001. Selected soil and groundwater samples were analyzed at On-Site.

Soil sample B-1-10 (collected from boring B-1) was analyzed for gasoline range hydrocarbons using State of Washington Analytical Method NWTPH-G extended, for benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021B; for diesel and oil range hydrocarbons using State of Washington Analytical Method NWTPH-D extended, for Resource Conservation and Recovery Act (RCRA) 8 metals using EPA 6000/7000 Series methods, and for pentachlorophenol (PCP) using 8270C. Soil sample B-2-15 (collected from boring B-2) was analyzed for NWTPH-G/BTEX, NWTPH-Dx, volatile organic compounds (VOCs) using EPA Method 8260B, and for RCRA 8 metals using EPA 6000/7000 Series methods. Soil sample B-3-15 (collected from boring B-3) was analyzed for NWTPH-G/BTEX and NWTPH-Dx. Soil sample B-4-40 (collected from boring B-4) was analyzed for NWTPH-G/BTEX, NWTPH-Dx, and RCRA 8 Metals. Soil sample B-5-15 (collected from boring B-5) was analyzed for NWTPH-G/BTEX, NWTPH-Dx, and VOCs. Soil sample B-6-15 (collected from boring B-6) was analyzed for NWTPH-G/BTEX, NWTPH-DX, PCBs, and VOCs. Soil sample B-7-5 (collected from boring B-7) was analyzed for NWTPH-G/BTEX, NWTPH-Dx, and PCBs. Soil sample B-8-5 (collected from boring B-8) was analyzed for NWTPH-G/BTEX and NWTPH-Dx.

The laboratory analytical reports and chain of custody documents are included in Appendix B.

3.0 FINDINGS

3.1 GEOLOGY AND LOCAL HYDROLOGY

The approximate boundaries of the subject property are shown in Figure 2. Based on field observations from this assessment, subsurface soils at subject property consisted primarily of fine to medium grained sands and silty sands with gravel, to maximum exploratory depths of approximately 50-feet bgs. Groundwater was encountered at approximately 45-feet bgs during field activities. Based on relative groundwater elevation and local knowledge, SECOR believes that groundwater flows to the west/northwest. The boring logs are presented in Appendix A.

3.2 SOIL AND GROUNDWATER ANALYTICAL RESULTS

Laboratory results for soil samples collected from borings B-1 through B-8 are summarized in Table 1. Laboratory results for the groundwater samples collected from temporary wells B-4 and B-5 are summarized in Table 2. Copies of the laboratory data for the soil and groundwater samples are provided in Appendix B. The following summarizes the results.

Ecology's new MTCA Method A cleanup levels became effective on August 15, 2001. For compounds where Method A cleanup levels have not been established, the current risk-based Method B cleanup values are used for comparison.

3.2.1. Soil

Analytical results indicated that all soil samples submitted for analysis did not contain concentrations of extracted analytes exceeding the MTCA Method A for soil. The soil analytical results are summarized on Table 1.

3.2.2. Groundwater

Analytical results indicated that both groundwater samples (B-4W and B-5W) did not contain detectable concentrations of PCBs, benzene, toluene, ethylbenzene, xylenes, gasoline-range hydrocarbons, or diesel-range hydrocarbons.

Trichloroethene or trichloroethylene (TCE), a VOC, was detected in B-4W (15 µg/l) and B-5W (49 µg/l) above the MTCA Method A cleanup level of 5 µg/l. Methylene chloride was also detected in B-5W (5.9 µg/l) above the MTCA Method A cleanup level of 5 µg/l. Ethylbenzene and xylene were detected above the laboratory reporting limit in B-5W, but below the MTCA Method A level.

Total metal concentrations were detected above MTCA Method A standards, however, dissolved metal concentrations were all below MTCA Method A (and where appropriate, MTCA Method B) standards. The groundwater analytical results are summarized on Table 2.

3.3 INVESTIGATION DERIVED WASTES

All investigation derived wastes generated as a result of this assessment were stored in Department of Transportation (DOT) approved 55-gallon drums and temporarily stored on the subject property pending receipt of analytical results. Based on the analytical results, the waste may be disposed as non-hazardous waste.

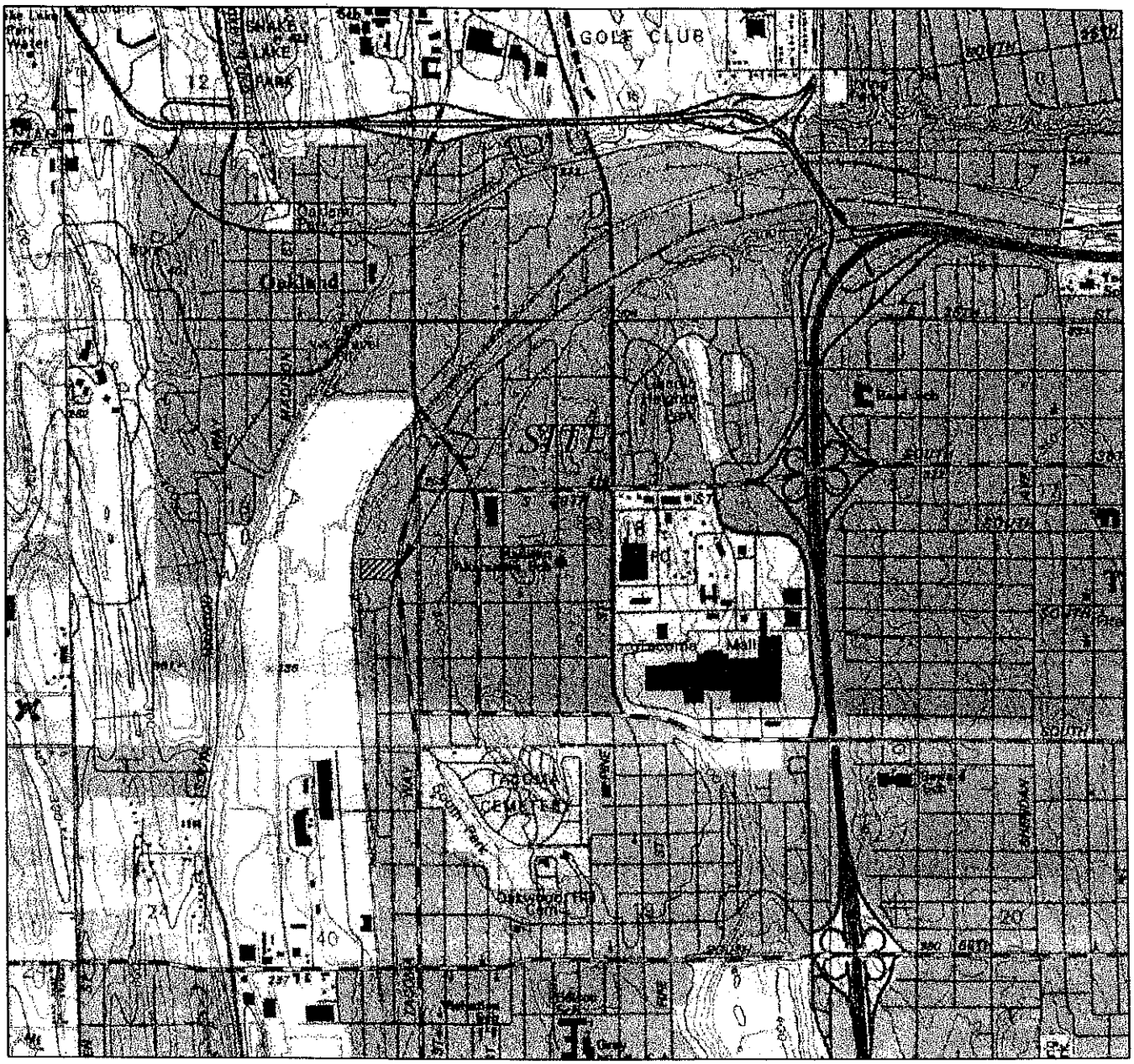
4.0 CONCLUSIONS

SECOR has completed a Phase II ESA of the subject property located at the Bruce Titus Nissan Subaru located at 4030 South Tacoma Way, Tacoma, Pierce County, Washington. The objective of this work, conducted on September 19 and September 20, 2001, was to assess the subsurface soil and groundwater quality on the subject property.

SECOR supervised the drilling of eight soil borings and the installation of two temporary monitoring wells on the subject property. Based on the results of this investigation on the subject property, no evidence of significant soil impacts was found. It should be noted that groundwater appears to be impacted with TCE was detected in both temporary wells, B-4 (15 µg/l) and B-5 (49 µg/l). The reported TCE concentrations are greater than the MTCA Method A Cleanup Level for TCE (5 µg/l). Methylene chloride was also detected in B-5 (5.9 µg/l) at a concentration above the MTCA Method A cleanup level of 5 µg/l. Based on the data collected as part of this investigation, the source of the identified contamination is not evident. Apparent fill material was observed from depths ranging to approximately 8 to 15 feet bgs from east to west in the subsurface soils on the subject property. Beyond approximately 15 feet bgs, SECOR observed uniform formations of sands with trace gravels to a maximum exploratory depth of 50 feet bgs.

Investigation derived waste from this investigation is currently stored in 55-gallon drums on the subject property. All investigation derived waste should be removed from the subject property and properly disposed.

FIGURES



WASHINGTON

REFERENCE: USGS 7.5 MINUTE QUADRANGLES; STEILACOOM, WASHINGTON; 1959, PHOTOREVISED 1981
TACOMA SOUTH, WASHINGTON; 1961, REVISED 1994

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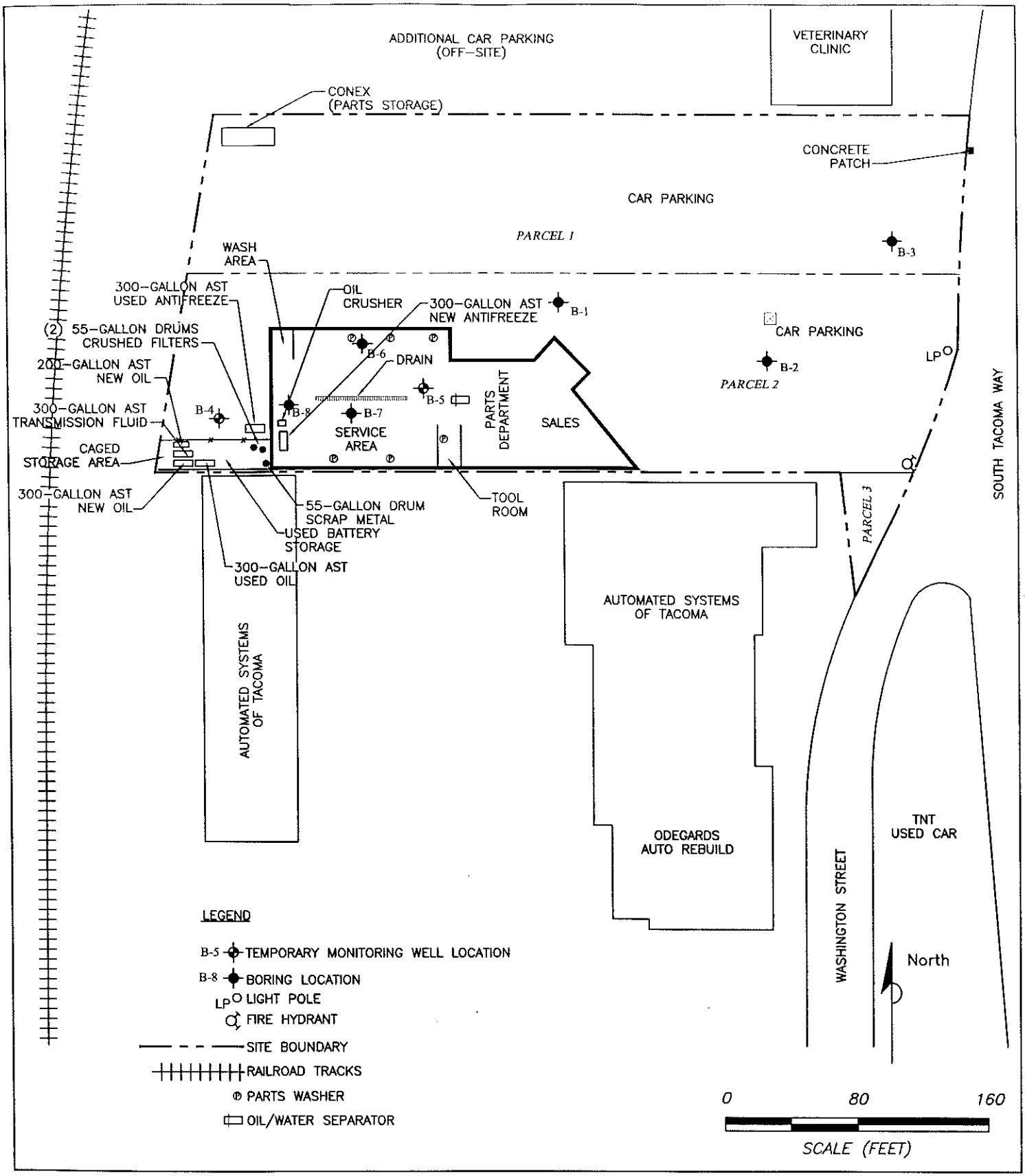
SITE LOCATION MAP

BRUCE TITUS NISSIAN SUBARU DEALERSHIP
4030 SOUTH TACOMA WAY
TACOMA, WASHINGTON

FIGURE: 1

JOB#: 001.01236.001 APPR: DWN: SES DATE: 7/6/01



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SITE PLAN
WITH BORING LOCATIONS
BRUCE TITUS NISSAN SUBARU DEALERSHIP
4030 SOUTH TACOM WAY
TACOMA, WASHINGTON

FIGURE: 2

JOB#: 001.01236.001 APPR: DWN: SES DATE: 9/28/01

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TABLES

Table 1
Soil Analytical Results
Bruce Titus Nissan Subaru
4030 South Tacoma Way
Tacoma, Washington
SECOR PN: 001.01268.001

Sample			BTEX Compounds [1]				Total Petroleum Hydrocarbons			Metals [4]								PCBs [5]	PCPs [6]	VOCs [7]
ID	Date	Depth (ft bgs)	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline [2]	Diesel [3]	Heavy Oil [3]	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver			
B-1-10	9/19/01	10.0	ND	ND	ND	ND	ND	ND	56	ND	43	ND	15	ND	ND	ND	ND	--	ND	
B-2-15	9/19/01	15.0	ND	ND	ND	ND	ND	ND	ND	ND	41	ND	13	ND	ND	ND	ND	--	--	0.0069 [A]
B-3-15	9/19/01	15.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--
B-4-25	9/19/01	25.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.027 / 0.010 [B]
B-4-40	9/19/01	40.0	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	16	ND	ND	ND	ND	--	--	--
B-5-15	9/20/01	15.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	0.0061 / 0.014 [C]
B-6-15	9/20/01	15.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	ND	--	0.0056 / 0.014 [D]
B-7-5	9/20/01	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	ND	--	--
B-8-5	9/20/01	5.0	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--
MTCA Method A Soil Cleanup Levels			0.03	7	6	9	100*	2,000	2,000	20	5,600**	2	19 (VI)/ 2000 (III)	250	2	400**	400**	1	8.33**	133** / 8,000**

Notes:
All data reported in milligrams per kilogram (mg/kg).
[1] = Benzene, ethylbenzene, toluene, and xylenes by EPA Method 8021B
[2] = Gasoline by Washingon State Department of Ecology (Ecology) Method NWTPH-Gx
[3] = Total petroleum hydrocarbons in the diesel-range (diesel) and motor oil-range (heavy oil) analyzed using Ecology Method NWTPH-Dx.
[4] = Total Metals by EPA Method 6010B.
[5] = Polychlorinated biphenyls by EPA Method 8082.
[6] = Pentachlorophenol analyzed by EPA Method 8270C.
[7] = Volatile organic compounds analyzed by EPA Method 8260B. All analytes non-detect except for those present.
[A] = 0.0069 mg/kg methylene chloride. As footnoted on the laboratory results, this analyte is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
[B] = 0.027 mg/kg methylene chloride / 0.010 mg/kg acetone. As footnoted on the laboratory results, both analytes are common laboratory solvents and may have been introduced during sample preparation, and be impacting the sample result.
[C] = 0.0061 mg/kg methylene chloride / 0.014 mg/kg acetone. As footnoted on the laboratory results, both analytes are common laboratory solvents and may have been introduced during sample preparation, and be impacting the sample result.
[D] = 0.0056 mg/kg methylene chloride / 0.014 mg/kg acetone. As footnoted on the laboratory results, both analytes are common laboratory solvents and may have been introduced during sample preparation, and be impacting the sample result.
-- = Sample not analyzed for analytes listed.
* = Gasoline cleanup value when no benzene present; cleanup value is 30 mg/kg when benzene is present.
** = No Method A cleanup value established, Method B formula value presented
VI = Chromium VI, III = Chromium III
ND = Not detected above laboratory detection limits

Table 2
Groundwater Analytical Results
Bruce Titus Nissan Subaru
4030 South Tacoma Way
Tacoma, Washington
SECOR PN: 001.01268.001

	Sample	Depth to	BTEX Compounds[1]				Total Petroleum Hydrocarbons[2]			Metals[3]								PCBs[4]	VOCs[5]
Sample ID	Date	water (feet)	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Heavy Oil	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver		
B-4W	9/19/01	45.00	ND	ND	ND	ND	ND	ND	ND	40	950	ND	240	76	ND	6.7	ND	ND	15^{TCE}
B-5W	9/20/01	45.00	ND	ND	ND	1.3	ND	ND	ND	110	2,300	6.8	450	180	1.0	10	ND	--	49 / 5.9 / 0.21 / 0.83 [A]
	9/20/01	45.00	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND	ND	ND	--	--
MTCA Method A Groundwater Cleanup Levels[4]			5	1000	700	1000	1,000*	500	500	5	560**	5	50	15	2	80**	80**	0.1	5 / 5***

Notes:

All data reported in micrograms per liter (µg/L).

[1] = Benzene, ethylbenzene, toluene, and xylenes by Washingon State Department of Ecology (Ecology) Method NWTPH-G/BTEX

[2] = Total petroleum hydrocarbons in the diesel-range and motor oil-range analyzed using Ecology Method NWTPH-Dx.
Total petroleum hydrocarbons in the gasoline-range analyzed using Ecology Method NWTPH-G.

[3] = Total and dissolved metals by EPA Series 6000/7000. Grey highlighted boxes are dissolved results. B-5W was analyzed for dissolved metals for comparative purposes.

[4] = Polychlorinated biphenyls by EPA Method 8082.

[5] = Volatile organic compounds analyzed by EPA Method 8260B. All analytes either non-detect or below the MTCA Cleanup Levels except for those present.

TCE = Trichloroethene or trichloroethylene detected at 15 µg/L

A = 49 µg/L TCE, 5.9 µg/L methylene chloride, 0.21 µg/L ethyl benzene, 0.83 µg/L xylene.

* = Cleanup level for gasoline when no benzene present

** = No Method A cleanup value established, current Method B formula value presented

*** = Cleanup Level listed for TCE and methylene chloride. Other VOCs detected in B-5W were below the MTCA Method Cleanup Level.

NA = New Method B formula values not yet available from Ecology

ND = Not detected above laboratory detection limits

APPENDIX A
BORING LOGS

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FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-1
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/19/01 FINISH 9/19/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE CME 75, 8.25" OD, 4.25" ID, 140lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.4': Asphalt.	AS	0
5/7/50/3		NT	NT	5	0.4 to 9 feet: SAND with GRAVEL (FILL); olive gray, moist, fine to medium grained sand, subangular to subrounded gravel, no odor noted.	FILL	5
25/50/6		NT	NT	10	9 to 17 feet: SAND with GRAVEL (SP); yellowish orange, moist, coarse grained sand, subrounded gravel >50%.	SP	10
21/50/6		0.7	NS	15			15
50/6		0.0	NS	20	17 to 23 feet: SAND (SP); yellowish orange to light brown, moist, fine to medium grained.	SP	20
21/25/35/6		0.0	NS	25	23 to 27 feet: SAND with SILT (SM); olive gray, moist, fine to medium grained sand, trace silt, no odor noted.	SM	25
21/50/6		0.0	NS	30	27 to 40 feet: SAND (SP); yellowish orange with black specks, moist, fine to coarse grained, no odor noted.	SP	30
50/6		0.0	NS	35			35
50/6		0.0	NS	40	Boring terminated at 40 feet, sampler advanced to 40 feet. Groundwater not encountered during drilling.		40
				45			45
				50			50

Boring Schematic

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

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DWG: 01012681(BL)

SECOR
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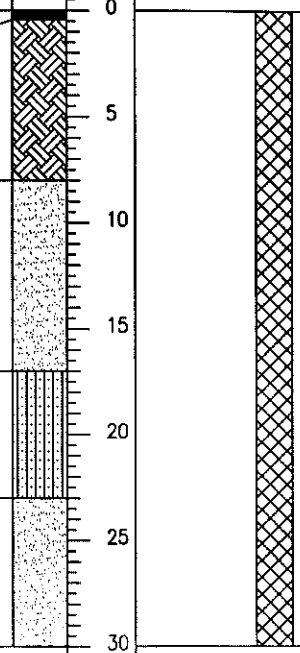
FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-2
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/19/01 FINISH 9/19/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE CME 75, 8.25" OD, 4.25" ID, 140 lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.4': Asphalt.	AS	0
22/50/6		0.4	NS	5	0.4 to 8 feet: SAND with GRAVEL and SILT (FILL); light brown, moist, medium grained sand, cobbles present (80mm) <5%, 25% coarse subangular to subrounded gravel, no odor noted.	FILL	5
20/25/32/6		0.0	NS	10	8 to 18 feet: SAND (SP) olive gray, moist, medium to coarse grained, trace <5% gravel, subrounded, no odor noted.	SP	10
26/50/6		0.0	NS	15			15
31/50/6		0.0	VSS	20	18 to 23 feet: SAND with SILT (SM); olive gray with specks, moist, fine to medium grained, no odor noted.	SM	20
50/6		0.0	NT	25	23 to 30 feet: SAND (SP); olive gray, moist, fine to medium grained, no odor noted.	SP	25
50/6		0.0	NT	30	Boring terminated at 30 feet, sampler advanced to 30 feet. Groundwater not encountered during drilling.		30
				35			35
				40			40
				45			45
				50			50

Boring Schematic



Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

SECOR
International Incorporated

FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-3
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/19/01 FINISH 9/19/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE CME 75, 8.25" OD, 4.25" ID, 140 lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.4': Asphalt.	AS	0
15/17/22/6		0.0	NS	5	0.4 to 8 feet: SAND with GRAVEL (FILL); yellowish orange, moist, fine to medium grained sand, coarse gravel <15%, no odor.	FILL	5
20/50/6		0.7	NS	10	8 to 15 feet: SAND (SP) olive gray, moist, fine to medium grained, trace medium to coarse <5% gravel, subangular to subrounded, no odor noted.	SP	10
21/50/6		0.4	NS	15	15 to 30 feet: SAND (SP); greenish gray to olive gray, moist, fine to medium grained, no odor noted.	SP	15
25/50/6		0.0	NS	20			20
50/6		0.0	NS	25			25
70/6		0.1	NS	30	Boring terminated at 30 feet, sampler advanced to 30 feet. Groundwater not encountered during drilling.		30
				35			35
				40			40
				45			45
				50			50

Boring Schematic

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested
(2.5Y 4/2) Munsell (1990) Soil Color Charts

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

SECOR
International Incorporated

FACILITY *BRUCE TITUS NISSAN SUBARU* JOB # *001.01268.001* BORING/WELL *B-4*
LOCATION *4030 S. TACOMA WAY, TACOMA, WA.* SURFACE ELEVATION *TEMP*
START *9/19/01* FINISH *9/19/01* CASING TOP ELEVATION *NA*
LOGGED BY *AED* MONITORING DEVICE *MINI-RAE 2000 PID*
SUBCONTRACTOR AND EQUIPMENT *CASCADE CME 75, 8.25" OD, 4.25" ID, 140 lb HAMMER*
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.4': Asphalt.	AS	0
14/14/15/6		0.2	NT	5	0.4 to 17 feet: SILT with SAND (FILL); olive gray, moist, coarse gravel, no odor noted.	FILL	5
21/25/25/6		0.1	NT	10			10
9/9/11/6		0.2	NT	15			15
50/7		0.0	NT	20	17 to 23 feet: SAND with SILT and GRAVEL (SP-SM); olive gray, moist, coarse gravel, subangular to subrounded, no odor noted.	SP-SM	20
10/12/20/6		0.0		25	23 to 42 feet: SAND (SP) yellowish orange with black flecks, moist, fine to medium grained, no odor noted.	SP	25
50/6		0.0		30			30
				35			35
				40			40
50/6		NT	NT	45	42 to 47 feet: SAND (SP); olive gray, wet, medium to coarse grained.	SP	45
50/6		NT	NT	50	47 to 50 feet: SAND (SP); gray, wet, fine, poorly sorted.	SP	50
					Boring terminated at 50 feet, sampler advanced to 50 feet. Groundwater encountered at 45 feet during drilling.		

Boring Schematic

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

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DWG: 01012681(BL)

SECOR
International Incorporated

FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-5
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION TEMP
START 9/20/01 FINISH 9/20/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE CME 75, 8.25" OD, 4.25" ID, 140lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.6': Concrete.	CO	0
					0.6 to 1.0 feet: Asphalt.	AS	
50/6		NT	NS	5	1.0 to 12 feet: SAND with GRAVEL (FILL); brown, moist, cobble to coarse sub angular to subrounded gravel <25%, no odor noted.	FILL	5
50/6		NT	NS	10			10
50/6		0.2	NS	15	12 to 18 feet: SAND with GRAVEL (GP);olive gray, moist, medium grained sand, coarse subrounded gravel, no odor noted.	GP	15
50/6							
34/50/6		0.3	VSS	20	18 to 50 feet: SAND (SP); olive gray, with salt and peper specks, moist, fine to medium grained, no odor noted		20
50/6		0.0	NS	25	25 feet: As above.		25
50/6		0.7	NS	30	30 feet: As above; trace gravel.		30
50/6		0.0	NS	35	35 feet: As above.	SP	35
50/6		0.0	NS	40	40 feet: As above.		40
50/6		0.0	NT	45	45 feet: As above; wet, medium to coarse grained sand, no gravel,		45
				50	Boring terminated at 50 feet, sampler advanced to 50 feet. Groundwater encountered at 45 feet during drilling.		50

Boring Schematic

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

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DWG: 01012681(BL)

SECOR
International Incorporated

FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-6
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/20/01 FINISH 9/20/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE LIMITED ACCESS, 8.25" OD, 4.25" ID, 140lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet
				0	0.0 to 0.6': Concrete.	CO	0
					0.6 to 1': Asphalt.	AS	
50/6		0.1	NS	5	1 to 14 feet: SAND with SILT and GRAVEL (FILL); brown, moist, fine grained sand, fine to medium subangular to subrounded gravel, no odor noted.	FILL	5
49/6 50/6		0.0	NS	10			10
31/6 50/6		0.2	NS	15	14 to 18 feet: SAND with GRAVEL (SP); olive gray, moist, subrounded coarse gravel, no odor noted.	SP	15
49/6 50/6		0.0	VSS	20	18 to 24 feet: GRAVEL with SAND (GM); olive gray, moist, poorly sorted, no odor noted.	GM	20
				25	24 to 30 feet: SAND with GRAVEL (SP); olive gray, moist, no odor noted, coarse subangular to rounded gravel. no odor noted.	SP	25
100/6		0.0	NS	30	Boring terminated at 30 feet, sampler advanced to 30 feet. Groundwater not encountered during drilling.		30
				35			35
				40			40
				45			45
				50			50

Boring Schematic

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite
10/20 Colorado Silica Sand
2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

SECOR
International Incorporated

FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-7
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/20/01 FINISH 9/20/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE LIMITED ACCESS, 8.25" OD, 4.25" ID, 140 lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Boring Schematic
				0	0.0 to 0.6': Concrete.	CO	0	
					0.6 to 1.0': Asphalt.	AS		
80/6				5	1.0 to 13 feet: SAND with SILT and GRAVEL (FILL); olive gray, moist, coarse subrounded gravel, no odor noted.	FILL	5	
26/50/6				10			10	
				15	13 to 18 feet: SILT with SAND and GRAVEL (ML) olive gray, moist, coarse to cobble subrounded gravel, no odor noted.	ML	15	
				20	18 to 30 feet: SAND (SP) olive gray, moist, fine to medium grained, trace gravel, no odor noted.	SP	20	
90/6				25			25	
				30	Boring terminated at 30 feet, sampler advanced to 30 feet. Groundwater not encountered during drilling.		30	
				35			35	
				40			40	
				45			45	
				50			50	

- Field Screen/Lithologic Description Sample
- Preserved Sample
- No Recovery
- * Sample Submitted for Laboratory Analysis
- Groundwater Level at Time of Drilling
- Static Groundwater Level
- SD Sheen Detected
- VSS Very Slight Sheen
- NS No Sheen Detected
- NT Not Tested
- Gradational Contact
- Contact Located Approximately
- Contact
- Concrete
- Bentonite
- 10/20 Colorado Silica Sand
- 2" PVC Blank Casing
- 2" PVC Screen Casing (0.010 slots)
- End Cap

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DWG: 01012681(BL)

SECOR
International Incorporated

FACILITY BRUCE TITUS NISSAN SUBARU JOB # 001.01268.001 BORING/WELL B-8
LOCATION 4030 S. TACOMA WAY, TACOMA, WA. SURFACE ELEVATION NA
START 9/20/01 FINISH 9/20/01 CASING TOP ELEVATION NA
LOGGED BY AED MONITORING DEVICE MINI-RAE 2000 PID
SUBCONTRACTOR AND EQUIPMENT CASCADE LIMITED ACCESS, 8.25" OD, 4.25" ID, 140 lb HAMMER
COMMENTS

Penetration Results Blows 6"/6"/6"	Sample Depth Interval, feet	PID Reading	Sheen	Depth Below Surface, feet	Lithologic Description	Unified Soil Classification	Depth Below Surface, feet	Boring Schematic
				5			5	
				0	0.0 to 0.6': Concrete.	CO	0	
					0.6 to 1.0': Asphalt.	AS		
50/6		NT	NS	5	1.0 to 14 feet: SAND with SILT and GRAVEL (FILL); olive gray, moist, coarse to cobble subrounded to rounded gravel, no odor noted.		5	
22/50/6		NT	NS	10		FILL	10	
				15	14 to 30 feet: Silty SAND with GRAVEL (SM); olive gray, moist, coarse to subrounded gravel, no odor noted.		15	
16/17/16/6		NT	NS	20			20	
				25		SM	25	
100/6		NT	NS	30	Boring terminated at 30 feet, sampler advanced to 30 feet. Groundwater not encountered during drilling.		30	
				35			35	
				40			40	
				45			45	
				50			50	

Field Screen/Lithologic Description Sample
Preserved Sample
No Recovery
* Sample Submitted for Laboratory Analysis

Groundwater Level at Time of Drilling
Static Groundwater Level
SD Sheen Detected
VSS Very Slight Sheen
NS No Sheen Detected
NT Not Tested

Gradational Contact
Contact Located Approximately
Contact

Concrete
Bentonite

10/20 Colorado Silica Sand

2" PVC Blank Casing
2" PVC Screen Casing (0.010 slots)
End Cap

APPENDIX B
LABORATORY ANALYTICAL REPORTS

OnSite
Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 26, 2001

Amy Essig Desai
SECOR
P.O. Box 230
Redmond, WA 98073

Re: Analytical Data for Project 001.01268.001
Laboratory Reference No. 0109-125

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on September 20, 2001.

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 Manager

Enclosures

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-1-10**			**B-2-15**		
Lab ID:	09-125-02			09-125-11		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.010	**ND**		0.010
Toluene	**ND**		0.052	**ND**		0.052
Ethyl Benzene	**ND**		0.052	**ND**		0.052
m,p-Xylene	**ND**		0.052	**ND**		0.052
o-Xylene	**ND**		0.052	**ND**		0.052
TPH-Gas	**ND**		5.2	**ND**		5.2
Surrogate Recovery:						
Fluorobenzene	95%			95%		

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-3-15**			**B-4-40**		
Lab ID:	09-125-17			09-125-28		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.010	**ND**		0.011
Toluene	**ND**		0.052	**ND**		0.053
Ethyl Benzene	**ND**		0.052	**ND**		0.053
m,p-Xylene	**ND**		0.052	**ND**		0.053
o-Xylene	**ND**		0.052	**ND**		0.053
TPH-Gas	**ND**		5.2	**ND**		5.3
Surrogate Recovery:						
Fluorobenzene	91%			94%		

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0921S1

	Result	Flags	PQL
Benzene	**ND**		0.010
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 93%

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-125-17 **Original**	09-125-17 **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	91%	96%		

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	09-125-17 **MS**	Percent Recovery	09-125-17 **MSD**	Percent Recovery	**RPD**	**Flags**
Benzene	**1.02**	**102**	**1.04**	**104**	1.3	
Toluene	**1.00**	**100**	**1.02**	**102**	1.4	
Ethyl Benzene	**1.00**	**100**	**1.02**	**102**	1.5	
m,p-Xylene	**1.00**	**100**	**1.02**	**102**	1.4	
o-Xylene	**0.999**	**100**	**1.01**	**101**	1.4	
Surrogate Recovery:						
Fluorobenzene	93%		93%			

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-20-01
Date Analyzed: 9-20-01

Matrix: Water
Units: ug/L (ppb)

Client ID: **B-4W**
Lab ID: 09-125-30

	Result	Flags	PQL
Benzene	**ND**		1.0
Toluene	**ND**		1.0
Ethyl Benzene	**ND**		1.0
m,p-Xylene	**ND**		1.0
o-Xylene	**ND**		1.0
TPH-Gas	**ND**		100

Surrogate Recovery:
Fluorobenzene 95%

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-20-01
Date Analyzed: 9-20-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0920W1

	Result	Flags	PQL
Benzene	**ND**		1.0
Toluene	**ND**		1.0
Ethyl Benzene	**ND**		1.0
m,p-Xylene	**ND**		1.0
o-Xylene	**ND**		1.0
TPH-Gas	**ND**		100

Surrogate Recovery:
Fluorobenzene 92%

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-20-01
Date Analyzed: 9-20-01

Matrix: Water
Units: ug/L (ppb)

Lab ID:	09-121-01 **Original**	09-121-01 **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	94%	94%		

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-20-01
Date Analyzed: 9-20-01

Matrix: Water
Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	09-121-01 **MS**	Percent Recovery	09-121-01 **MSD**	Percent Recovery	**RPD**	**Flags**
Benzene	**46.5**	**93**	**47.0**	**94**	0.98	
Toluene	**52.0**	**104**	**52.5**	**105**	0.96	
Ethyl Benzene	**53.6**	**107**	**54.2**	**108**	1.1	
m,p-Xylene	**53.5**	**107**	**53.9**	**108**	0.78	
o-Xylene	**53.4**	**107**	**53.7**	**107**	0.60	

Surrogate Recovery:

Fluorobenzene	95%		96%

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	B-1-10	B-2-15	B-3-15
Lab ID:	09-125-02	09-125-11	09-125-17
Diesel Fuel:	ND	ND	ND
PQL:	26	26	26
Heavy Oil:	56	ND	ND
PQL:	52	52	52
Surrogate Recovery:			
o-Terphenyl	100%	89%	117%

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	B-4-40
Lab ID:	09-125-28
Diesel Fuel:	ND
PQL:	26
Heavy Oil:	ND
PQL:	53
Surrogate Recovery:	
o-Terphenyl	121%

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0921S1
Diesel Fuel:	ND
PQL:	25
Heavy Oil:	ND
PQL:	50
Surrogate Recovery:	
o-Terphenyl	108%

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	09-102-06	09-102-06 DUP
Diesel Fuel:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	81%	84%

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Water
Units:	mg/L (ppm)
Client ID:	B-4-W
Lab ID:	09-125-30
Diesel Fuel:	ND
PQL:	0.25
Heavy Oil:	ND
PQL:	0.50
Surrogate Recovery:	
o-Terphenyl	71%
Flags:	Y

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-21-01
Date Analyzed:	9-21-01
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0921W1
Diesel Fuel:	ND
PQL:	0.25
Heavy Oil:	ND
PQL:	0.50
Surrogate Recovery:	
o-Terphenyl	149%
Flags:	Y

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	9-21-01
Date Analyzed:	9-24-01
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	09-132-01	09-132-01 DUP
Diesel Fuel:	ND	ND
PQL:	0.25	0.25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	120%	116%
Flags:	Y	Y

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
page 1 of 2

Date Extracted:	9-26-01
Date Analyzed:	9-26-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	09-125-11
Client ID:	**B-2-15**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0052
Iodomethane	ND		0.0052
Carbon Disulfide	ND		0.0010
Methylene Chloride	0.0069	H	0.0052
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0052
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0052
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0052
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0052
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

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Lab ID: 09-125-11
Client ID: B-2-15

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0052
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0021
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0052
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0052
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	100	65-125
Toluene, d8	98	77-116
4-Bromofluorobenzene	107	67-133

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 1 of 2

Date Extracted: 9-26-01
Date Analyzed: 9-26-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0926S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
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VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0926S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	95	65-125
Toluene, d8	100	77-116
4-Bromofluorobenzene	97	67-133

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 9-26-01
Date Analyzed: 9-26-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-142-02

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	0.0500	0.0421	84	0.0371	74	13	
Benzene	0.0500	0.0493	99	0.0428	86	14	
Trichloroethene	0.0500	0.0512	102	0.0446	89	14	
Toluene	0.0500	0.0491	98	0.0445	89	9.9	
Chlorobenzene	0.0500	0.0473	95	0.0440	88	7.4	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

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Date Extracted: 9-23-01
Date Analyzed: 9-23-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-125-30
Client ID: B-4W

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	15		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		1.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

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Lab ID: 09-125-30
Client ID: B-4W

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	91	71-133
Toluene, d8	101	80-151
4-Bromofluorobenzene	100	75-139

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
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Date Extracted:	9-23-01
Date Analyzed:	9-23-01
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0923W2

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		1.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
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Project: 001.01268.001

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
page 2 of 2

Lab ID: MB0923W2

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	0.21		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-133
Toluene, d8	99	80-151
4-Bromofluorobenzene	103	75-139

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 9-23-01
Date Analyzed: 9-23-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0923W2

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	7.94	79	7.90	79	0.49	
Benzene	10.0	7.78	78	8.05	80	3.3	
Trichloroethene	10.0	9.63	96	10.3	103	6.4	
Toluene	10.0	8.39	84	9.13	91	8.5	
Chlorobenzene	10.0	9.83	98	9.67	97	1.7	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCB's by EPA 8082

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-125-30
Client ID: **B-4W**

	Result	**PQL**
Aroclor 1016:	**ND**	0.050
Aroclor 1221:	**ND**	0.050
Aroclor 1232:	**ND**	0.050
Aroclor 1242:	**ND**	0.050
Aroclor 1248:	**ND**	0.050
Aroclor 1254:	**ND**	0.050
Aroclor 1260:	**ND**	0.050

Surrogate	**Percent Recovery**	**Control Limits**
Decachlorobiphenyl	75	13 - 126

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCB's by EPA 8082
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0921W1

	Result	PQL
Aroclor 1016:	ND	0.050
Aroclor 1221:	ND	0.050
Aroclor 1232:	ND	0.050
Aroclor 1242:	ND	0.050
Aroclor 1248:	ND	0.050
Aroclor 1254:	ND	0.050
Aroclor 1260:	ND	0.050

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	84	13 - 126

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCB's by EPA 8082
SB/SBD QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0921W1

Spike Level: 1.00

	SB Result	Percent Recovery	SBD Result	Percent Recovery	RPD
Aroclor 1260:	0.786	79	0.770	77	2.1
PQL	0.050		0.050		

Surrogate	Percent Recovery	Percent Recovery	Control Limits
Decachlorobiphenyl	86	84	13 - 126

Flags:

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-125-02
Client ID: B-1-10

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**43**	2.6
Cadmium	6010B	**ND**	0.52
Chromium	6010B	**15**	0.52
Lead	6010B	**ND**	5.2
Mercury	7471A	**ND**	0.26
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.52

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-125-11
Client ID: B-2-15

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**41**	2.6
Cadmium	6010B	**ND**	0.52
Chromium	6010B	**13**	0.52
Lead	6010B	**ND**	5.2
Mercury	7471A	**ND**	0.26
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.52

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-125-28
Client ID: B-4-40

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	11
Barium	6010B	**30**	2.6
Cadmium	6010B	**ND**	0.53
Chromium	6010B	**16**	0.53
Lead	6010B	**ND**	5.3
Mercury	7471A	**ND**	0.26
Selenium	6010B	**ND**	11
Silver	6010B	**ND**	0.53

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0921S1&MB0924S1

Analyte	Method	Result	PQL
Arsenic	6010B	**ND**	10
Barium	6010B	**ND**	2.5
Cadmium	6010B	**ND**	0.50
Chromium	6010B	**ND**	0.50
Lead	6010B	**ND**	5.0
Mercury	7471A	**ND**	0.25
Selenium	6010B	**ND**	10
Silver	6010B	**ND**	0.50

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-128-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**77.4**	**77.5**	0.23	2.5	
Cadmium	**ND**	**0.508**	NA	0.50	
Chromium	**24.8**	**28.2**	13	0.50	
Lead	**9.93**	**8.20**	19	5.0	
Mercury	**ND**	**ND**	NA	0.25	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	0.50	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 6010B/7471A
MS/MSD QUALITY CONTROL

Date Extracted: 9-21&24-01
Date Analyzed: 9-24&25-01

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 09-128-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**76.5**	77	**82.5**	83	7.6	
Barium	100	**184**	107	**182**	105	1.1	
Cadmium	50	**42.8**	86	**42.4**	85	0.81	
Chromium	100	**117**	92	**117**	92	0	
Lead	250	**219**	84	**218**	83	0.69	
Mercury	1.0	**1.00**	100	**1.00**	100	0	
Selenium	100	**98.8**	99	**95.8**	96	3.0	
Silver	50	**45.3**	91	**43.9**	88	3.2	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-125-30
Client ID: B-4W

Analyte	Method	Result	PQL
Arsenic	200.8	**40**	3.3
Barium	200.8	**950**	56
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**240**	22
Lead	200.8	**76**	1.1
Mercury	7470A	**ND**	.50
Selenium	200.8	**6.7**	5.6
Silver	6010B	**ND**	11

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-24&25-01
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0924W1&MB0924W2

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.3
Barium	200.8	**ND**	56
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**ND**	11
Lead	200.8	**ND**	1.1
Mercury	7470A	**ND**	.50
Selenium	200.8	**ND**	5.6
Silver	6010B	**ND**	11

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-148-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	3.3	
Barium	**ND**	**ND**	NA	56	
Cadmium	**ND**	**ND**	NA	4.4	
Chromium	**16.5**	**16.7**	1.4	11	
Lead	**ND**	**ND**	NA	1.1	
Mercury	**ND**	**ND**	NA	.50	
Selenium	**5.60**	**ND**	NA	5.6	
Silver	**ND**	**ND**	NA	11	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
MS/MSD QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-148-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	110	**106**	96	**102**	93	3.6	
Barium	110	**115**	105	**116**	105	0.74	
Cadmium	110	**108**	98	**105**	95	2.7	
Chromium	110	**121**	95	**124**	98	2.2	
Lead	110	**120**	109	**118**	107	1.8	
Mercury	5.0	**4.83**	97	**4.86**	97	0.62	
Selenium	110	**107**	92	**106**	92	0.64	
Silver	1200	**1160**	97	**1160**	97	0	

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCP (PENTACHLOROPHENOL)
by EPA 8270C

Date Extracted:	9-24-01
Date Analyzed:	9-24-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	09-125-02
Client ID:	**B-1-10**

Compound:	**Results**	**Flags**	**PQL**
Pentachlorophenol	ND		0.87

Surrogate :	**Percent Recovery**	**Control Limits**
2-Fluorophenol	48	25 - 121
Phenol-d6	53	24 - 113
2,4,6-Tribromophenol	63	19 - 122

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCP (PENTACHLOROPHENOL)
by EPA 8270C
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-24-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0924S1

Compound:	Results	Flags	PQL
Pentachlorophenol	ND		0.83

Surrogate :	Percent Recovery	Control Limits
2-Fluorophenol	45	25 - 121
Phenol-d6	49	24 - 113
2,4,6-Tribromophenol	62	19 - 122

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCP (PENTACHLOROPHENOL)
by EPA 8270C
MS/MSD QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-125-02

Compound:	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Phenol	3.33	1.60	48	1.60	48	0.13	
2-Chlorophenol	3.33	1.58	47	1.57	47	0.88	
4-Chloro-3-methylphenol	3.33	1.80	54	1.83	55	1.7	
4-Nitrophenol	3.33	1.77	53	1.76	53	0.55	
Pentachlorophenol	3.33	0.652	20	0.844	25	26	V,W

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

PCP (PENTACHLOROPHENOL)
by EPA 8270C
SPIKE BLANK QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: SB0924S1

Compound:	Spike Amount	SB	Percent Recovery
Phenol	3.33	1.51	45
2-Chlorophenol	3.33	1.47	44
1,4-Dichlorobenzene	1.67	0.668	40
N-Nitroso-di-n-propylamine	1.67	0.790	47
1,2,4-Trichlorobenzene	1.67	0.747	45
4-Chloro-3-methylphenol	3.33	1.66	50
Acenaphthene	1.67	0.840	50
2,4-Dinitrotoluene	1.67	0.905	54
4-Nitrophenol	3.33	1.81	54
Pentachlorophenol	3.33	1.85	56
Pyrene	1.67	0.948	57

Date of Report: September 26, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

% MOISTURE

Date Analyzed: 9-21-01

Client ID	Lab ID	% Moisture
B-1-10	09-125-02	4.0
B-2-15	09-125-11	3.0
B-3-15	09-125-17	4.0
B-4-40	09-125-28	5.0

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to a 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.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

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.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

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

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

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 - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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

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

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Chain of Custody

Company: SECOR

Project No.: 001.01268.101

Project Name: Bruce Titus

Project Manager: Amy Essig Desai

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Day ☐ 3 Day

☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)

☑ Need by am 9-26-01 (other)

Project Manager: [illegible]

Laboratory No. 09-125

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	PCP	HOLD			% Moisture
1	B-1-5	9-19-01	0825	S	1																	X			X
2	~~B-1-10~~ B-1-10	"	0832		1		X	X								X					X				X
3	B-1-15	"	0840		1																	X			
4	B-1-20	"	0842		1																	X			
5	B-1-25	"	0845		1																	X			
6	B-1-30	"	0850		1																	X			
7	B-1-35	"	0852		1																	X			
8	B-1-40	"	0858		1																	X			
9	B-2-5	"	1015		1																	X			
10	B-2-10	"	1020		1																	X			
11	B-2-15	"	1025		1		X	X	X	X (scribbled out)						X									X
12	B-2-20	"	1030		1																	X			X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Laura Kent	9-20-01
FIRM: SECOR	TIME: 1830	FIRM: OSE	TIME: 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME

REVIEWED BY

DATE REVIEWED

COMMENTS:

Chromatographs with final report ☐

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Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard
(Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01
(other) (AM)

Project Manager: KB

Laboratory No: 09-125

Company: SECOR
Project No.: 001.01268.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	HOLD				% Moisture
13	B-2-25	9-19-01	1035	S	1																X				
14	B-2-30	9-19-01	1040	S	1																X				
15	B-3-5	"	1225	S	1																X				
16	B-3-10	"	1230	S	1																X				
17	B-3-15	"	1235	S	1		X	X																	X
18	B-3-20	"	1237	S	1																X				
19	B-3-25	"	1240	S	1																X				
20	B-3-30	"	1245	S	1																X				
21	B-4-5	"	1400	S	1																X				
22	B-4-10	"	1405	S	1																X				
23	B-4-15	"	1410	S	1																X				
24	B-4-20	"	1412	S	1																X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Sylvia Kerr	9-20-01
FIRM SECOR	TIME 1830	FIRM OSE	TIME 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

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Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (other) (am)

Project Manager: DB

Laboratory No. 09-125

Company: SECOR
Project No.: 001.01268.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	HOLD			% Moisture
25	B-4-25	9-19-01	1415	S	1																X			
26	B-4-30	9-19-01	1420	S	1																X			
27	B-4-35	9-19-01	1422	S	1																X			
28	B-4-40	9-19-01	1425	S	1		X	X								X								X
29	B-4-45	9-19-01	1430	S	1																X			X
30	B-4W	9-19-01	1535	W	9		X	X	X				X			X								X

Blank (oed)

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Talisa Kelly	9-20-01
FIRM: SECOR	TIME: 1830	FIRM: OSE	TIME: 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

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

OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

September 28, 2001

Amy Essig Desai
SECOR
P.O. Box 230
Redmond, WA 98073

Re: Analytical Data for Project 001.01268.001
Laboratory Reference No. 0109-142

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on September 21, 2001. **Please note that the data for Dissolved Metals will follow.**

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 Manager

Enclosures

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-5-15**			**B-6-15**		
Lab ID:	09-142-01			09-142-09		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.010	**ND**		0.011
Toluene	**ND**		0.052	**ND**		0.056
Ethyl Benzene	**ND**		0.052	**ND**		0.056
m,p-Xylene	**ND**		0.052	**ND**		0.056
o-Xylene	**ND**		0.052	**ND**		0.056
TPH-Gas	**ND**		5.2	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	93%			88%		

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Client ID:	**B-7-5**			**B-8-5**		
Lab ID:	09-142-12			09-142-16		
	Result	Flags	PQL	**Result**	Flags	PQL
Benzene	**ND**		0.012	**ND**		0.011
Toluene	**ND**		0.060	**ND**		0.056
Ethyl Benzene	**ND**		0.060	**ND**		0.056
m,p-Xylene	**ND**		0.060	**ND**		0.056
o-Xylene	**ND**		0.060	**ND**		0.056
TPH-Gas	**ND**		6.0	**ND**		5.6
Surrogate Recovery:						
Fluorobenzene	80%			87%		

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0921S1

	Result	Flags	PQL
Benzene	**ND**		0.010
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	93%		

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID:	09-125-17 **Original**	09-125-17 **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	91%	96%		

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Soil
Units: mg/Kg (ppm)

Spike Level: 1.00 ppm

Lab ID:	09-125-17 **MS**	Percent Recovery	09-125-17 **MSD**	Percent Recovery	**RPD**	**Flags**
Benzene	**1.02**	**102**	**1.04**	**104**	1.3	
Toluene	**1.00**	**100**	**1.02**	**102**	1.4	
Ethyl Benzene	**1.00**	**100**	**1.02**	**102**	1.5	
m,p-Xylene	**1.00**	**100**	**1.02**	**102**	1.4	
o-Xylene	**0.999**	**100**	**1.01**	**101**	1.4	

Surrogate Recovery:

Fluorobenzene	93%		93%

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Client ID: **B-5W**
Lab ID: 09-142-07

	Result	Flags	PQL
Benzene	**ND**		1.0
Toluene	**ND**		1.0
Ethyl Benzene	**ND**		1.0
m,p-Xylene	**1.3**		1.0
o-Xylene	**ND**		1.0
TPH-Gas	**ND**		100

Surrogate Recovery:
Fluorobenzene 92%

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0921W2

	Result	Flags	PQL
Benzene	**ND**		1.0
Toluene	**ND**		1.0
Ethyl Benzene	**ND**		1.0
m,p-Xylene	**ND**		1.0
o-Xylene	**ND**		1.0
TPH-Gas	**ND**		100

Surrogate Recovery:
Fluorobenzene 93%

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
DUPLICATE QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Lab ID:	09-132-01 **Original**	09-132-01 **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%	94%		

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Gx/BTEX
MS/MSD QUALITY CONTROL

Date Extracted: 9-21-01
Date Analyzed: 9-21-01

Matrix: Water
Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	09-130-01 **MS**	Percent Recovery	09-130-01 **MSD**	Percent Recovery	**RPD**	**Flags**
Benzene	**45.1**	**90**	**45.6**	**91**	1.1	
Toluene	**51.7**	**103**	**52.1**	**104**	0.77	
Ethyl Benzene	**54.0**	**108**	**54.3**	**109**	0.61	
m,p-Xylene	**53.7**	**107**	**54.1**	**108**	0.82	
o-Xylene	**53.7**	**107**	**54.1**	**108**	0.65	
Surrogate Recovery:						
Fluorobenzene	94%		95%			

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-24-01
Date Analyzed:	9-25-01
Matrix:	Soil
Units:	mg/Kg (ppm)

Client ID:	B-5-15	B-6-15	B-7-5
Lab ID:	09-142-01	09-142-09	09-142-12
Diesel Fuel:	ND	ND	ND
PQL:	26	28	30
Heavy Oil:	ND	ND	ND
PQL:	52	56	60
Surrogate Recovery:			
o-Terphenyl	104%	84%	112%

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-24-01
Date Analyzed:	9-25-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Client ID:	B-8-5
Lab ID:	09-142-16
Diesel Fuel:	ND
PQL:	28
Heavy Oil:	ND
PQL:	56
Surrogate Recovery:	
o-Terphenyl	117%

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-24-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	MB0924S1
Diesel Fuel:	ND
PQL:	25
Heavy Oil:	ND
PQL:	50
Surrogate Recovery:	
o-Terphenyl	102%

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-25-01
Matrix:	Soil
Units:	mg/Kg (ppm)

Lab ID:	09-145-05	09-145-05 DUP
Diesel Fuel:	ND	ND
PQL:	25	25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	87%	85%

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx

Date Extracted:	9-24-01
Date Analyzed:	9-24-01
Matrix:	Water
Units:	mg/L (ppm)
Client ID:	B-5W
Lab ID:	09-142-07
Diesel Fuel:	ND
PQL:	0.25
Heavy Oil:	ND
PQL:	0.50
Surrogate Recovery:	
o-Terphenyl	104%
Flags:	Y

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-24-01
Matrix:	Water
Units:	mg/L (ppm)
Lab ID:	MB0924W1
Diesel Fuel:	ND
PQL:	0.25
Heavy Oil:	ND
PQL:	0.50
Surrogate Recovery:	
o-Terphenyl	102%
Flags:	Y

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-24&25-01
Matrix:	Water
Units:	mg/L (ppm)

Lab ID:	09-148-01	09-148-01 DUP
Diesel Fuel:	ND	ND
PQL:	0.25	0.25
RPD:	N/A	
Surrogate Recovery:		
o-Terphenyl	88%	106%
Flags:	Y	Y

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

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Date Extracted:	9-26-01
Date Analyzed:	9-26-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	09-142-01
Client ID:	**B-5-15**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	0.014	H	0.0052
Iodomethane	ND		0.0052
Carbon Disulfide	ND		0.0010
Methylene Chloride	0.0061	H	0.0052
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0052
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0052
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0052
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0052
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: September 28, 2001
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Lab ID: 09-142-01
Client ID: B-5-15

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0052
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0021
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0052
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0052
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	97	65-125
Toluene, d8	98	77-116
4-Bromofluorobenzene	106	67-133

Date of Report: September 28, 2001
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Project: 001.01268.001

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Date Extracted: 9-26-01
Date Analyzed: 9-26-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-142-09
Client ID: B-6-15

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.014	H	0.0056
Iodomethane	ND		0.0056
Carbon Disulfide	ND		0.0011
Methylene Chloride	0.0056	H	0.0056
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0056
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	ND		0.0056
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0056
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0056
Toluene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

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Lab ID: 09-142-09
Client ID: B-6-15

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0056
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	ND		0.0022
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	ND		0.0011
tert-Butylbenzene	ND		0.0011
1,2,4-Trimethylbenzene	ND		0.0011
sec-Butylbenzene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0056
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0056
Naphthalene	ND		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	95	65-125
Toluene, d8	99	77-116
4-Bromofluorobenzene	105	67-133

Date of Report: September 28, 2001
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METHOD BLANK QUALITY CONTROL
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Date Extracted: 9-26-01
Date Analyzed: 9-26-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0926S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0010
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

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Lab ID: MB0926S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	95	65-125
Toluene, d8	100	77-116
4-Bromofluorobenzene	97	67-133

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 9-26-01
Date Analyzed: 9-26-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-142-02

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	0.0500	0.0421	84	0.0371	74	13	
Benzene	0.0500	0.0493	99	0.0428	86	14	
Trichloroethene	0.0500	0.0512	102	0.0446	89	14	
Toluene	0.0500	0.0491	98	0.0445	89	9.9	
Chlorobenzene	0.0500	0.0473	95	0.0440	88	7.4	

Date of Report: September 28, 2001
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Project: 001.01268.001

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Date Extracted:	9-23-01
Date Analyzed:	9-23-01
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	09-142-07
Client ID:	**B-5W**

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	5.9		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	49		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		1.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

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Lab ID: 09-142-07
Client ID: B-5W

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	0.21		0.20
m,p-Xylene	0.83		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	ND		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	71-133
Toluene, d8	99	80-151
4-Bromofluorobenzene	103	75-139

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

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Date Extracted:	9-23-01
Date Analyzed:	9-23-01
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0923W2

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.20
Chloromethane	ND		0.20
Vinyl Chloride	ND		0.20
Bromomethane	ND		0.20
Chloroethane	ND		0.20
Trichlorofluoromethane	ND		0.20
1,1-Dichloroethene	ND		0.20
Acetone	ND		5.0
Iodomethane	ND		1.0
Carbon Disulfide	ND		0.20
Methylene Chloride	ND		1.0
(trans) 1,2-Dichloroethene	ND		0.20
Methyl t-Butyl Ether	ND		0.20
1,1-Dichloroethane	ND		0.20
Vinyl Acetate	ND		1.0
2,2-Dichloropropane	ND		0.20
(cis) 1,2-Dichloroethene	ND		0.20
2-Butanone	ND		5.0
Bromochloromethane	ND		0.20
Chloroform	ND		0.20
1,1,1-Trichloroethane	ND		0.20
Carbon Tetrachloride	ND		0.20
1,1-Dichloropropene	ND		0.20
Benzene	ND		0.20
1,2-Dichloroethane	ND		0.20
Trichloroethene	ND		0.20
1,2-Dichloropropane	ND		0.20
Dibromomethane	ND		0.20
Bromodichloromethane	ND		0.20
2-Chloroethyl Vinyl Ether	ND		1.0
(cis) 1,3-Dichloropropene	ND		0.20
Methyl Isobutyl Ketone	ND		1.0
Toluene	ND		0.20
(trans) 1,3-Dichloropropene	ND		0.20

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METHOD BLANK QUALITY CONTROL
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Lab ID: MB0923W2

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.20
Tetrachloroethene	ND		0.20
1,3-Dichloropropane	ND		0.20
2-Hexanone	ND		1.0
Dibromochloromethane	ND		0.20
1,2-Dibromoethane	ND		0.20
Chlorobenzene	ND		0.20
1,1,1,2-Tetrachloroethane	ND		0.20
Ethylbenzene	ND		0.20
m,p-Xylene	ND		0.40
o-Xylene	ND		0.20
Styrene	ND		0.20
Bromoform	ND		1.0
Isopropylbenzene	ND		0.20
Bromobenzene	ND		0.20
1,1,2,2-Tetrachloroethane	ND		0.20
1,2,3-Trichloropropane	ND		0.20
n-Propylbenzene	ND		0.20
2-Chlorotoluene	ND		0.20
4-Chlorotoluene	ND		0.20
1,3,5-Trimethylbenzene	ND		0.20
tert-Butylbenzene	ND		0.20
1,2,4-Trimethylbenzene	ND		0.20
sec-Butylbenzene	ND		0.20
1,3-Dichlorobenzene	ND		0.20
p-Isopropyltoluene	ND		0.20
1,4-Dichlorobenzene	ND		0.20
1,2-Dichlorobenzene	ND		0.20
n-Butylbenzene	ND		0.20
1,2-Dibromo-3-chloropropane	ND		1.0
1,2,4-Trichlorobenzene	ND		0.20
Hexachlorobutadiene	0.21		0.20
Naphthalene	ND		1.0
1,2,3-Trichlorobenzene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-133
Toluene, d8	99	80-151
4-Bromofluorobenzene	103	75-139

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

VOLATILES by EPA 8260B
SB/SBD QUALITY CONTROL

Date Extracted: 9-23-01
Date Analyzed: 9-23-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: SB0923W2

Compound	Spike Amount	SB	Percent Recovery	SBD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	10.0	7.94	79	7.90	79	0.49	
Benzene	10.0	7.78	78	8.05	80	3.3	
Trichloroethene	10.0	9.63	96	10.3	103	6.4	
Toluene	10.0	8.39	84	9.13	91	8.5	
Chlorobenzene	10.0	9.83	98	9.67	97	1.7	

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

PCB's by EPA 8082

Date Extracted: 9-24-01
Date Analyzed: 9-25-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-142-09
Client ID: **B-6-15**

	Result	**PQL**
Aroclor 1016:	**ND**	0.056
Aroclor 1221:	**ND**	0.056
Aroclor 1232:	**ND**	0.056
Aroclor 1242:	**ND**	0.056
Aroclor 1248:	**ND**	0.056
Aroclor 1254:	**ND**	0.056
Aroclor 1260:	**ND**	0.056

Surrogate	**Percent Recovery**	**Control Limits**
Decachlorobiphenyl	94	45 - 149

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

PCB's by EPA 8082

Date Extracted: 9-24-01
Date Analyzed: 9-25-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-142-12
Client ID: **B-7-5**

	Result	**PQL**
Aroclor 1016:	**ND**	0.060
Aroclor 1221:	**ND**	0.060
Aroclor 1232:	**ND**	0.060
Aroclor 1242:	**ND**	0.060
Aroclor 1248:	**ND**	0.060
Aroclor 1254:	**ND**	0.060
Aroclor 1260:	**ND**	0.060

Surrogate	**Percent Recovery**	**Control Limits**
Decachlorobiphenyl	80	45 - 149

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

PCB's by EPA 8082
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-25-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0924S1

	Result	PQL
Aroclor 1016:	**ND**	0.050
Aroclor 1221:	**ND**	0.050
Aroclor 1232:	**ND**	0.050
Aroclor 1242:	**ND**	0.050
Aroclor 1248:	**ND**	0.050
Aroclor 1254:	**ND**	0.050
Aroclor 1260:	**ND**	0.050

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	101	45 - 149

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

PCB's by EPA 8082
MS/MSD QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-25-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-134-01

Spike Level: 0.500

	MS Result	Percent Recovery	MSD Result	Percent Recovery	RPD
Aroclor 1260:	0.550	110	0.529	106	3.9
PQL	0.050		0.050		

Surrogate	**Percent Recovery**	**Percent Recovery**	**Control Limits**
Decachlorobiphenyl	85	82	45 - 149

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

PCB's by EPA 8082
SPIKE BLANK QUALITY CONTROL

Date Extracted:	9-24-01
Date Analyzed:	9-25-01
Matrix:	Soil
Units:	mg/Kg (ppm)
Lab ID:	SB0924S1
Spike Level:	0.500

	Result	Percent Recovery
Aroclor 1260:	0.561	112

Surrogate	Percent Recovery	Control Limits
Decachlorobiphenyl	95	45 - 149

Flags:

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-142-07
Client ID: B-5W

Analyte	Method	Result	PQL
Arsenic	200.8	**110**	3.3
Barium	200.8	**2300**	56
Cadmium	200.8	**6.8**	4.4
Chromium	200.8	**450**	22
Lead	200.8	**180**	1.1
Mercury	7470A	**1.0**	.50
Selenium	200.8	**10**	5.6
Silver	6010B	**ND**	11

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0924W1&MB0924W2

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.3
Barium	200.8	**ND**	56
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**ND**	11
Lead	200.8	**ND**	1.1
Mercury	7470A	**ND**	.50
Selenium	200.8	**ND**	5.6
Silver	6010B	**ND**	11

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-148-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	3.3	
Barium	**ND**	**ND**	NA	56	
Cadmium	**ND**	**ND**	NA	4.4	
Chromium	**16.5**	**16.7**	1.4	11	
Lead	**ND**	**ND**	NA	1.1	
Mercury	**ND**	**ND**	NA	.50	
Selenium	**5.60**	**ND**	NA	5.6	
Silver	**ND**	**ND**	NA	11	

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

TOTAL METALS
EPA 200.8/6010B/7470A
MS/MSD QUALITY CONTROL

Date Extracted: 9-24-01
Date Analyzed: 9-24&25-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-148-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	110	**106**	96	**102**	93	3.6	
Barium	110	**115**	105	**116**	105	0.74	
Cadmium	110	**108**	98	**105**	95	2.7	
Chromium	110	**121**	95	**124**	98	2.2	
Lead	110	**120**	109	**118**	107	1.8	
Mercury	5.0	**4.83**	97	**4.86**	97	0.62	
Selenium	110	**107**	92	**106**	92	0.64	
Silver	1200	**1160**	97	**1160**	97	0	

Date of Report: September 28, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

% MOISTURE

Date Analyzed: 9-21-01

Client ID	Lab ID	% Moisture
B-5-15	09-142-01	4.0
B-6-15	09-142-09	11
B-7-5	09-142-12	16
B-8-5	09-142-16	11

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to a 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.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

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.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

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

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

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 - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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

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

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (am)
(other)

Project Manager:

Laboratory No. 09-142

Company: SECOR
Project No.: 001.01268.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	HOLD			% Moisture
13	B-7-10	9-20-01	1445	S	1																X			
14	B-7-20	9-20-01	1500	S	1																X			
15	B-7-30	9-20-01	1505	S	1																X			
16	B-8-5	9-20-01	1605	S	1		X	X																X
17	B-8-20	9-20-01	1630	S	1																X			
18	~~B-8-25~~ (red) B-8-30	9-20-01	1635	S	1																X			

Blank ned.

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-21-01	Joshua Kent	9-21-01
FIRM SECOR	TIME 0945	FIRM OSE	TIME 1:20
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

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Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (am) (other)

Project Manager: DB

Laboratory No 09-142

Company: SECOR
Project No.: 001.01264.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	Hold	Dissolved PCPA M275		% Moisture
1	B-5-15	9-20-01	0848	S	1		X	X	X															X
2	B-5-20		0855	S	1																X			
3	B-5-25		0902	S	1																X			
4	B-5-30		0910	S	1																X			
5	B-5-35		0920	S	1																X			
6	B-5-40		0935	S	1																X			
7	B-5W		1030	GW	11		X	X	X							X						⊗		X
8	B-6-5		1150	S	1																			
9	B-6-15		1200	S	1		X	X	X				X											X
10	B-6-20		1220	S	1																X			X
11	B-6-30		1235	S	1																X			X
12	B-7-5		1435	S	1		X	X					X											X

RELINQUISHED BY: Amy Essig Desai	DATE: 9-21-01	RECEIVED BY: Jennifer Kent	DATE: 9-21-01
FIRM: SECOR	TIME: 0945	FIRM: OSE	TIME: 1:20
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
FIRM:	TIME:	FIRM:	TIME:
REVIEWED BY:		DATE REVIEWED:	

COMMENTS:
⊗ Added 9/26/01. DB

Chromatographs with final report ☐

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

October 1, 2001

Amy Essig Desai
SECOR
P.O. Box 230
Redmond, WA 98073

Re: Analytical Data for Project 001.01268.001
Laboratory Reference No. 0109-125

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on September 20, 2001.

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 Manager

Enclosures

Date of Report: October 1, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
Page 1 of 2

Date Extracted: 9-28-01
Date Analyzed: 9-28-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-125-25
Client ID: B-4-25

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0011
Chloromethane	ND		0.0011
Vinyl Chloride	ND		0.0011
Bromomethane	ND		0.0011
Chloroethane	ND		0.0011
Trichlorofluoromethane	ND		0.0011
1,1-Dichloroethene	ND		0.0011
Acetone	0.010	H	0.0057
Iodomethane	ND		0.0057
Carbon Disulfide	ND		0.0057
Methylene Chloride	0.027	H	0.0057
(trans) 1,2-Dichloroethene	ND		0.0011
Methyl t-Butyl Ether	ND		0.0011
1,1-Dichloroethane	ND		0.0011
Vinyl Acetate	ND		0.0057
2,2-Dichloropropane	ND		0.0011
(cis) 1,2-Dichloroethene	ND		0.0011
2-Butanone	ND		0.0057
Bromochloromethane	ND		0.0011
Chloroform	ND		0.0011
1,1,1-Trichloroethane	ND		0.0011
Carbon Tetrachloride	ND		0.0011
1,1-Dichloropropene	ND		0.0011
Benzene	ND		0.0011
1,2-Dichloroethane	ND		0.0011
Trichloroethene	ND		0.0011
1,2-Dichloropropane	ND		0.0011
Dibromomethane	ND		0.0011
Bromodichloromethane	ND		0.0011
2-Chloroethyl Vinyl Ether	ND		0.0057
(cis) 1,3-Dichloropropene	ND		0.0011
Methyl Isobutyl Ketone	ND		0.0057
Toluene	ND		0.0011
(trans) 1,3-Dichloropropene	ND		0.0011

Date of Report: October 1, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
Page 2 of 2

Lab ID: 09-125-25
Client ID: B-4-25

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0011
Tetrachloroethene	ND		0.0011
1,3-Dichloropropane	ND		0.0011
2-Hexanone	ND		0.0057
Dibromochloromethane	ND		0.0011
1,2-Dibromoethane	ND		0.0011
Chlorobenzene	ND		0.0011
1,1,1,2-Tetrachloroethane	ND		0.0011
Ethylbenzene	ND		0.0011
m,p-Xylene	ND		0.0023
o-Xylene	ND		0.0011
Styrene	ND		0.0011
Bromoform	ND		0.0011
Isopropylbenzene	ND		0.0011
Bromobenzene	ND		0.0011
1,1,2,2-Tetrachloroethane	ND		0.0011
1,2,3-Trichloropropane	ND		0.0011
n-Propylbenzene	ND		0.0011
2-Chlorotoluene	ND		0.0011
4-Chlorotoluene	ND		0.0011
1,3,5-Trimethylbenzene	ND		0.0011
tert-Butylbenzene	ND		0.0011
1,2,4-Trimethylbenzene	ND		0.0011
sec-Butylbenzene	ND		0.0011
1,3-Dichlorobenzene	ND		0.0011
p-Isopropyltoluene	ND		0.0011
1,4-Dichlorobenzene	ND		0.0011
1,2-Dichlorobenzene	ND		0.0011
n-Butylbenzene	ND		0.0011
1,2-Dibromo-3-chloropropane	ND		0.0057
1,2,4-Trichlorobenzene	ND		0.0011
Hexachlorobutadiene	ND		0.0057
Naphthalene	ND		0.0011
1,2,3-Trichlorobenzene	ND		0.0011

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	101	65-125
Toluene, d8	97	77-116
4-Bromofluorobenzene	99	67-133

Date of Report: October 1, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Date Extracted: 9-28-01
Date Analyzed: 9-28-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: MB0928S1

Compound	Results	Flags	PQL
Dichlorodifluoromethane	ND		0.0010
Chloromethane	ND		0.0010
Vinyl Chloride	ND		0.0010
Bromomethane	ND		0.0010
Chloroethane	ND		0.0010
Trichlorofluoromethane	ND		0.0010
1,1-Dichloroethene	ND		0.0010
Acetone	ND		0.0050
Iodomethane	ND		0.0050
Carbon Disulfide	ND		0.0050
Methylene Chloride	ND		0.0050
(trans) 1,2-Dichloroethene	ND		0.0010
Methyl t-Butyl Ether	ND		0.0010
1,1-Dichloroethane	ND		0.0010
Vinyl Acetate	ND		0.0050
2,2-Dichloropropane	ND		0.0010
(cis) 1,2-Dichloroethene	ND		0.0010
2-Butanone	ND		0.0050
Bromochloromethane	ND		0.0010
Chloroform	ND		0.0010
1,1,1-Trichloroethane	ND		0.0010
Carbon Tetrachloride	ND		0.0010
1,1-Dichloropropene	ND		0.0010
Benzene	ND		0.0010
1,2-Dichloroethane	ND		0.0010
Trichloroethene	ND		0.0010
1,2-Dichloropropane	ND		0.0010
Dibromomethane	ND		0.0010
Bromodichloromethane	ND		0.0010
2-Chloroethyl Vinyl Ether	ND		0.0050
(cis) 1,3-Dichloropropene	ND		0.0010
Methyl Isobutyl Ketone	ND		0.0050
Toluene	ND		0.0010
(trans) 1,3-Dichloropropene	ND		0.0010

Date of Report: October 1, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Lab ID: MB0928S1

Compound	Results	Flags	PQL
1,1,2-Trichloroethane	ND		0.0010
Tetrachloroethene	ND		0.0010
1,3-Dichloropropane	ND		0.0010
2-Hexanone	ND		0.0050
Dibromochloromethane	ND		0.0010
1,2-Dibromoethane	ND		0.0010
Chlorobenzene	ND		0.0010
1,1,1,2-Tetrachloroethane	ND		0.0010
Ethylbenzene	ND		0.0010
m,p-Xylene	ND		0.0020
o-Xylene	ND		0.0010
Styrene	ND		0.0010
Bromoform	ND		0.0010
Isopropylbenzene	ND		0.0010
Bromobenzene	ND		0.0010
1,1,2,2-Tetrachloroethane	ND		0.0010
1,2,3-Trichloropropane	ND		0.0010
n-Propylbenzene	ND		0.0010
2-Chlorotoluene	ND		0.0010
4-Chlorotoluene	ND		0.0010
1,3,5-Trimethylbenzene	ND		0.0010
tert-Butylbenzene	ND		0.0010
1,2,4-Trimethylbenzene	ND		0.0010
sec-Butylbenzene	ND		0.0010
1,3-Dichlorobenzene	ND		0.0010
p-Isopropyltoluene	ND		0.0010
1,4-Dichlorobenzene	ND		0.0010
1,2-Dichlorobenzene	ND		0.0010
n-Butylbenzene	ND		0.0010
1,2-Dibromo-3-chloropropane	ND		0.0050
1,2,4-Trichlorobenzene	ND		0.0010
Hexachlorobutadiene	ND		0.0050
Naphthalene	ND		0.0010
1,2,3-Trichlorobenzene	ND		0.0010

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	100	65-125
Toluene, d8	100	77-116
4-Bromofluorobenzene	101	67-133

Date of Report: October 1, 2001
Samples Submitted: September 20, 2001
Lab Traveler: 09-125
Project: 001.01268.001

VOLATILES by EPA 8260B
MS/MSD QUALITY CONTROL

Date Extracted: 9-28-01
Date Analyzed: 9-28-01

Matrix: Soil
Units: mg/Kg (ppm)

Lab ID: 09-125-25

Compound	Spike Amount	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
1,1-Dichloroethene	0.0500	0.0387	77	0.0416	83	7.4	
Benzene	0.0500	0.0448	90	0.0475	95	5.8	
Trichloroethene	0.0500	0.0464	93	0.0495	99	6.5	
Toluene	0.0500	0.0476	95	0.0489	98	2.8	
Chlorobenzene	0.0500	0.0470	94	0.0501	100	6.5	

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

A - Due to a 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.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

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.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

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

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

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 - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

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

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

X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by am 9-26-01 (other)

Project Manager:

Laboratory No. 09-125

Company: SECOR
Project No.: 001.01268.101
Project Name: Bruce Trtng
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	PCP	TPH-D			% Moisture
1	B-1-5	9-19-01	0825	S	1																	X			X
2	~~B-1-10~~ B-1-10	"	0832		1		X	X								X					X				X
3	B-1-15	"	0840		1																	X			
4	B-1-20	"	0842		1																	X			
5	B-1-25	"	0845		1																	X			
6	B-1-30	"	0850		1																	X			
7	B-1-35	"	0852		1																	X			
8	B-1-40	"	0858		1																	X			
9	B-2-5	"	1015		1																	X			
10	B-2-10	"	1020		1																	X			
11	B-2-15	"	1025		1		X	X	X	~~X~~ Need						X						X			X
12	B-2-20	"	1030	↓	1																	X			X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Laura Kent	9-20-01
FIRM: SECOR	TIME: 1830	FIRM: OSE	TIME: 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

Chromatographs with final report ☐

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Chain of Custody

OnSite Environmental Inc.
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Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day

☐ 2 Day ☐ 3 Day

☐ Standard
(Hydrocarbon analyses: 5 days, All other analyses: 7 days)

☑ Need by 9-26-01
(other) (AM)

Project Manager: DB

Laboratory No. 09-125

Company: SECOR

Project No.: 001.01268.001

Project Name: Bruce Titus

Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	TPH-D				% Moisture
13	B-2-25	9-19-01	1035	S	1																X				
14	B-2-30	9-19-01	1040	S	1																X				
15	B-3-5	"	1225	S	1																X				
16	B-3-10	"	1230	S	1																X				
17	B-3-15	"	1235	S	1		X	X																	X
18	B-3-20	"	1237	S	1																X				
19	B-3-25	"	1240	S	1																X				
20	B-3-30	"	1245	S	1																X				
21	B-4-5	"	1400	S	1																X				
22	B-4-10	"	1405	S	1																X				
23	B-4-15	"	1410	S	1																X				
24	B-4-20	"	1412	S	1																X				

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Laura Kerr	9-20-01
FIRM: SECOR	TIME: 1830	FIRM: OSE	TIME: 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

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Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (other) (am)

Project Manager: DB

Laboratory No. 09-125

Company: SECOR
Project No.: 001.01268.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	HBLD				% Moisture
25	B-4-25	9-19-01	1415	S	1				⊗												X				⊗
26	B-4-30	9-19-01	1420	S	1																X				
27	B-4-35	9-19-01	1422	S	1																X				
28	B-4-40	9-19-01	1425	S	1		X	X								X					X				X
29	B-4-45	9-19-01	1430	S	1																X				X
30	B-4W	9-19-01	1535	W	9		X	X	X				X			X									X
	Blank (oed)																								

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-19-01	Laura Kent	9-20-01
FIRM SECOR	TIME 1830	FIRM OSE	TIME 1:45
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 9/26/01. DB

Chromatographs with final report ☐

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OnSite Environmental Inc.
Analytical Testing and Mobile Laboratory Services

October 2, 2001

Amy Essig Desai
SECOR
P.O. Box 230
Redmond, WA 98073

Re: Analytical Data for Project 001.01268.001
Laboratory Reference No. 0109-142

Dear Amy:

Enclosed are the analytical results and associated quality control data for samples submitted on September 21, 2001.

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 Manager

Enclosures

Date of Report: October 2, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

DISSOLVED METALS
EPA 200.8/6010B/7470A

Date Filtered: 9-27-01
Date Analyzed: 9-28&10-1-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-142-07
Client ID: B-5W

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.0
Barium	200.8	**ND**	50
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Selenium	200.8	**ND**	5.0
Silver	6010B	**ND**	10

Date of Report: October 2, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

DISSOLVED METALS
EPA 200.8/6010B/7470A
METHOD BLANK QUALITY CONTROL

Date Filtered:	9-27-01
Date Analyzed:	9-28&10-1-01
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0927D3&MB1001D1

Analyte	Method	Result	PQL
Arsenic	200.8	**ND**	3.0
Barium	200.8	**ND**	50
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	.50
Selenium	200.8	**ND**	5.0
Silver	6010B	**ND**	10

Date of Report: October 2, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

DISSOLVED METALS
EPA 200.8/6010B/7470A
DUPLICATE QUALITY CONTROL

Date Filtered: 9-27-01
Date Analyzed: 9-28&10-1-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-156-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	3.0	
Barium	**ND**	**ND**	NA	50	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**11.5**	**11.2**	2.2	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	.50	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	

Date of Report: October 2, 2001
Samples Submitted: September 21, 2001
Lab Traveler: 09-142
Project: 001.01268.001

DISSOLVED METALS
EPA 200.8/6010B/7470A
MS/MSD QUALITY CONTROL

Date Filtered: 9-27-01
Date Analyzed: 9-28&10-1-01

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-156-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**114**	114	**113**	113	0.56	
Barium	100	**119**	119	**117**	117	1.7	
Cadmium	100	**101**	101	**101**	101	0	
Chromium	100	**113**	102	**113**	102	0	
Lead	100	**110**	110	**110**	110	0.46	
Mercury	5.0	**5.04**	101	**5.07**	101	0.59	
Selenium	100	**109**	109	**114**	114	4.1	
Silver	1000	**990**	99	**970**	97	2.1	

OnSite Environmental Inc.

DATA QUALIFIERS AND ABBREVIATIONS

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

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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.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

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L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

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

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X - Sample extract treated with a silica gel cleanup procedure.

Y - Sample extract treated with an acid cleanup procedure.

Z -

ND - Not Detected at PQL
MRL - Method Reporting Limit
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

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Phone: (425) 883-3881 • Fax: (425) 885-4603

Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (am) (other)

Project Manager: DB

Laboratory No. 09-142

Company: SECOR

Project No.: 001.0128.001

Project Name: Bruce Titus

Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	Lead		Dissolved RCRA Metals		% Moisture
1	B-5-15	9-20-01	0848	S	1		X	X	X																X
2	B-5-20		0855	S	1																X				
3	B-5-25		0902	S	1																X				
4	B-5-30		0910	S	1																X				
5	B-5-35		0920	S	1																X				
6	B-5-40		0935	S	1																X				
7	B-5W		1030	~~S~~W	11		X	X	X							X							⊗		X
8	B-6-5		1150	S	1																				
9	B-6-15		1200	S	1		X	X	X				X												X
10	B-6-20		1220	S	1																X				X
11	B-6-30		1235	S	1																X				X
12	B-7-5		1435	S	1		X	X					X												X

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-21-01	Laura Kent	9-21-01
FIRM SECOR	TIME 0945	FIRM OSE	TIME 1:20
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:
⊗ Added 9/26/01 - DB

Chromatographs with final report ☐

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Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☐ Standard (Hydrocarbon analyses: 5 days, All other analyses: 7 days)
☑ Need by 9-26-01 (other) (am)

Project Manager:

Laboratory No. 09-142

Company: SECOR
Project No.: 001.01268.001
Project Name: Bruce Titus
Project Manager: Amy Essig Desai

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	Herbicides by 8151A	Total RCRA Metals (8)	Priority Pollutant Metals (13)	TCLP Metals	VPH	EPH	Hold				% Moisture
13	B-7-10	9-20-01	1445	S	1																X				
14	B-7-20	9-2001	1500	S	1																X				
15	B-7-30	9-20-01	1505	S	1																X				
16	B-8-5	9-20-01	1605	S	1		X	X																	X
17	B-8-20	9-20-01	1630	S	1																X				
18	~~B-8-25~~ B-8-30	9-20-01	1635	S	1																X				

Blank red

RELINQUISHED BY	DATE	RECEIVED BY	DATE
Amy Essig Desai	9-21-01	Laura Kent	9-21-01
FIRM SECOR	TIME 0945	FIRM OSE	TIME 1:20
RELINQUISHED BY	DATE	RECEIVED BY	DATE
FIRM	TIME	FIRM	TIME
REVIEWED BY		DATE REVIEWED	

COMMENTS:

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