PARTNER
Engineering and Science, Inc.

PHASE II SUBSURFACE INVESTIGATION REPORT

AUTONATION HYUNDAI OF SEATTLE
14005 Aurora Avenue North
Seattle, Washington 98133

June 13, 2014
Partner Project Number 14-118127.2

Prepared for

BLACKMAN'S LAKE, LLC
P.O. Box 27069
Seattle, Washington 98165

PARTNER
Engineering and Science, Inc.

June 13, 2014

Mr. Jeff Taylor
Blackman's Lake, LLC
P.O. Box 27069
Seattle, Washington 98165

Subject: **Phase II Subsurface Investigation Report**
AutoNation Hyundai of Seattle
14005 Aurora Avenue North
Seattle, Washington 98133
Partner Project Number 14-118127.2

Dear Mr. Taylor:

The following letter report describes the field activities, methods, and findings of the Phase II Subsurface Investigation conducted by Partner Engineering and Science, Inc. (Partner) at the above-referenced property. The purpose of the investigation was to provisionally investigate the potential impact of petroleum hydrocarbons and/or volatile organic compounds (VOCs) to soil and/or groundwater as a consequence of a release or releases from the current and former automotive repair activities. Blackman's Lake, LLC provided project authorization through a signed copy of Partner Proposal Number P14-118127.2.

Site Description

The subject property consists of one parcel of land totaling 1.64 acres located on the southwest corner of the intersection of Aurora Avenue North and North 141st Street in a mixed commercial and residential area of Seattle, Washington. Please see Figure 1 for a topographic map of the site vicinity.

The subject property is bound by three warehouse buildings to the north across North 141st Street; multi-tenant retail, Barton Funeral, Moore's Professional Collision, and Quality Collective Dispensary to the east across Aurora Avenue North; Town & Country Dodge, Jeep, and Ram to the south; and Interurban Senior Living to the west. The subject property is currently developed with an auto sales and service building constructed in 1973. The subject property is currently occupied by AutoNation Hyundai of Seattle for commercial and light-industrial use. On-site operations consist of automotive sales and service activities. The subject property consists of one two-story building located on the east side of the property and a small wash bay canopy on the west side of the property. In addition to the current structures, the subject property is also improved with an asphalt-paved auto sales lot and associated landscaping. Please see Figure 2 for a site plan.

Site History

According to the April 2014 Partner Phase I Environmental Site Assessment (Phase I) Report, the subject property has been occupied by multiple auto sales and auto maintenance tenants since as early as 1941. The subject property was listed as a historical generator of hazardous wastes containing ignitable hazardous wastes, lead, benzene, and tetrachloroethene (PCE) in the regulatory database; however, no underground storage tanks (USTs), violations, or releases were listed for the subject property addresses. The subject property is currently equipped with one 280-gallon aboveground storage tank (AST) for the storage of motor oil and one 500-gallon AST for the storage of waste oil, both which were both located to the west of the auto maintenance garage. Antifreeze was observed to be stored in two 165-gallon plastic ASTs located within the service garage and transmission fluid was observed in several 55-gallon drums located on the north side of the service garage building. The maintenance shop is also equipped with a solvent-based parts washer unit which is reportedly self-contained and serviced by Safety-Kleen on a regular basis.

A previous Phase I and Phase II conducted on the subject property by Environmental Hazards Control (EHC) in July 2002 indicated that a 550-gallon waste oil UST was removed from the drive area west of the service building in 1990. Reportedly, the UST removal work and associated testing was not well documented. Based on concerns regarding historical automotive service operations and the presence of the former waste oil UST, EHC conducted a subsurface investigation on the subject property. Due to dense soils, the borings could only be advanced to a maximum depth of 10 feet below ground surface (bgs), groundwater was not encountered, and only shallow soils were sampled. One sample (B-1 at 1 to 1.5 feet bgs) located to the northeast of the auto service building was found to contain PCE at a concentration above the Method A Soil Cleanup Level for Unrestricted Land Use. A follow up sample (B1-2 at 2 to 2.5 feet bgs) was non-detect for PCE. EHC recommended further investigations of the soil and groundwater around the areas inspected using an auger drill in order to advance borings through the densely packed site soils. Based on the findings of the previous investigation, the duration that auto maintenance has occurred on the subject property, the amount of time since the last sampling event (approximately 12 years), and the potential for automotive maintenance operations to impact the subsurface, the Phase I concluded that the current and historical use of the subject property for automotive maintenance represents a recognized environmental condition (REC).

Geology and Hydrogeology

Based on a review of the United States Geological Survey (USGS) Seattle North, Washington Quadrangle topographic map, the subject property is situated at an elevation approximately 475 feet above mean sea level, and the local topography is sloping toward the southeast.

The subject property is situated within the Puget Lowland physiographic province of the State of Washington. The Puget Lowland province consists of a broad, low-lying region situated between the Cascade Range to the east and the Olympic Mountains and Willapa Hills to the west. The

uppermost geologic formation underlying the soils at the subject property is the Pleistocene continental glacial drift formation.

Based on borings advanced during this investigation, the underlying subsurface consists predominantly of light gray, sandy silt and silty sand with scattered gravel (glacial till) from the ground surface to 25 feet below ground surface (bgs). Please see Appendix A for boring logs from this investigation.

Groundwater was not encountered during this investigation. Based on available information from the Washington Department of Ecology (DOE) Well Log Viewer Website for nearby borings on the adjacent property to the south, groundwater is anticipated to be first encountered deeper than 70 feet bgs.

Field Activities

To provisionally investigate the potential impact of petroleum hydrocarbons and/or VOCs to soil and/or groundwater as a consequence of a release or releases from the current and former automotive repair activities, Partner conducted a Phase II Subsurface Investigation. The investigation scope included the advancement of five borings (B-1 through B-5) for the collection of representative soil and/or groundwater samples. Groundwater was not encountered during this investigation.

Utility Clearance

Partner delineated the work area with white spray paint and notified Washington 811 to clear public utility lines as required by law at least 48 hours prior to drilling activities. Washington 811 issued ticket number 14151768 for the project.

Health and Safety Plan

Partner reviewed the site-specific Health and Safety Plan with on-site personnel involved in the project prior to the commencement of drilling activities.

Drilling Equipment

On June 11, 2014, Partner subcontracted with Environmental Services Network, Northwest (ESN-NW) to provide and operate drilling equipment. ESN-NW, under the direction of Partner, advanced borings B-1 through B-5 with a direct-push/hollow stem auger combination, truck-mounted AMS Power Probe Model 9630P drill rig. Drilling rods and sampling equipment were decontaminated between samples and borings to prevent cross-contamination.

Boring Locations

Boring B-1 was advanced to the west of the wash area canopy. Borings B-2 and B-3 were advanced to the southwest and south of the auto service building, respectively. Borings B-4 and B-5 were advanced to the west and east of the former impacts, respectively, to the northeast of the auto service building. Please see Figure 3 for a map indicating boring locations.

Sampling Depths

Boring B-1 was advanced to refusal at a terminal depth of 25 feet bgs. Borings B-2 and B-3 were advanced to refusal at a terminal depth of 10 feet bgs. Borings B-4 and B-5 were advanced to refusal at a terminal depth of 7 feet bgs. After refusal was encountered in the direct-push borings, the rig was converted to a hollow stem auger (HSA) rig and overdrilled using the same boring location; however, refusal was encountered shallower using the HSA rig compared to the direct-push rig and no additional soil samples could be collected.

Soil Sampling Methodology

Borings B-1 through B-5 were overlain by asphalt, which was penetrated using a punch bit attachment advanced by the direct-push drill rig.

Soil samples were collected using a 4-foot long by 2.25-inch diameter MacroCore sampler with a 4-foot long acetate liner, which was advanced by the direct-push drill rig using 4-foot long by 1.5-inch diameter drill rods. The sampler was driven into the subsurface to allow undisturbed soil to enter the open MacroCore barrel and retrieved in 4-foot intervals to recover the soil-filled liners.

A lengthwise section of each acetate liner was removed with a splitting tool to expose the soil. The soil column was visually inspected for discoloration, monitored for odors, and classified in accordance with the Unified Soil Classification System (USCS). Select intervals were placed in sealable plastic bags and field-screened with a photoionization detector (PID) calibrated to isobutylene. Heavy odor and high PID readings were observed in boring B-1 between 6 and 15 feet bgs. None of the remaining samples had distinguishable odors, staining, or elevated PID readings. Please refer to the boring logs in Appendix B for specific borings and depths where discoloration, odor, and/or elevated PID readings were observed.

Selected soil samples were prepared for laboratory analysis by sampling directly from the liners using a Terra Core soil sampler and retained in two sodium bisulfate-preserved volatile organics analysis (VOA) vials in accordance with EPA Method 5035 sampling protocol. A sample was also collected by transferring soil into a laboratory-supplied, 4-ounce, wide-mouth, unpreserved glass jar, which was sealed with a threaded, Teflon-lined lid. The jars were filled with soil to capacity to minimize headspace and reduce the potential for volatilization. The jars and VOA vials were labeled for identification and stored in an iced cooler.

The boreholes were backfilled with hydrated bentonite chips and capped with concrete or asphalt patch to match existing ground cover after sampling.

Generated soil cuttings and decontamination water were containerized in a properly labeled and sealed 55-gallon drum and stored on-site. The derived waste will be profiled and transported under proper waste manifest to an appropriate licensed off-site facility for recycling and/or disposal pending the necessary laboratory analysis results for waste profiling.

Laboratory Analyses

Partner collected 13 soil samples on June 13, 2014, which were transported on the same day in an iced cooler under proper chain-of-custody protocol to ESN-NW, a state-certified laboratory (Washington Department of Ecology Environmental Laboratory Accreditation Program certificate number C076) in Olympia, Washington, for analysis. Based on field-screening results, two soil samples per boring (10 samples total) were analyzed for gasoline-range organics (GRO) in accordance with Method NWTPH-Gx, diesel- and lube oil-range organics (DRO and LORO, respectively) in accordance with Method NWTPH-Dx/Dx Extended, and for VOCs in accordance with EPA Method 8260B.

Investigation Scope Summary

Please see Table 1 for a summary of the borings, sampling schedule, and laboratory analyses for this investigation.

Laboratory Analysis Results

ESN-NW reported the laboratory analysis results on June 12, 2014. Please see Tables 2 and 3 for a summary of the soil sample GRO/DRO/LORO and VOCs laboratory analysis results, respectively.

Please see Appendix B for the full laboratory analysis report, which includes chain-of-custody and laboratory quality assurance/quality control (QA/QC) documentation. Laboratory QA/QC data were within acceptable limits.

Discussion

One of the analyzed soil samples (B-1@10') contained detectable concentrations of DRO and two analyzed soil samples (B-4@5' and B-5@5') contained detectable concentrations of LORO. None of the analyzed soil samples contained detectable concentrations of GRO.

Two of the analyzed soil samples (B-5@5' and B-5@7') contained detectable concentrations of PCE. None of the analyzed soil samples contained detectable concentrations of any other VOCs.

Model Toxics Control Act

The Washington DOE promulgated the Model Toxics Control Act (MTCA) Cleanup Regulation (Chapter 173-340 of the Washington Administrative Code [WAC]) to establish administrative processes and standards for identifying, investigating, and cleaning up facilities where there has been a release or threatened release of a hazardous substance or substances that may pose a threat to human health and/or the environment. The MTCA Cleanup Regulation provides three methods (A, B, and C) for establishing cleanup levels.

Method A provides tables of cleanup levels that are protective of human health for 25 to 30 of the most common hazardous substances found in soil and groundwater. Please see Tables 2 and 3 for a comparison of detected GRO/DRO/LORO and VOC concentrations in soil, respectively, and available Method A Screening Levels.

One of the analyzed soil samples exceeded the Method A Screening Level for PCE. However, the deeper sample from the same boring did not exceed the Method A Screening Level for PCE. None of the remaining detected contaminants in soil exceeded Method A Screening Levels.

For sites where cleanup action may be routine and/or involve relatively few hazardous substances, Method B can be applied, which sets cleanup levels at concentrations at least as stringent as concentrations specified in applicable State and Federal Laws in addition to pre-calculated concentrations tabulated under Chapter 173-340 WAC that are considered protective of human health. Cleanup levels under Method B are established using applicable state and federal laws and the risk assessment equations and other requirements specified for each medium. Method B is divided into two tiers—standard and modified. Standard Method B uses generic default assumptions to calculate cleanup levels. Modified Method B provides for the use of chemical-specific or site-specific information to change selected default assumptions. For both standard and modified Method B, the human health risk level for individual carcinogens may not exceed one-in-a-million. If more than one type of hazardous substance is present, the total risk level at the site may not exceed 1 in 100,000. Levels for non-carcinogens cannot exceed the point at which a substance may cause illness in humans (that is, the hazard quotient cannot exceed 1). In addition to accounting for human health impacts, Method B cleanup levels must account for any potential terrestrial or aquatic ecological impacts. Unless it can be demonstrated that such impacts are not a concern at the site, the cleanup level for each substance must be below a concentration that could adversely impact ecological receptors (plants and animals). Specific procedures are provided in the rule for assessing the impact of hazardous substances on terrestrial ecological receptors. The natural background concentrations and practical quantitation limits for a substance must also be considered when setting cleanup levels under Method B.

Method B may be used at any site and is the most common method for setting cleanup levels when sites are contaminated with substances not listed under Method A. Sites that are cleaned up to Method B cleanup levels generally do not need future restrictions on the use of the property due to the small amount of residual contamination typically left on the property.

Please see Table 3 for a comparison of detected soil contaminant concentrations, respectively, and available Method B Screening Levels for carcinogens.

None of the detected concentrations in soil exceeded Method B Screening Levels for carcinogens.

Summary and Conclusions

Partner conducted a Phase II Subsurface Investigation at the subject property to provisionally investigate the potential impact of petroleum hydrocarbons and/or VOCs to soil and/or groundwater as a consequence of a release or releases from the current and former automotive repair activities. The scope of the investigation included five soil borings. Ten soil samples were analyzed for GRO/DRO/LORO and VOCs.

One of the analyzed soil samples (B-1@10') contained detectable concentrations of DRO and two analyzed soil samples (B-4@5' and B-5@5') contained detectable concentrations of LORO. None of the analyzed soil samples contained detectable concentrations of GRO. Two of the analyzed soil samples (B-5@5' and B-5@7') contained detectable concentrations of PCE. None of the analyzed soil samples contained detectable concentrations of any other VOCs.

One of the analyzed soil samples exceeded the Method A Screening Level for PCE. However, the deeper sample from the same boring did not exceed the Method A Screening Level for PCE. None of the remaining detected contaminants in soil exceeded Method A Screening Levels. None of the detected concentrations in soil exceeded Method B Screening Levels for carcinogens.

Detected concentrations during this investigation did not exceed concentrations detected during the 2002 investigation. Based on the use of the subject property (industrial) and the lack of exceedances below 5 feet bgs, it appears that the concentrations of PCE are restricted to a small area, are restricted to shallow soils less than 5 feet bgs, do not represent a threat to groundwater, and (based on the paved nature of the area of impacts) do not appear to represent a significant threat to human health. Partner recommends reporting the minor release to the DOE in order to comply with release reporting requirements with the potential for immediate case closure through the Voluntary Cleanup Program without the DOE requiring remediation based on the lack of concentrations exceeding Method B Screening Levels.

Limitations

This Report presents a summary of work conducted by Partner. The work includes observations of site conditions encountered and the analytical results provided by an independent third party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

Conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

Reports, both verbal and written, as they pertain to the property located at 14005 Aurora Avenue North in the City of Seattle, Washington, are for the sole use and benefit of Blackman's Lake, LLC. This report has no other purpose and may not be relied upon by another person or entity without the written consent of Partner.

Signatures of Participating Professionals

Thank you for the opportunity to be of service. If you have questions regarding this investigation, please contact the undersigned at (310) 615-4500.

Sincerely,

Samantha J. Harris, WA PG#3015
Senior Project Manager

Kristine M. MacWilliams
Technical Director – Subsurface Investigation

Attachments:

Tables
1. Summary of Investigation Scope
2. Soil Sample GRO/DRO/LORO Laboratory Results
3. Soil Sample VOCs Laboratory Results

Figures
1. Site Vicinity Map
2. Site Plan
3. Boring Locations

Appendices
A. Boring Logs
B. Laboratory Report

References

Partner Engineering and Science, Inc. (Partner), April 18, 2014, *Phase I Environmental Site Assessment,* AutoNation Hyundai of Seattle, 14005 Aurora Avenue North, Seattle, Washington.

Tables

Table 1: Summary of Investigation Scope

Boring Identification	Location	Terminal Depth (feet bgs)	Matrix Sampled	Sampling Depths* (feet bgs)	Target Contaminants
B-1	West of the wash area canopy	25**	Soil	5, **10,** 15, 20, **25**	GRO/DRO/LORO VOCs
B-2	Southwest of the auto service building	10**	Soil	**5, 10**	GRO/DRO/LORO VOCs
B-3	South of the auto service building	10**	Soil	**5, 10**	GRO/DRO/LORO VOCs
B-4	West of the former impacts, northeast of the auto service building	7**	Soil	**5, 7**	GRO/DRO/LORO VOCs
B-5	East of the former impacts, northeast of the auto service building	7**	Soil	**5, 7**	GRO/DRO/LORO VOCs

Notes:

*Depths in **bold** analyzed for gasoline-range organics (GRO) in accordance with Method NWTPH-Gx, diesel- and lube oil-range organics (DRO and LORO, respectively) in accordance with Method NWTPH-Dx/Dx Extended, and volatile organic compounds (VOCs) in accordance with EPA Method 8260B.

**Refusal encountered at the terminal depth

bgs = below ground surface

Table 2: Soil Sample GRO/DRO/LORO Laboratory Results

EPA Method	GRO via NWTPH-Gx and DRO/LORO via NWTPH-Dx/DxExt		
Units	(mg/kg)		
Sample Identification	GRO	DRO	LORO
B-1@10'	< 10	**730**	< 100
B-1@25'	< 10	< 50	< 100
B-2@5'	< 10	< 50	< 100
B-2@10'	< 10	< 50	< 100
B-3@5'	< 10	< 50	< 100
B-3@10'	< 10	< 50	< 100
B-4@5'	< 10	< 50	**390**
B-4@7'	< 10	< 50	< 100
B-5@5'	< 10	< 50	**1,300**
B-5@7'	< 10	< 50	< 100
CLARC Method A - Unrestricted Land Use	100	2,000	2,000

Notes:

GRO = gasoline-range organics

DRO = diesel-range organics

LORO = lube oil-range organics

EPA = Environmental Protection Agency

mg/kg = milligrams per kilogram

< = not detected above indicated laboratory Reporting Limit

CLARC = Cleanup Levels and Risk Calculation (Washington Department of Ecology - May 2014)

Table 3: Soil Sample VOCs Laboratory Results

EPA Method	VOCs via 8260B						
Units	(mg/kg)						
Sample Identification	Benzene	Toluene	Ethyl-benzene	Xylenes	PCE	TCE	All other VOCs
B-1@10'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-1@25'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-2@5'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-2@10'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-3@5'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-3@10'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-4@5'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-4@7'	< 0.02	< 0.05	< 0.05	< 0.15	< 0.02	< 0.02	ND
B-5@5'	< 0.02	< 0.05	< 0.05	< 0.15	***0.07***	< 0.02	ND
B-5@7'	< 0.02	< 0.05	< 0.05	< 0.15	**0.02**	< 0.02	ND
CLARC Method A - Unrestricted Land Use	0.03	7.0	6.0	9.0	0.05	0.03	NA
CLARC Method B - Carcinogen (*Non-carcinogen)	18.2	6,400*	8,000*	160,000*	476	12.0	NA

Notes:

VOCs = volatile organic compounds

EPA = Environmental Protection Agency

mg/kg = milligrams per kilogram

PCE = tetrachloroethene

TCE = trichloroethene

< = not detected above indicated laboratory Reporting Limit (RL)

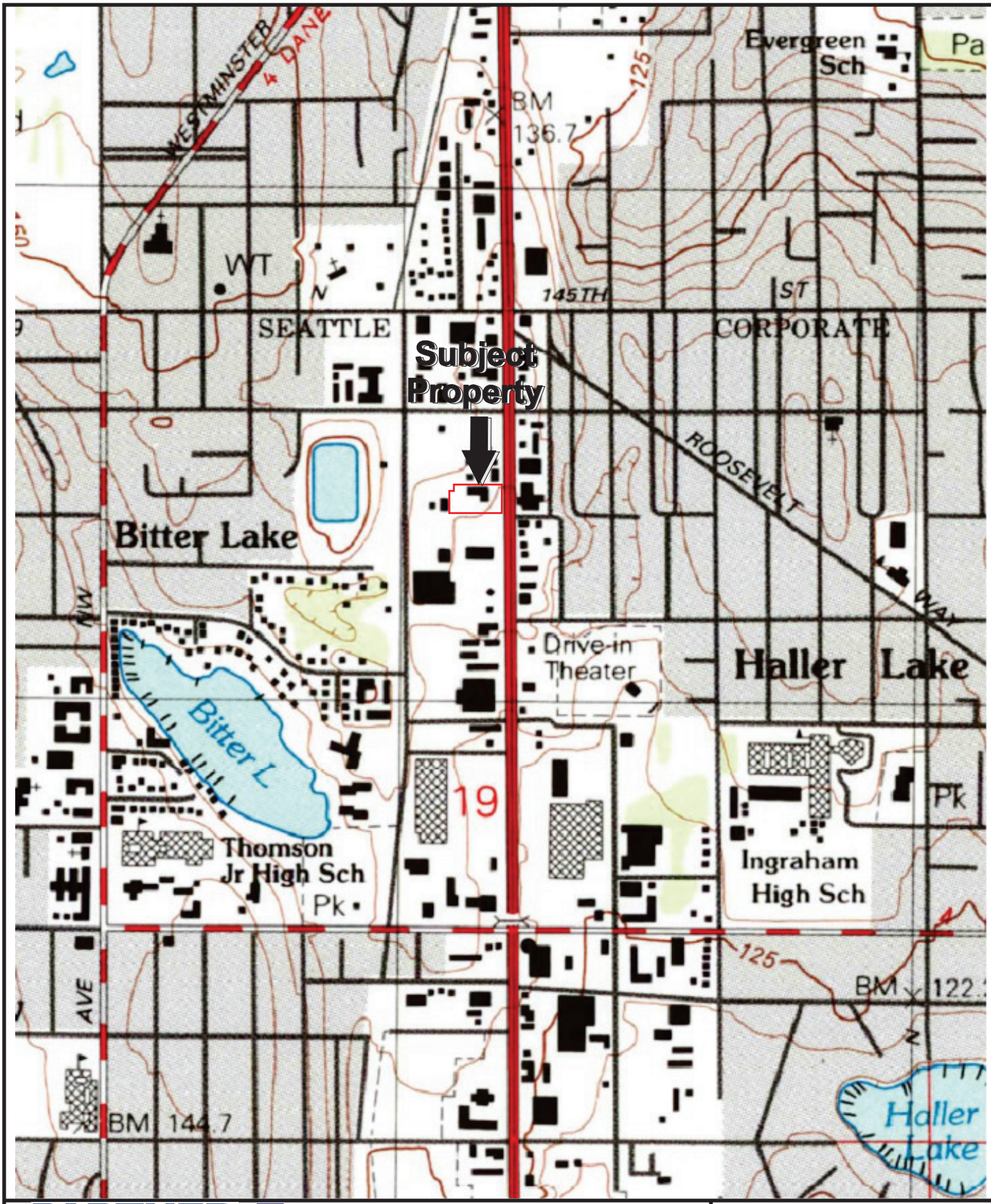
ND = not detected above laboratory RLs

CLARC = Cleanup Levels and Risk Calculation (Washington Department of Ecology - May 2014)

NA = not applicable

Italicized values exceed Method A Unrestricted Land Use guidelines

Figures



PARTNER
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2154 Torrance Boulevard, Suite 200
Torrance, California 90501

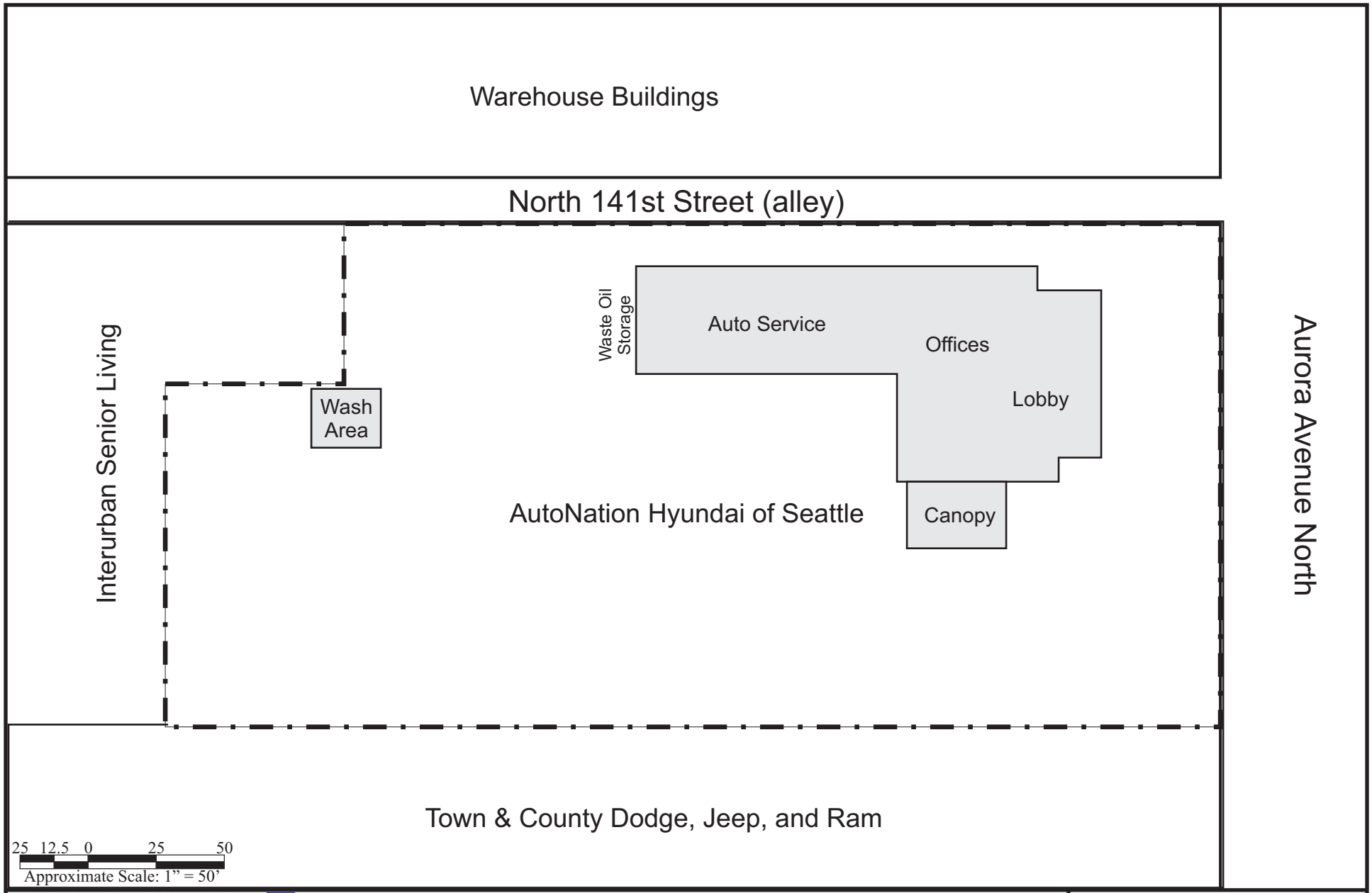
Project Number: 14-118127.2

USGS Seattle North, Washington Quadrangle
Version: 1949 Current as of: 1983

Site Vicinity Map

Figure	Prepared By	Date
1	S. Harris	June 2014

14005 Aurora Avenue North
Seattle, Washington 98133



Legend

Subject Site

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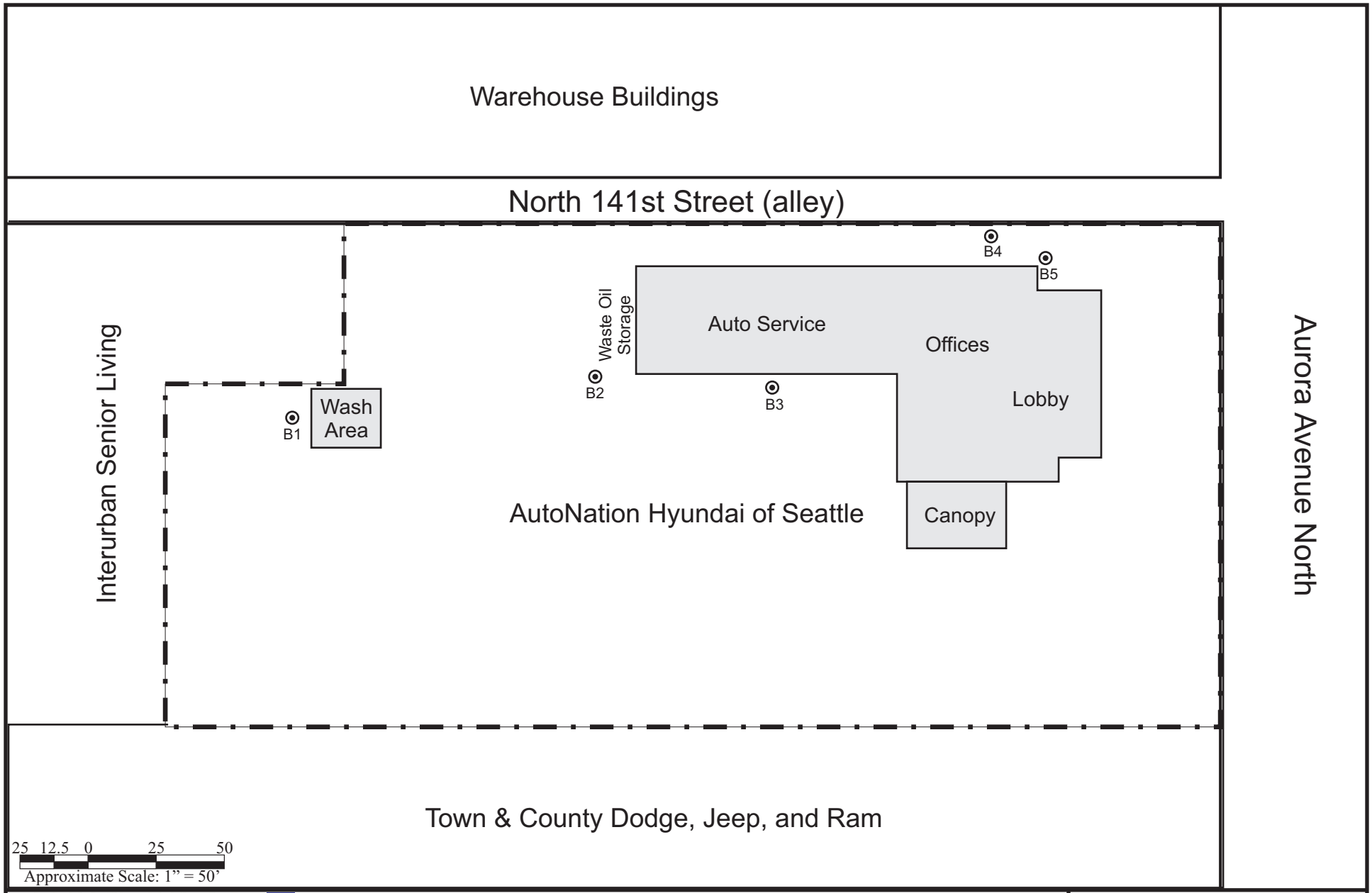
Engineering and Science, Inc.
2154 Torrance Boulevard, Suite 200
Torrance, California 90501

Project Number: 14-118127.2

Site Plan

Figure	Prepared By	Date
2	S. Harris	June 2014

14005 Aurora Avenue North
Seattle, Washington 98133



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Subject Site

Boring Location

N

Boring Locations

Figure	Prepared By	Date
3	S. Harris	June 2014

14005 Aurora Avenue North
Seattle, Washington 98133

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Torrance, California 90501

Project Number: 14-118127.2

Appendix A:

Boring Logs

Boring Number:	B-1				Page 1 of 1
Location:	West of Wash Area Canopy			Date Started:	6/11/2014
Site Address:	14005 Aurora Avenue North			Date Completed:	6/11/2014
	Seattle, Washington 98133			Depth to Groundwater:	NA
Project Number:	14-118127.2			Field Technician:	CB
Drill Rig Type:	AMS Power Probe 9630P direct-push/hollow stem			**Partner Engineering and Science**	
Sampling Equipment:	4 oz glass jar and VOA vials, continuous core			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:	2 inches for direct push, 9 inches for the hollow stem			Torrance, California 90501	

Depth	Sample	PID	USCS	Description	Notes
1				2 inches of asphalt, light gray gravel, dry, hard.	
2			GM	Red brown, silty gravel	No odor or staining
3			GS	Sandy gravel	
4					
5	B-1@5'	0.0			
6		600			
7					
8					
9			SM	Light gray, dry silt, with scattered gravel, grades to fine grained sand at 8 feet bgs(silty sand/sandy silt)	Heavy odor from 6 to 10 feet bgs. No obvious staining.
10	B-1@10'	600			
11					
12					
13					
14					
15	B-1@15'	650	ML	Light gray, dry silt, less scattered gravel	
16		450	CL	6" moist, light gray clay	
17		15			
18					
19					Extrememly difficult drilling. No odor or staining
20	B-1@20'	5.0			
21			SM/ML	Glacial till, silt, with some sand and gravel, dry with moist pockets	
22					
23					
24					
25	B-1@25'	5.0			Refusal encountered at 25 feet bgs. Groundwater not encountered. Backfilled with hydrated bentonite and capped with concrete after sampling

Boring Number:	B-2				Page 1 of 1
Location:	Southwest of the auto service building			Date Started:	6/11/2014
Site Address:	14005 Aurora Avenue North			Date Completed:	6/11/2014
	Seattle, Washington 98133			Depth to Groundwater:	NA
Project Number:	14-118127.2			Field Technician:	CB
Drill Rig Type:	AMS Power Probe 9630P direct-push/hollow stem			**Partner Engineering and Science**	
Sampling Equipment:	4 oz glass jar and VOA vials, continuous core			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:	2 inches for direct push, 9 inches for the hollow stem			Torrance, California 90501	

Depth	Sample	PID	USCS	Description	Notes
1				1 inch of asphalt , 2 inches base coarse gravel	
2					No odor or staining
3			SM	Brown, silty sand with some gravel, hard dry, sandy silt/silty sand grades to gray at 4 feet	
4					
5	B-2@5'	< 5			
6					
7					
8			SM	Light gray silty sand/sandy silt, scattered gravel	Hard drilling. No staining or odor.
9					
10	B-2@10'	< 5			
11					Refusal encountered at 10 feet bgs. Switched to hollow stem auger, refusal encountered at 7 feet bgs. Groundwater not encountered. Backfilled with hydrated bentonite and capped with concrete after sampling
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-3				Page 1 of 1
Location:	South of the auto service building			Date Started:	6/11/2014
Site Address:	14005 Aurora Avenue North			Date Completed:	6/11/2014
	Seattle, Washington 98133			Depth to Groundwater:	NA
Project Number:	14-118127.2			Field Technician:	CB
Drill Rig Type:	AMS Power Probe 9630P direct-push/hollow stem			**Partner Engineering and Science**	
Sampling Equipment:	4 oz glass jar and VOA vials, continuous core			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:	2 inches for direct push, 9 inches for the hollow stem			Torrance, California 90501	

Depth	Sample	PID	USCS	Description	Notes
1				1 inch of asphalt , 2 inches base coarse gravel	
2					No odor or staining
3			SP	Red brown, medium grained, poorly grade sand, scattered gravel, wood layer at 6 inches. Becomes light gray at 3.5 feet	
4					
5	B-3@5'	< 5			
6					
7			SM	Brown and gray, silty sand/sandy silt, hard, dry, scattered gravel	Hard drilling. No staining or odor.
8					
9					
10	B-3@10'	< 5			
11					Refusal encountered at 10 feet bgs. Switched to hollow stem auger, refusal encountered at 7 feet bgs. Groundwater not encountered. Backfilled with hydrated bentonite and capped with concrete after sampling
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-4				Page 1 of 1
Location:	West of the former impacts, northeast of the service building			Date Started:	6/11/2014
Site Address:	14005 Aurora Avenue North			Date Completed:	6/11/2014
	Seattle, Washington 98133			Depth to Groundwater:	NA
Project Number:	14-118127.2			Field Technician:	CB
Drill Rig Type:	AMS Power Probe 9630P direct-push/hollow stem			**Partner Engineering and Science**	
Sampling Equipment:	4 oz glass jar and VOA vials, continuous core			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:	2 inches for direct push, 9 inches for the hollow stem			Torrance, California 90501	

Depth	Sample	PID	USCS	Description	Notes
1				1 inch of asphalt , 2 inches base coarse gravel	
2					No odor or staining
3			SP	Red brown,silty gravelly sand, dry hard	
4					
5	B-4@5'	< 5			
6			SM	Gray and brown, silty sand with some gravel, hard, dry	Hard drilling. No staining or odor.
7	B-4@7'	< 5			
8					Refusal encountered at 7 feet bgs. Switched to hollow stem auger, refusal encountered at 6 feet bgs. Groundwater not encountered. Backfilled with hydrated bentonite and capped with concrete after sampling
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-5				Page 1 of 1
Location:	East of the former impacts, northeast of the service building			Date Started:	6/11/2014
Site Address:	14005 Aurora Avenue North			Date Completed:	6/11/2014
	Seattle, Washington 98133			Depth to Groundwater:	NA
Project Number:	14-118127.2			Field Technician:	CB
Drill Rig Type:	AMS Power Probe 9630P direct-push/hollow stem			**Partner Engineering and Science**	
Sampling Equipment:	4 oz glass jar and VOA vials, continuous core			2154 Torrance Boulevard, Suite 200	
Borehole Diameter:	2 inches for direct push, 9 inches for the hollow stem			Torrance, California 90501	

Depth	Sample	PID	USCS	Description	Notes
1				1 inch of asphalt , 2 inches base coarse gravel	
2					No odor or staining
3			SP	Red brown,granular silty sand, with scattered gravel over light gray, hard, dry gravel	
4					
5	B-5@5'	< 5			
6			SM	Brown and gray, silty sand/sandy silt, with scattered gravel, dry, hard	Hard drilling. No staining or odor.
7	B-5@7'	< 5			
8					Refusal encountered at 7 feet bgs. Switched to hollow stem auger, refusal encountered at 6 feet bgs. Groundwater not encountered. Backfilled with hydrated bentonite and capped with concrete after sampling
9					
10					
11					
12					
13					
14					
15					
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22					
23					
24					
25					

Appendix B:

Laboratory Report

ESN NORTHWEST, INC. | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: Partner Engineering & Science
ADDRESS: 2154 Torrance Blvd Suite 200 Torrance CA 90501
PHONE: 310-615-4500 FAX:
CLIENT PROJECT #: 14-118127.2 PROJECT MANAGER: Samantha Travis

DATE: 6/11/2014 PAGE 1 OF
PROJECT NAME: PHASE II - Autonation Hyundai Seattle
LOCATION: 14005 Aurora Ave N., Seattle WA
COLLECTOR: CBeveridge DATE OF COLLECTION: 6/11/14

Sample Number	Depth	Time	Sample Type	Container Type	TPH - HCID	TPH - Diesel & Oil	TPH - Gasoline	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos - PLM	GRO Suite	DRO Suite	WO Suite	NOTES	Total Number of Containers	Laboratory Note Number
1. B-1@5'	5'	950	S																			2 4oz, 2 VOA		
2. B-1@10'	10'	1000	S			X	X			X												"		
3. B-1@15'	15'	1010	S																			"		
4. B-1@20'	20'	1030	S																			"		
5. B-1@25'	25'	1045	S			X	X			X												"		
6. B-2@5'	5'	1110	S			X	X			X												"		
7. B-2@10'	10'	1120	S			X	X			X												"		
8. B-3@5'	5'	1230	S			X	X			X												"		
9. B-3@10'	10'	1245	S			X	X			X												"		
10. B-4@5'	5'	1300	S			X	X			X												(1) 4oz, 2 VOA		
11. B-4@7'	7'	1310	S			X	X			X												(2) 4oz, 2 VOA		
12. B-5@5'	5'	1330	S			X	X			X												"		
13. B-5@7'	7'	1335	S			X	X			X												"		
14.																								
15.																								
16.																								
17.																								
18.																								

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
[signature]	6/11/2014 1358	Brian Bowles	6/11/14
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR 5 DAY

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Fax: 360-459-3432
Website: www.esnnw.com
E-Mail: info@esnnw.com

ESN NORTHWEST CHEMISTRY LABORATORY

Partner Engineering & Science
PROJECT PHASE II-AUTONATION HYUNDAI SEATTLE
PROJECT #14-118127.2
Seattle, Washington

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Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	6/12/2014	6/12/2014	110	nd	nd
LCS	6/12/2014	6/12/2014	100	84%	---
B-1@10'	6/12/2014	6/12/2014	Int	**730**	nd
B-1@25'	6/12/2014	6/12/2014	119	nd	nd
B-2@5'	6/12/2014	6/12/2014	118	nd	nd
B-2@10'	6/12/2014	6/12/2014	119	nd	nd
B-3@5'	6/12/2014	6/12/2014	116	nd	nd
B-3@10'	6/12/2014	6/12/2014	122	nd	nd
B-4@5'	6/12/2014	6/12/2014	118	nd	**390**
B-4@7'	6/12/2014	6/12/2014	113	nd	nd
B-5@5'	6/12/2014	6/12/2014	114	nd	**1300**
B-5@7'	6/12/2014	6/12/2014	114	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

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Analysis of Gasoline Range Organics in Soil by Method NWTPH-Gx

Sample Number	Date Prepared	Date Analyzed	Gasoline Range Organics (mg/kg)	Surrogate Recovery (%)
Method Blank	06//11/14	6/12/2014	nd	108
LCS	06//11/14	6/12/2014	88%	103
B-1@10'	06//11/14	6/12/2014	nd	107
B-1@25'	06//11/14	6/12/2014	nd	106
B-2@5'	06//11/14	6/12/2014	nd	102
B-2@10'	06//11/14	6/12/2014	nd	105
B-3@5'	06//11/14	6/12/2014	nd	106
B-3@10'	06//11/14	6/12/2014	nd	107
B-4@5'	06//11/14	6/12/2014	nd	107
B-4@7'	06//11/14	6/12/2014	nd	104
B-5@5'	06//11/14	6/12/2014	nd	101
B-5@7'	06//11/14	6/12/2014	nd	100
Reporting Limits			10	

"---" Indicates not tested for component.
"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromoflurorbenzene) & LCS : 65% TO 135%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	LCSD	B-1@10'	B-1@25'	B-2@5'	B-2@10'	B-3@5'	B-3@10'
Date extracted		06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
Date analyzed	(mg/Kg)	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Dichlorodifluoromethane	0.05	nd			nd	nd	nd	nd	nd	nd
Chloromethane	0.05	nd			nd	nd	nd	nd	nd	nd
Vinyl chloride	0.02	nd	84%	91%	nd	nd	nd	nd	nd	nd
Bromomethane	0.05	nd			nd	nd	nd	nd	nd	nd
Chloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd			nd	nd	nd	nd	nd	nd
Acetone	0.25	nd			nd	nd	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	91%	98%	nd	nd	nd	nd	nd	nd
Methylene chloride	0.05	nd			nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd			nd	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd			nd	nd	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd			nd	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd			nd	nd	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd			nd	nd	nd	nd	nd	nd
Chloroform	0.05	nd	85%	99%	nd	nd	nd	nd	nd	nd
Bromochloromethane	0.05	nd			nd	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd			nd	nd	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd			nd	nd	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd			nd	nd	nd	nd	nd	nd
Benzene	0.02	nd	95%	103%	nd	nd	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	104%	110%	nd	nd	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	96%	107%	nd	nd	nd	nd	nd	nd
Dibromomethane	0.05	nd			nd	nd	nd	nd	nd	nd
Bromodichloromethane	0.05	nd			nd	nd	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd			nd	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd			nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	94%	100%	nd	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd			nd	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
2-Hexanone	0.25	nd			nd	nd	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd			nd	nd	nd	nd	nd	nd
Dibromochloromethane	0.05	nd			nd	nd	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	96%	102%	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.05	nd			nd	nd	nd	nd	nd	nd
Chlorobenzene	0.05	nd	100%	107%	nd	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	88%	97%	nd	nd	nd	nd	nd	nd
Xylenes	0.15	nd	100%	106%	nd	nd	nd	nd	nd	nd
Styrene	0.05	nd			nd	nd	nd	nd	nd	nd
Bromoform	0.05	nd			nd	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd			nd	nd	nd	nd	nd	nd
Isopropylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	0.05	nd			nd	nd	nd	nd	nd	nd
Bromobenzene	0.05	nd			nd	nd	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	LCSD	B-1@10'	B-1@25'	B-2@5'	B-2@10'	B-3@5'	B-3@10'
Date extracted		06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
Date analyzed	(mg/Kg)	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
n-Propylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd			nd	nd	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd			nd	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd			nd	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd			nd	nd	nd	nd	nd	nd
Isopropyltoluene	0.05	nd			nd	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd			nd	nd	nd	nd	nd	nd
n-Butylbenzene	0.05	nd			nd	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd			nd	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd			nd	nd	nd	nd	nd	nd
Naphthalene	0.05	nd			nd	nd	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd			nd	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd			nd	nd	nd	nd	nd	nd
Surrogate recoveries										
Dibromofluoromethane		91%	92%	96%	95%	97%	96%	97%	101%	93%
Toluene-d8		105%	99%	97%	103%	110%	106%	105%	113%	108%
4-Bromofluorobenzene		108%	104%	106%	111%	106%	102%	105%	106%	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	B-4@5'	B-4@7'	B-5@5'	B-5@7'
Date extracted		06/11/14	06/11/14	06/11/14	06/11/14
Date analyzed	(mg/Kg)	06/12/14	06/12/14	06/12/14	06/12/14
Dichlorodifluoromethane	0.05	nd	nd	nd	nd
Chloromethane	0.05	nd	nd	nd	nd
Vinyl chloride	0.02	nd	nd	nd	nd
Bromomethane	0.05	nd	nd	nd	nd
Chloroethane	0.05	nd	nd	nd	nd
Trichlorofluoromethane	0.05	nd	nd	nd	nd
Acetone	0.25	nd	nd	nd	nd
1,1-Dichloroethene	0.05	nd	nd	nd	nd
Methylene chloride	0.05	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd
trans-1,2-Dichloroethene	0.05	nd	nd	nd	nd
1,1-Dichloroethane	0.05	nd	nd	nd	nd
2-Butanone (MEK)	0.25	nd	nd	nd	nd
cis-1,2-Dichloroethene	0.05	nd	nd	nd	nd
2,2-Dichloropropane	0.05	nd	nd	nd	nd
Chloroform	0.05	nd	nd	nd	nd
Bromochloromethane	0.05	nd	nd	nd	nd
1,1,1-Trichloroethane	0.05	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd
1,1-Dichloropropene	0.05	nd	nd	nd	nd
Carbon tetrachloride	0.05	nd	nd	nd	nd
Benzene	0.25	nd	nd	nd	nd
Trichloroethene (TCE)	0.02	nd	nd	nd	nd
1,2-Dichloropropane	0.05	nd	nd	nd	nd
Dibromomethane	0.05	nd	nd	nd	nd
Bromodichloromethane	0.05	nd	nd	nd	nd
4-Methyl-2-pentanone (MIBK)	0.25	nd	nd	nd	nd
cis-1,3-Dichloropropene	0.05	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd
trans-1,3-Dichloropropene	0.05	nd	nd	nd	nd
1,1,2-Trichloroethane	0.05	nd	nd	nd	nd
2-Hexanone	0.25	nd	nd	nd	nd
1,3-Dichloropropane	0.05	nd	nd	nd	nd
Dibromochloromethane	0.05	nd	nd	nd	nd
Tetrachloroethene (PCE)	0.02	nd	nd	**0.07**	**0.02**
1,2-Dibromoethane (EDB)	0.05	nd	nd	nd	nd
Chlorobenzene	0.05	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd
Styrene	0.05	nd	nd	nd	nd
Bromoform	0.05	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	0.05	nd	nd	nd	nd
Isopropylbenzene	0.05	nd	nd	nd	nd
1,2,3-Trichloropropane	0.05	nd	nd	nd	nd
Bromobenzene	0.05	nd	nd	nd	nd

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Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	B-4@5'	B-4@7'	B-5@5'	B-5@7'
Date extracted		06/11/14	06/11/14	06/11/14	06/11/14
Date analyzed	(mg/Kg)	06/12/14	06/12/14	06/12/14	06/12/14
n-Propylbenzene	0.05	nd	nd	nd	nd
2-Chlorotoluene	0.05	nd	nd	nd	nd
4-Chlorotoluene	0.05	nd	nd	nd	nd
1,3,5-Trimethylbenzene	0.05	nd	nd	nd	nd
tert-Butylbenzene	0.05	nd	nd	nd	nd
1,2,4-Trimethylbenzene	0.05	nd	nd	nd	nd
sec-Butylbenzene	0.05	nd	nd	nd	nd
1,3-Dichlorobenzene	0.05	nd	nd	nd	nd
1,4-Dichlorobenzene	0.05	nd	nd	nd	nd
Isopropyltoluene	0.05	nd	nd	nd	nd
1,2-Dichlorobenzene	0.05	nd	nd	nd	nd
n-Butylbenzene	0.05	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	0.05	nd	nd	nd	nd
1,2,4-Trichlorobenzene	0.05	nd	nd	nd	nd
Naphthalene	0.05	nd	nd	nd	nd
Hexachloro-1,3-butadiene	0.05	nd	nd	nd	nd
1,2,3-Trichlorobenzene	0.05	nd	nd	nd	nd
Surrogate recoveries					
Dibromofluoromethane		94%	96%	97%	98%
Toluene-d8		107%	106%	108%	105%
4-Bromofluorobenzene		107%	104%	101%	100%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%