February 27, 2008

Mr. James Tosti, President
Windward Real Estate Services, Inc.
7981 168th Avenue NE, #118
Redmond, WA 98052

Re: Soil and Groundwater Sampling Results
1006 Lake Street, Kirkland, Washington
Project No. 080009

Dear Mr. Tosti:

This letter presents results of soil and groundwater sampling performed at the 1006 Lake Street property in Kirkland, Washington. The site is currently occupied by an active dry cleaning operation and formerly housed a restaurant. A previous site investigation identified chlorinated volatile organic compounds (VOCs) in a shallow groundwater sample collected beneath the dry cleaner building at concentrations greater than regulatory cleanup levels. The purpose of current investigation was to collect additional soil and groundwater quality data to more fully assess the extent of the chlorinated VOC release at the site.

Property Description

The subject property is currently occupied by an active dry cleaners (Michael's Fine Dry Cleaning) and an empty storefront that formerly housed a restaurant. The property is bordered to the south by an empty lot, to the east by a single family residence, and to the north and west by 10th Avenue South and Lake Street South, respectively (Figure 1). Lake Washington is located approximately 200 feet west of the property. Lake elevation is approximately 20 feet below the ground surface at the property. The parking areas on the west and south sides of the property are paved with asphalt. The east side of the property, behind the dry cleaner and restaurant building, is unpaved and overgrown with blackberries. This area is at the base of steep slopes coming down from 10th Avenue South and the residential property to the east. An apparent sanitary sewer line was located along the east side of the building. This line runs north toward 10th Avenue South, although it was not determined where this sewer line joins the sewer main line.

Previous Investigation

A previous investigation to evaluate site soil and groundwater conditions was performed by Environmental Associates, Inc. (EAI, 2006). Four soil borings (B-1 through B-4) were drilled at the property in July 2006 using a direct-push (e.g., Geoprobe) drill rig. Borings were located in the parking lot west of the building, in the inferred downgradient direction from the dry cleaners; on the south side of the building near the back exit from the dry cleaners; and

inside the building on the front and back sides of the dry cleaning machine. Approximate boring locations are shown on Figure 1.

One or two soil samples were collected from each boring and submitted for laboratory analysis of volatile organic compounds (VOCs) by EPA Method 8260B. One groundwater sample was also collected from the only boring where water was encountered boring (B-4) and submitted for analysis of VOCs. Analytical results are summarized in Tables 1 and 2. VOCs were not detected in any soil sample at concentrations above the laboratory reporting limit. Three chlorinated VOCs associated with dry cleaning solvents were detected in the groundwater sample. Detected VOCs include tetrachloroethene (PCE) at a concentration of 10 μg/L, trichloroethene (TCE) at a concentration of 2.8 μg/L, and cis-1,2-dichloroethene (cis-1,2-DCE) at a concentration of 5.5 μg/L. The concentration of PCE exceeded the Washington State Model Toxics Control Act (MTCA) Method A groundwater cleanup level for this substance of 5 μg/L. Detected concentrations of TCE and cis-1,2-DCE were below their respective cleanup levels. Based on these results it was concluded that a release of dry cleaning solvents had occurred, resulting in adverse environmental impacts in the vicinity of the dry cleaning machine.

Current Investigation and Results

There were three primary purposes for the current investigation:

- Collect additional soil samples adjacent to and in the presumed downgradient direction from the dry cleaner building to evaluate whether the release of dry cleaning solvents has affected a broader area of the site (borings B-6 through B-9);
- Collect soil and groundwater samples from adjacent to the sanitary sewer line to assess whether the sewer line has acted as a secondary source of release of dry cleaning solvents (Boring B-5); and
- Collect groundwater samples to assess whether groundwater beneath the site has been impacted (any boring where groundwater encountered).

On January 31, 2008, five soil borings (B-5 through B-9) were completed at the site under the direction of an Aspect Consulting, LLC geologist. Borings B-6 through B-9 were completed using a Geoprobe drill rig. Boring B-5, located behind the building, was drilled using a hand auger due to access limitations for a drill rig. Soil samples were collected continuously through the drilling depth. Soil conditions and field observations were recorded on the boring logs, which are included in Attachment 1. Soils encountered during drilling generally consisted of dense silty sand and hard sandy silt, which is interpreted as a native glacial till unit. Due to the dense nature of the till, the Geoprobe borings could not advance through this unit, hitting refusal at between 4.5 and 8 feet below ground surface (bgs). Water was encountered in only one boring (B-5) next to the sanitary sewer line.

One soil sample was collected from B-5 and two soil samples each were collected from borings B-6 through B-9. One groundwater sample was also collected from boring B-5 using a temporary PVC well screen. Soil and groundwater samples were submitted to the analytical laboratory for analysis of VOCs by EPA Method 8260B. VOCs were not detected in any of

the soil or groundwater samples. Results are summarized on Tables 1 and 2. Copies of the laboratory certificates of analysis are presented in Attachment 2.

Conclusions and Recommendations

Based on results of the investigations completed to date, impacts associated with a release of dry cleaning solvents appears to be limited to the area near the dry cleaning machine. Chlorinated VOCs were not detected in soil samples collected outside the building footprint, or in a groundwater sample collected adjacent to the sanitary sewer line. The chlorinated VOC PCE was detected in a groundwater sample collected near the dry cleaning machine at a concentration exceeding MTCA cleanup levels.

Groundwater was encountered in only two of nine borings completed in the till unit. The presence of groundwater may reflect a "perched" condition, with water occurring in more permeable zones of the till. Due to the dense nature of the till, Geoprobe borings were not able to penetrate through the till unit. As a result the total thickness of the till, the presence of a deeper water bearing zone, and the potential for a release to impact groundwater beneath the till could not be assessed; however the low permeability till is expected to impede downward migration of VOCs released at the ground surface.

There are two options to consider in proceeding forward. The first option is to complete additional investigation prior to completing the property purchase. For this option we would recommend installing two monitoring wells in the presumed downgradient direction from the dry cleaners near Lake Street South. These wells would be drilled through the till unit into any underlying aquifer, with the purpose of assessing whether the solvent release at the dry cleaners has impacted deeper groundwater quality and whether any contaminants are moving off site. This work would be completed using a hollow stem auger drill rig capable of penetrating the till unit. This work would cost approximately $8,000 to $10,000.

The second option is to continue with the purchase and plan for construction contingency, as follows. Assuming the property purchase is completed and the property is redeveloped, subsurface work in the vicinity of the dry cleaning machine will likely require precautions to protect workers from exposure and to identify and ensure proper disposal of contaminated media. This could include either additional characterization of soil and groundwater quality near the dry cleaning machine to estimate the extents of contaminated soil and groundwater prior to building demolition, or proceeding with demolition followed by stockpiling and testing of suspected contaminated soil to determine proper disposal.

While contaminants were not detected in the sampled soil, it remains a possibility that residual dry cleaning solvents are present beneath the active machine. Because the extent of impacts appears relatively limited, soil excavation and disposal and collection and disposal of groundwater inflow during construction is likely a feasible option for site remediation if contamination is found. Depending on contaminant concentrations, typical costs associated with disposal of chlorinated VOC-impacted soil are approximately $90 per ton for soil with low concentrations of contaminants (i.e., nonhazardous waste) to approximately $275 to $300 per ton for disposal of soil with higher concentrations of contaminants (i.e., hazardous waste).

Limitations

Work for this project was performed and this report prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use of Windward Real Estate Services, Inc. for specific application to the referenced property. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

Sincerely,

Aspect consulting, LLC

Joseph Morrice, LHG
Senior Hydrogeologist
jmorrice@aspectconsulting.com

Doug Hillman, LHG
Principal Hydrogeologist
dhillman@aspectconsulting.com

Attachments: Table 1 – Analytical Results - Soil
Table 2 – Analytical Results - Groundwater
Figure 1 – Exploration Locations
Attachment A – Boring Logs
Attachment B – Laboratory Certificates of Analysis

References

Environmental Associates, Inc., 2006. Preliminary Subsurface Sampling & Testing, 1006 Lake Street South, Kirkland, Washington.

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Table 1 - Analytical Results - Soil

1006 Lake Street, Kirkland, Washignton
Project 080009

			Concentration in µg/L			
Sample ID	**Date**	**Sampled By**	**Tetrachloroethene**	**Trichloroethene**	**cis-1,2-Dichloroethene**	**Vinyl Chloride**
B1-11	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B2-7.5	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B2-9	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B3-1	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B3-3.5	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B4-4	7/22/2006	EAI	<0.05	<0.03	<0.05	<0.05
B5-4	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B6-4.5	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B6-8	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B7-2.5	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B7-4.5	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B8-4	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B8-5	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B9-4	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
B9-5	1/31/2008	Aspect	<0.025	<0.03	<0.05	<0.05
Cleanup Level			0.05	0.03	800	0.67

Notes:
Cleanup levels listed are the more restrictive of MTCA Method A or Method B values for unrestricted land use.
< indicates constituent not detected at listed detection limit.

Table 2 - Analytical Results - Groundwater

1006 Lake Street, Kirkland, Washignton
Project 080009

			Concentration in µg/L			
Sample ID	**Date**	**Sampled By**	**Tetrachloroethene**	**Trichloroethene**	**cis-1,2-Dichloroethene**	**Vinyl Chloride**
B4-GW	7/22/2006	EAI	10	2.8	5.5	<0.2
B-5	1/31/2008	Aspect	<1	<1	<1	<0.2
Cleanup Level			5	5	70	0.2

Notes:
Cleanup levels listed are the more restrictive of MTCA Method A or Method B values for unrestricted land use.
< indicates constituent not detected at listed detection limit.

Soil Borings

- Aspect
- EAI
- Dry Cleaner Machine

Aspect consulting
www.aspectconsulting.com

Site Location and Exploration Locations
1006 Lake St. Kirkland, WA

DATE Feb 2008	PROJECT NO. 080009
DESIGNED BY PPW	
DRAWN BY PPW	FIGURE NO. 1
REVISED BY PPW	

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ATTACHMENT 21

Boring Log

Aspect consulting
IN-DEPTH PERSPECTIVE

Project Number	Boring Number	Sheet
080009	B-5	1 of 1

Project Name: Windward - Lake Street
Location: 1006 Lake Street South
Driller/Method: Northwest Probe / Hand-Auger, post-hole diggers
Sampling Method: 2" hand auger core
Ground Surface Elev:
Depth to Water (FT BGS): 3.5
Start/Finish Date: 1/31/2007

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
							(First 2.5 feet of hole was pre-existing. Upper lithology inferred from surroundings)	
							loose, very moist, dark brown, slightly gravelly, silty SAND (GM). Loamy sand.	
1								1
2								2
3							dense, wet, grey, sandy silty GRAVEL (GM). Sewer line at 3.5 ft.	3
4	Backfilled with sand	B5-4	VOCs					4
5							Auger bottom at 5'	5
6								6
7								7
8								8
9								9

Sampler Type:
No Recovery
Continuous Core

PID - Photoionization Detector (Headspace Measurement)
Static Water Level
Water Level (ATD)

Logged by: JTL
Approved by: JM
Figure No. A - 1

ATTACHMENT 21

Boring Log

Aspect consulting
IN-DEPTH PERSPECTIVE

Project Number	Boring Number	Sheet
080009	B-6	1 of 1

Project Name: Windward - Lake Street
Location: 1006 Lake Street South
Driller/Method: Northwest Probe / Direct Push Probe Rig
Sampling Method: Direct Push Continuous 2" Core
Ground Surface Elev:
Depth to Water (FT BGS):
Start/Finish Date: 1/31/2007

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
							Asphalt	
1							very dense, slightly moist, brown to light grey, very gravelly, silty SAND (SM). Fine sand	1
2								2
3							Very hard, slightly moist, grey, slightly sandy, gravelly SILT (ML). Fine sand.	3
4	Backfilled with granular bentonite	B6-4.5	VOCs					4
							Wet silty SAND (SM).	
5							Very hard, slightly moist, dark grey, slightly sandy SILT (ML). Fine sand.	5
6								6
7								7
8		B6-8	VOCs					8
							Probe refusal at 8'	
9								9

Sampler Type:
No Recovery
Continuous Core

PID - Photoionization Detector (Headspace Measurement)
Static Water Level
Water Level (ATD)

Logged by: JTL
Approved by: JM
Figure No. A - 2

ATTACHMENT 21

Boring Log

Aspect consulting
IN-DEPTH PERSPECTIVE

Project Number	Boring Number	Sheet
080009	B-7	1 of 1

Project Name: Windward - Lake Street
Location: 1006 Lake Street South
Driller/Method: Northwest Probe / Direct Push Probe Rig
Sampling Method: Direct Push Continuous 2" Core
Ground Surface Elev:
Depth to Water (FT BGS):
Start/Finish Date: 1/31/2007

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
							Asphalt	
							loose, moist, dark brown, gravelly silty SAND. Organic-rich	
1							dense, moist, grey, very gravelly, very silty SAND (SM). Fine to medium sand.	1
2		B7-2.5	VOCs					2
							dense, slightly moist, gravelly, silty SAND (SM).	
3								3
4	Backfilled with granular bentonite	B7-4.5	VOCs				Very hard, slightly moist, dark grey, slightly sandy SILT (SM). Fine sand.	4
							Probe refusal at 4.5'	
5								5
6								6
7								7
8								8
9								9

Sampler Type:
No Recovery
Continuous Core

PID - Photoionization Detector (Headspace Measurement)
Static Water Level
Water Level (ATD)

Logged by: JTL
Approved by: JM
Figure No. A - 3

ATTACHMENT 21

Aspect consulting
IN-DEPTH PERSPECTIVE

Boring Log

Project Number	Boring Number	Sheet
080009	B-8	1 of 1

Project Name: Windward - Lake Street
Location: 1006 Lake Street South
Driller/Method: Northwest Probe / Direct Push Probe Rig
Sampling Method: Direct Push Continuous 2" Core
Ground Surface Elev:
Depth to Water (FT BGS):
Start/Finish Date: 1/31/2007

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
							Asphalt	
							med dense, moist, gravelly silty SAND (SM).	
1								1
2								2
3								3
4	Backfilled with granular bentonite	B8-4	VOCs					4
							dense, moist, brown silty SAND (SW).	
5		B8-5	VOCs				very hard, slightly moist, dark grey slightly gravelly, silty SAND (SM). Pea gravel, fine sand Probe refusal at 5'	5
6								6
7								7
8								8
9								9

Sampler Type:
No Recovery
Continuous Core

PID - Photoionization Detector (Headspace Measurement)
Static Water Level
Water Level (ATD)

Logged by: JTL
Approved by: JM
Figure No. A - 4

ATTACHMENT 21

Boring Log

Aspect consulting
IN-DEPTH PERSPECTIVE

Project Number	Boring Number	Sheet
080009	B-9	1 of 1

Project Name: Windward - Lake Street
Location: 1006 Lake Street South
Driller/Method: Northwest Probe / Direct Push Probe Rig
Sampling Method: Direct Push Continuous 2" Core
Ground Surface Elev:
Depth to Water (FT BGS):
Start/Finish Date: 1/31/2007

Depth / Elevation (feet)	Borehole Completion	Sample Type/ID	Tests	PID (ppm)	Blows/ 6"	Material Type	Description	Depth (ft)
							Asphalt	
1							very dense, slightly moist, brown silty gravelly SAND (SM). Sand fine to medium.	1
2							very dense, slightly moist, grey silty gravelly SAND (SW). Sand fine to medium.	2
3								3
4	Backfilled with granular bentonite	B9-4	VOCs					4
5		B9-5	VOC's				very hard, moist, dark grey slightly sandy SILT (MLS). Fine sand Probe refusal at 5'	5
6								6
7								7
8								8
9								9

Sampler Type:
No Recovery
Continuous Core

PID - Photoionization Detector (Headspace Measurement)
Static Water Level
Water Level (ATD)

Logged by: JTL
Approved by: JM
Figure No. A - 5

ATTACHMENT 21

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
FAX: (206) 283-5044
e-mail: fbi@isomedia.com

RECEIVED
FEB 19 2008

February 13, 2008

Joe Morrice, Project Manager
Aspect Consulting
401 2nd Ave S, Suite 201
Seattle, WA 98104

Dear Mr. Morrice:

Included are the results from the testing of material submitted on February 6, 2008 from the Windward/080009, F&BI 802040 project. There are 19 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Parker Wittman
ASP0213R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 6, 2008 by Friedman & Bruya, Inc. from the Aspect Consulting Windward/080009, F&BI 802040 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting
802040-01	B5-4'-013108
802040-02	B6-4.5-013108
802040-03	B6-8-013108
802040-04	B7-2.5-013108
802040-05	B7-4.5-013108
802040-06	B8-4-013108
802040-07	B8-5-013108
802040-08	B9-4-013108
802040-09	B9-5-013108
802040-10	B5-013108

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B5-4'-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-01
Date Analyzed:	02/07/08	Data File:	020709.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	94	32	147
1,2-Dichloroethane-d4	104	35	150
Toluene-d8	89	35	149
4-Bromofluorobenzene	106	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B6-4.5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-02
Date Analyzed:	02/07/08	Data File:	020710.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	110	32	147
1,2-Dichloroethane-d4	113	35	150
Toluene-d8	108	35	149
4-Bromofluorobenzene	116	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B6-8-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-03
Date Analyzed:	02/07/08	Data File:	020711.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	105	32	147
1,2-Dichloroethane-d4	107	35	150
Toluene-d8	104	35	149
4-Bromofluorobenzene	118	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B7-2.5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-04
Date Analyzed:	02/07/08	Data File:	020712.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	99	32	147
1,2-Dichloroethane-d4	106	35	150
Toluene-d8	98	35	149
4-Bromofluorobenzene	106	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B7-4.5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-05
Date Analyzed:	02/07/08	Data File:	020713.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	90	32	147
1,2-Dichloroethane-d4	95	35	150
Toluene-d8	92	35	149
4-Bromofluorobenzene	99	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B8-4-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-06
Date Analyzed:	02/07/08	Data File:	020714.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	90	32	147
1,2-Dichloroethane-d4	97	35	150
Toluene-d8	91	35	149
4-Bromofluorobenzene	97	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B8-5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-07
Date Analyzed:	02/07/08	Data File:	020715.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	89	32	147
1,2-Dichloroethane-d4	97	35	150
Toluene-d8	91	35	149
4-Bromofluorobenzene	95	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B9-4-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-08
Date Analyzed:	02/07/08	Data File:	020716.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	100	32	147
1,2-Dichloroethane-d4	107	35	150
Toluene-d8	100	35	149
4-Bromofluorobenzene	106	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B9-5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-09
Date Analyzed:	02/07/08	Data File:	020717.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	94	32	147
1,2-Dichloroethane-d4	100	35	150
Toluene-d8	95	35	149
4-Bromofluorobenzene	102	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	080174 mb
Date Analyzed:	02/07/08	Data File:	020708.D
Matrix:	Soil	Instrument:	GCMS5
Units:	mg/kg (ppm)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	84	32	147
1,2-Dichloroethane-d4	84	35	150
Toluene-d8	82	35	149
4-Bromofluorobenzene	91	15	196

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	Tetrachloroethene	<0.025
Chloromethane	<0.05	Dibromochloromethane	<0.05
Vinyl chloride	<0.05	1,2-Dibromoethane (EDB)	<0.05
Bromomethane	<0.5	Chlorobenzene	<0.05
Chloroethane	<0.5	Ethylbenzene	<0.05
Trichlorofluoromethane	<0.5	1,1,1,2-Tetrachloroethane	<0.05
Acetone	<0.5	m,p-Xylene	<0.1
1,1-Dichloroethene	<0.05	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
trans-1,2-Dichloroethene	<0.05	Isopropylbenzene	<0.05
1,1-Dichloroethane	<0.05	Bromoform	<0.05
2,2-Dichloropropane	<0.05	n-Propylbenzene	<0.05
cis-1,2-Dichloroethene	<0.05	Bromobenzene	<0.05
Chloroform	<0.05	1,3,5-Trimethylbenzene	<0.05
2-Butanone (MEK)	<0.5	1,1,2,2-Tetrachloroethane	<0.05
1,2-Dichloroethane (EDC)	<0.05	1,2,3-Trichloropropane	<0.05
1,1,1-Trichloroethane	<0.05	2-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	4-Chlorotoluene	<0.05
Carbon Tetrachloride	<0.05	tert-Butylbenzene	<0.05
Benzene	<0.03	1,2,4-Trimethylbenzene	<0.05
Trichloroethene	<0.03	sec-Butylbenzene	<0.05
1,2-Dichloropropane	<0.05	p-Isopropyltoluene	<0.05
Bromodichloromethane	<0.05	1,3-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,4-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dichlorobenzene	<0.05
cis-1,3-Dichloropropene	<0.05	1,2-Dibromo-3-chloropropane	<0.05
Toluene	<0.05	1,2,4-Trichlorobenzene	<0.1
trans-1,3-Dichloropropene	<0.05	Hexachlorobutadiene	<0.1
1,1,2-Trichloroethane	<0.05	Naphthalene	<0.05
2-Hexanone	<0.5	1,2,3-Trichlorobenzene	<0.1
1,3-Dichloropropane	<0.05		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	B5-013108	Client:	Aspect Consulting
Date Received:	02/06/08	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	802040-10
Date Analyzed:	02/07/08	Data File:	020707.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	99	55	118
1,2-Dichloroethane-d4	105	53	121
Toluene-d8	89	55	121
4-Bromofluorobenzene	110	29	181

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	Tetrachloroethene	<1
Chloromethane	<1	Dibromochloromethane	<1
Vinyl chloride	<0.2	1,2-Dibromoethane (EDB)	<1
Bromomethane	<1	Chlorobenzene	<1
Chloroethane	<1	Ethylbenzene	<1
Trichlorofluoromethane	<1	1,1,1,2-Tetrachloroethane	<1
Acetone	<10	m,p-Xylene	<2
1,1-Dichloroethene	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon Tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<1	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<1
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1
1,3-Dichloropropane	<1		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260B

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	Windward/080009, F&BI 802040
Date Extracted:	02/07/08	Lab ID:	080173 mb
Date Analyzed:	02/07/08	Data File:	020706.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	MB

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Dibromofluoromethane	101	55	118
1,2-Dichloroethane-d4	106	53	121
Toluene-d8	94	55	121
4-Bromofluorobenzene	100	29	181

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	Tetrachloroethene	<1
Chloromethane	<1	Dibromochloromethane	<1
Vinyl chloride	<0.2	1,2-Dibromoethane (EDB)	<1
Bromomethane	<1	Chlorobenzene	<1
Chloroethane	<1	Ethylbenzene	<1
Trichlorofluoromethane	<1	1,1,1,2-Tetrachloroethane	<1
Acetone	<10	m,p-Xylene	<2
1,1-Dichloroethene	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
trans-1,2-Dichloroethene	<1	Isopropylbenzene	<1
1,1-Dichloroethane	<1	Bromoform	<1
2,2-Dichloropropane	<1	n-Propylbenzene	<1
cis-1,2-Dichloroethene	<1	Bromobenzene	<1
Chloroform	<1	1,3,5-Trimethylbenzene	<1
2-Butanone (MEK)	<10	1,1,2,2-Tetrachloroethane	<1
1,2-Dichloroethane (EDC)	<1	1,2,3-Trichloropropane	<1
1,1,1-Trichloroethane	<1	2-Chlorotoluene	<1
1,1-Dichloropropene	<1	4-Chlorotoluene	<1
Carbon Tetrachloride	<1	tert-Butylbenzene	<1
Benzene	<1	1,2,4-Trimethylbenzene	<1
Trichloroethene	<1	sec-Butylbenzene	<1
1,2-Dichloropropane	<1	p-Isopropyltoluene	<1
Bromodichloromethane	<1	1,3-Dichlorobenzene	<1
Dibromomethane	<1	1,4-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dichlorobenzene	<1
cis-1,3-Dichloropropene	<1	1,2-Dibromo-3-chloropropane	<1
Toluene	<1	1,2,4-Trichlorobenzene	<1
trans-1,3-Dichloropropene	<1	Hexachlorobutadiene	<1
1,1,2-Trichloroethane	<1	Naphthalene	<1
2-Hexanone	<10	1,2,3-Trichlorobenzene	<1
1,3-Dichloropropane	<1		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/13/08
Date Received: 02/06/08
Project: Windward/080009, F&BI 802040

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 802059-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	<0.05	<0.05	nm
Chloromethane	mg/kg (ppm)	<0.05	<0.05	nm
Vinyl chloride	mg/kg (ppm)	<0.05	<0.05	nm
Bromomethane	mg/kg (ppm)	<0.5	<0.5	nm
Chloroethane	mg/kg (ppm)	<0.5	<0.5	nm
Trichlorofluoromethane	mg/kg (ppm)	<0.5	<0.5	nm
Acetone	mg/kg (ppm)	<0.5	<0.5	nm
1,1-Dichloroethene	mg/kg (ppm)	<0.05	<0.05	nm
Methylene chloride	mg/kg (ppm)	<0.5	<0.5	nm
trans-1,2-Dichloroethene	mg/kg (ppm)	<0.05	<0.05	nm
1,1-Dichloroethane	mg/kg (ppm)	<0.05	<0.05	nm
2,2-Dichloropropane	mg/kg (ppm)	<0.05	<0.05	nm
cis-1,2-Dichloroethene	mg/kg (ppm)	<0.05	<0.05	nm
Chloroform	mg/kg (ppm)	<0.05	<0.05	nm
2-Butanone (MEK)	mg/kg (ppm)	<0.5	<0.5	nm
1,2-Dichloroethane (EDC)	mg/kg (ppm)	<0.05	<0.05	nm
1,1,1-Trichloroethane	mg/kg (ppm)	<0.05	<0.05	nm
1,1-Dichloropropene	mg/kg (ppm)	<0.05	<0.05	nm
Carbon Tetrachloride	mg/kg (ppm)	<0.05	<0.05	nm
Benzene	mg/kg (ppm)	<0.03	<0.03	nm
Trichloroethene	mg/kg (ppm)	<0.03	<0.03	nm
1,2-Dichloropropane	mg/kg (ppm)	<0.05	<0.05	nm
Bromodichloromethane	mg/kg (ppm)	<0.05	<0.05	nm
Dibromomethane	mg/kg (ppm)	<0.05	<0.05	nm
4-Methyl-2-pentanone	mg/kg (ppm)	<0.5	<0.5	nm
cis-1,3-Dichloropropene	mg/kg (ppm)	<0.05	<0.05	nm
Toluene	mg/kg (ppm)	<0.05	<0.05	nm
trans-1,3-Dichloropropene	mg/kg (ppm)	<0.05	<0.05	nm
1,1,2-Trichloroethane	mg/kg (ppm)	<0.05	<0.05	nm
2-Hexanone	mg/kg (ppm)	<0.5	<0.5	nm
1,3-Dichloropropane	mg/kg (ppm)	<0.05	<0.05	nm
Tetrachloroethene	mg/kg (ppm)	<0.025	<0.025	nm
Dibromochloromethane	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.05	<0.05	nm
Chlorobenzene	mg/kg (ppm)	<0.05	<0.05	nm
Ethylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	<0.05	<0.05	nm
m,p-Xylene	mg/kg (ppm)	<0.1	<0.1	nm
o-Xylene	mg/kg (ppm)	<0.05	<0.05	nm
Styrene	mg/kg (ppm)	<0.05	<0.05	nm
Isopropylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
Bromoform	mg/kg (ppm)	<0.05	<0.05	nm
n-Propylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
Bromobenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,3,5-Trimethylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	<0.05	<0.05	nm
1,2,3-Trichloropropane	mg/kg (ppm)	<0.05	<0.05	nm
2-Chlorotoluene	mg/kg (ppm)	<0.05	<0.05	nm
4-Chlorotoluene	mg/kg (ppm)	<0.05	<0.05	nm
tert-Butylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,2,4-Trimethylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
sec-Butylbenzene	mg/kg (ppm)	<0.05	<0.05	nm
p-Isopropyltoluene	mg/kg (ppm)	<0.05	<0.05	nm
1,3-Dichlorobenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,4-Dichlorobenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dichlorobenzene	mg/kg (ppm)	<0.05	<0.05	nm
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	<0.05	<0.05	nm
1,2,4-Trichlorobenzene	mg/kg (ppm)	<0.1	<0.1	nm
Hexachlorobutadiene	mg/kg (ppm)	<0.1	<0.1	nm
Naphthalene	mg/kg (ppm)	<0.05	<0.05	nm
1,2,3-Trichlorobenzene	mg/kg (ppm)	<0.1	<0.1	nm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/13/08
Date Received: 02/06/08
Project: Windward/080009, F&BI 802040

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 802059-10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.05	82	24-139
Chloromethane	mg/kg (ppm)	2.5	<0.05	87	30-153
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	97	41-150
Bromomethane	mg/kg (ppm)	2.5	<0.5	108	54-150
Chloroethane	mg/kg (ppm)	2.5	<0.5	95	36-161
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	177 vo	46-164
Acetone	mg/kg (ppm)	2.5	<0.5	101	47-157
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	104	22-144
Methylene chloride	mg/kg (ppm)	2.5	<0.5	88	38-149
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	100	53-138
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	101	65-125
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	88	26-153
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	101	59-140
Chloroform	mg/kg (ppm)	2.5	<0.05	103	67-126
2-Butanone (MEK)	mg/kg (ppm)	2.5	<0.5	112	40-160
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	101	68-127
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	99	61-134
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	102	59-128
Carbon Tetrachloride	mg/kg (ppm)	2.5	<0.05	86	54-138
Benzene	mg/kg (ppm)	2.5	<0.03	102	61-129
Trichloroethene	mg/kg (ppm)	2.5	<0.03	99	61-132
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	103	69-129
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	101	56-138
Dibromomethane	mg/kg (ppm)	2.5	<0.05	103	65-135
4-Methyl-2-pentanone	mg/kg (ppm)	2.5	<0.5	102	62-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	101	63-134
Toluene	mg/kg (ppm)	2.5	<0.05	99	59-137
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	101	67-133
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	103	71-130
2-Hexanone	mg/kg (ppm)	2.5	<0.5	103	56-157
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	102	71-128
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	96	63-131
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	99	58-132
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	101	71-132
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	95	65-125
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	101	69-130
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	96	69-129
m,p-Xylene	mg/kg (ppm)	5	<0.1	96	67-134
o-Xylene	mg/kg (ppm)	2.5	<0.05	95	73-130
Styrene	mg/kg (ppm)	2.5	<0.05	102	68-127
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	98	50-147
Bromoform	mg/kg (ppm)	2.5	<0.05	99	50-142
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	101	70-129
Bromobenzene	mg/kg (ppm)	2.5	<0.05	100	69-132
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	101	71-129
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	104	64-138
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	101	66-133
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	99	69-125
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	99	68-126
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	97	70-128
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	0.11	102	71-130
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	100	58-136
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	102	70-131
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	96	70-125
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	94	69-121
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	97	68-128
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.05	103	55-151
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.1	105	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.1	101	55-145
Naphthalene	mg/kg (ppm)	2.5	<0.05	112	53-155
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.1	107	55-152

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/13/08
Date Received: 02/06/08
Project: Windward/080009, F&BI 802040

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	78	76	29-163	3
Chloromethane	mg/kg (ppm)	2.5	82	81	28-147	1
Vinyl chloride	mg/kg (ppm)	2.5	93	92	38-143	1
Bromomethane	mg/kg (ppm)	2.5	104	103	32-163	1
Chloroethane	mg/kg (ppm)	2.5	85	85	10-165	0
Trichlorofluoromethane	mg/kg (ppm)	2.5	101	97	22-167	4
Acetone	mg/kg (ppm)	2.5	107	103	20-172	4
1,1-Dichloroethene	mg/kg (ppm)	2.5	93	88	42-140	6
Methylene chloride	mg/kg (ppm)	2.5	96	97	53-137	1
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	98	96	70-122	2
1,1-Dichloroethane	mg/kg (ppm)	2.5	99	97	77-114	2
2,2-Dichloropropane	mg/kg (ppm)	2.5	97	96	65-135	1
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	96	77-120	4
Chloroform	mg/kg (ppm)	2.5	100	98	76-117	2
2-Butanone (MEK)	mg/kg (ppm)	2.5	121	113	52-153	7
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	99	97	76-116	2
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	94	95	79-120	1
1,1-Dichloropropene	mg/kg (ppm)	2.5	101	99	76-123	2
Carbon Tetrachloride	mg/kg (ppm)	2.5	86	86	75-126	0
Benzene	mg/kg (ppm)	2.5	100	99	76-118	1
Trichloroethene	mg/kg (ppm)	2.5	97	96	75-121	1
1,2-Dichloropropane	mg/kg (ppm)	2.5	102	100	78-123	2
Bromodichloromethane	mg/kg (ppm)	2.5	99	98	79-126	1
Dibromomethane	mg/kg (ppm)	2.5	102	99	79-121	3
4-Methyl-2-pentanone	mg/kg (ppm)	2.5	102	101	52-151	1
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	101	80-127	2
Toluene	mg/kg (ppm)	2.5	99	98	76-122	1
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	102	80-126	1
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	102	101	77-121	1
2-Hexanone	mg/kg (ppm)	2.5	103	102	67-126	1
1,3-Dichloropropane	mg/kg (ppm)	2.5	100	100	76-122	0
Tetrachloroethene	mg/kg (ppm)	2.5	96	96	77-124	0
Dibromochloromethane	mg/kg (ppm)	2.5	96	97	73-127	1
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	102	101	78-126	1
Chlorobenzene	mg/kg (ppm)	2.5	95	94	79-113	1
Ethylbenzene	mg/kg (ppm)	2.5	100	99	77-120	1
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	94	95	79-125	1
m,p-Xylene	mg/kg (ppm)	5	96	95	79-121	1
o-Xylene	mg/kg (ppm)	2.5	95	92	80-123	3
Styrene	mg/kg (ppm)	2.5	101	100	81-124	1
Isopropylbenzene	mg/kg (ppm)	2.5	97	95	79-123	2
Bromoform	mg/kg (ppm)	2.5	96	97	65-124	1
n-Propylbenzene	mg/kg (ppm)	2.5	100	99	77-123	1
Bromobenzene	mg/kg (ppm)	2.5	101	100	78-122	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	100	100	79-123	0
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	101	101	73-121	0
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	99	100	69-123	1
2-Chlorotoluene	mg/kg (ppm)	2.5	98	97	77-120	1
4-Chlorotoluene	mg/kg (ppm)	2.5	99	98	77-121	1
tert-Butylbenzene	mg/kg (ppm)	2.5	96	95	77-124	1
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	101	100	78-123	1
sec-Butylbenzene	mg/kg (ppm)	2.5	99	97	77-122	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	101	100	79-126	1
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	95	95	78-119	0
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	93	92	77-114	1
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	96	95	78-120	1
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	104	104	66-133	0
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	108	107	71-129	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	102	99	65-134	3
Naphthalene	mg/kg (ppm)	2.5	112	111	51-158	1
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	109	108	37-182	1

Note: The calibration verification result for chloromethane, chloroethane and carbon tetrachloride exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the calibration is considered valid.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/13/08
Date Received: 02/06/08
Project: Windward/080009, F&BI 802040

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: 802042-08 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	<1	<1	nm
Chloromethane	ug/L (ppb)	<1	<1	nm
Vinyl chloride	ug/L (ppb)	<0.2	<0.2	nm
Bromomethane	ug/L (ppb)	<1	<1	nm
Chloroethane	ug/L (ppb)	<1	<1	nm
Trichlorofluoromethane	ug/L (ppb)	<1	<1	nm
Acetone	ug/L (ppb)	<10	<10	nm
1,1-Dichloroethene	ug/L (ppb)	<1	<1	nm
Methylene chloride	ug/L (ppb)	<5	<5	nm
trans-1,2-Dichloroethene	ug/L (ppb)	<1	<1	nm
1,1-Dichloroethane	ug/L (ppb)	<1	<1	nm
2,2-Dichloropropane	ug/L (ppb)	<1	<1	nm
cis-1,2-Dichloroethene	ug/L (ppb)	<1	<1	nm
Chloroform	ug/L (ppb)	<1	<1	nm
2-Butanone (MEK)	ug/L (ppb)	<10	<10	nm
1,2-Dichloroethane (EDC)	ug/L (ppb)	<1	<1	nm
1,1,1-Trichloroethane	ug/L (ppb)	<1	<1	nm
1,1-Dichloropropene	ug/L (ppb)	<1	<1	nm
Carbon Tetrachloride	ug/L (ppb)	<1	<1	nm
Benzene	ug/L (ppb)	<1	<1	nm
Trichloroethene	ug/L (ppb)	<1	<1	nm
1,2-Dichloropropane	ug/L (ppb)	<1	<1	nm
Bromodichloromethane	ug/L (ppb)	<1	<1	nm
Dibromomethane	ug/L (ppb)	<1	<1	nm
4-Methyl-2-pentanone	ug/L (ppb)	<10	<10	nm
cis-1,3-Dichloropropene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
trans-1,3-Dichloropropene	ug/L (ppb)	<1	<1	nm
1,1,2-Trichloroethane	ug/L (ppb)	<1	<1	nm
2-Hexanone	ug/L (ppb)	<10	<10	nm
1,3-Dichloropropane	ug/L (ppb)	<1	<1	nm
Tetrachloroethene	ug/L (ppb)	<1	<1	nm
Dibromochloromethane	ug/L (ppb)	<1	<1	nm
1,2-Dibromoethane (EDB)	ug/L (ppb)	<1	<1	nm
Chlorobenzene	ug/L (ppb)	7.9	7.4	7
Ethylbenzene	ug/L (ppb)	<1	<1	nm
1,1,1,2-Tetrachloroethane	ug/L (ppb)	<1	<1	nm
m,p-Xylene	ug/L (ppb)	<2	<2	nm
o-Xylene	ug/L (ppb)	<1	<1	nm
Styrene	ug/L (ppb)	<1	<1	nm
Isopropylbenzene	ug/L (ppb)	<1	<1	nm
Bromoform	ug/L (ppb)	<1	<1	nm
n-Propylbenzene	ug/L (ppb)	<1	<1	nm
Bromobenzene	ug/L (ppb)	<1	<1	nm
1,3,5-Trimethylbenzene	ug/L (ppb)	<1	<1	nm
1,1,2,2-Tetrachloroethane	ug/L (ppb)	<1	<1	nm
1,2,3-Trichloropropane	ug/L (ppb)	<1	<1	nm
2-Chlorotoluene	ug/L (ppb)	<1	<1	nm
4-Chlorotoluene	ug/L (ppb)	<1	<1	nm
tert-Butylbenzene	ug/L (ppb)	<1	<1	nm
1,2,4-Trimethylbenzene	ug/L (ppb)	<1	<1	nm
sec-Butylbenzene	ug/L (ppb)	<1	<1	nm
p-Isopropyltoluene	ug/L (ppb)	<1	<1	nm
1,3-Dichlorobenzene	ug/L (ppb)	<1	<1	nm
1,4-Dichlorobenzene	ug/L (ppb)	<1	<1	nm
1,2-Dichlorobenzene	ug/L (ppb)	<1	<1	nm
1,2-Dibromo-3-chloropropane	ug/L (ppb)	<1	<1	nm
1,2,4-Trichlorobenzene	ug/L (ppb)	<1	<1	nm
Hexachlorobutadiene	ug/L (ppb)	<1	<1	nm
Naphthalene	ug/L (ppb)	<1	<1	nm
1,2,3-Trichlorobenzene	ug/L (ppb)	<1	<1	nm

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 02/13/08
Date Received: 02/06/08
Project: Windward/080009, F&BI 802040

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260B

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	91	77	50-136	17
Chloromethane	ug/L (ppb)	50	82	74	55-134	10
Vinyl chloride	ug/L (ppb)	50	89	76	56-144	16
Bromomethane	ug/L (ppb)	50	92	80	58-140	14
Chloroethane	ug/L (ppb)	50	91	80	55-144	13
Trichlorofluoromethane	ug/L (ppb)	50	127	113	54-142	12
Acetone	ug/L (ppb)	50	149	126	52-162	17
1,1-Dichloroethene	ug/L (ppb)	50	100	91	34-135	9
Methylene chloride	ug/L (ppb)	50	91	85	65-112	7
trans-1,2-Dichloroethene	ug/L (ppb)	50	102	101	66-120	1
1,1-Dichloroethane	ug/L (ppb)	50	104	103	65-119	1
2,2-Dichloropropane	ug/L (ppb)	50	107	99	42-143	8
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	96	75-121	2
Chloroform	ug/L (ppb)	50	105	103	63-117	2
2-Butanone (MEK)	ug/L (ppb)	50	130 vo	122	77-125	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	115	113	67-116	2
1,1,1-Trichloroethane	ug/L (ppb)	50	104	97	63-124	7
1,1-Dichloropropene	ug/L (ppb)	50	109	104	62-122	5
Carbon Tetrachloride	ug/L (ppb)	50	108	99	63-126	9
Benzene	ug/L (ppb)	50	100	96	55-134	4
Trichloroethene	ug/L (ppb)	50	103	100	75-116	3
1,2-Dichloropropane	ug/L (ppb)	50	101	96	75-118	5
Bromodichloromethane	ug/L (ppb)	50	106	103	69-129	3
Dibromomethane	ug/L (ppb)	50	102	100	68-117	2
4-Methyl-2-pentanone	ug/L (ppb)	50	108	102	68-124	6
cis-1,3-Dichloropropene	ug/L (ppb)	50	102	100	64-123	2
Toluene	ug/L (ppb)	50	99	97	56-140	2
trans-1,3-Dichloropropene	ug/L (ppb)	50	113	113	71-124	0
1,1,2-Trichloroethane	ug/L (ppb)	50	105	103	66-123	2
2-Hexanone	ug/L (ppb)	50	131 vo	120	66-128	9
1,3-Dichloropropane	ug/L (ppb)	50	107	105	71-125	2
Tetrachloroethene	ug/L (ppb)	50	103	100	78-116	3
Dibromochloromethane	ug/L (ppb)	50	103	102	75-122	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	101	99	72-124	2
Chlorobenzene	ug/L (ppb)	50	97	95	72-116	2
Ethylbenzene	ug/L (ppb)	50	100	97	76-123	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	94	89	69-121	5
m,p-Xylene	ug/L (ppb)	100	96	92	49-166	4
o-Xylene	ug/L (ppb)	50	93	89	68-121	4
Styrene	ug/L (ppb)	50	94	89	72-119	5
Isopropylbenzene	ug/L (ppb)	50	98	91	66-121	7
Bromoform	ug/L (ppb)	50	105	100	70-127	5
n-Propylbenzene	ug/L (ppb)	50	102	100	67-118	2
Bromobenzene	ug/L (ppb)	50	101	98	71-124	3
1,3,5-Trimethylbenzene	ug/L (ppb)	50	97	95	69-116	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	96	95	57-128	1
1,2,3-Trichloropropane	ug/L (ppb)	50	101	101	58-126	0
2-Chlorotoluene	ug/L (ppb)	50	102	99	66-116	3
4-Chlorotoluene	ug/L (ppb)	50	105	102	67-117	3
tert-Butylbenzene	ug/L (ppb)	50	97	93	65-121	4
1,2,4-Trimethylbenzene	ug/L (ppb)	50	100	96	69-123	4
sec-Butylbenzene	ug/L (ppb)	50	100	95	70-118	5
p-Isopropyltoluene	ug/L (ppb)	50	102	97	72-120	5
1,3-Dichlorobenzene	ug/L (ppb)	50	93	90	76-114	3
1,4-Dichlorobenzene	ug/L (ppb)	50	97	95	72-113	2
1,2-Dichlorobenzene	ug/L (ppb)	50	96	92	76-115	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	110	103	54-131	7
1,2,4-Trichlorobenzene	ug/L (ppb)	50	109	103	72-123	6
Hexachlorobutadiene	ug/L (ppb)	50	105	97	80-111	8
Naphthalene	ug/L (ppb)	50	103	98	61-137	5
1,2,3-Trichlorobenzene	ug/L (ppb)	50	109	102	74-126	7

Note: The calibration verification result for dichlorodifluoromethane, chloromethane, vinyl chloride and chloroethane exceeded 15% deviation. The average deviation for all compounds was not greater than 15%; therefore, the calibration is considered valid.

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Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probablility.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

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

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

ATTACHMENT 21

802040

SAMPLE CHAIN OF CUSTODY

NE 02-06-08 VI/VSD

Send Report To: Joe Morrice
Company: Aspect Consulting LLC
Address: 401 Second Ave. S. Suite 201
City, State, ZIP: Seattle, WA 98104
Phone #: (206) 328-7443 Fax #: 206 838-5853

SAMPLERS (signature): [signature]
PROJECT NAME/NO.: Windward / 080009
PO #:
REMARKS: Samples received at 1 °C

Page # ____ of ____

TURNAROUND TIME
☒ Standard (2 Weeks)
☐ RUSH 1 week
Rush charges authorized by: DFR

SAMPLE DISPOSAL
☒ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS							Notes
B5-4'-013108	01A-D	13108	08:30	S	4				X									
B6-4.5-013108	02A-D	13108	08:50	S														
B6-8-013108	03A-D	13108	09:10	S														
B7-2.5-013108	04A-D	13108	09:45	S														
B7-4.5-013108	05A-D	13108	09:30	S														
B8-4-013108	06A-D	13108	10:00	S														
B8-5-013108	07A-D	13108	10:10	S														
B9-4-013108	08A-D	13108	10:20	S														~~Samples received at 0 °C~~ (NP)
B9-5-013108	09A-D	13108	10:30	S														
B5-013108	10A-D	13108	10:45	W	3													

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Jeff Landrum	Aspect Consulting, LLC	023108	12:30
Received by:	[signature]	DAVID RUGH	Aspect	02/3/08	12:30
Relinquished by:	[signature]	DAVID RUGH	Aspect	2/6/08	900
Received by:	[signature]	Nhan Phan	FEBI	2/6/08	09:00

FORMS\COC\COC.DOC

TECHNICAL INFORMATION REPORT
For
POTALA VILLAGE KIRKLAND, LLC

Prepared for
City of Kirkland
123 5th Avenue
Kirkland, WA 98033-6189
Ph: 425.587.3800

Owner/Contact:
Dargey Enterprises
2804 Grand Ave, Ste-308
Everett, WA-98206
(425) 322-4182

Architect:
Charles Morgan & Associates
7301 Beverly Lane
Everett, WA-98203
(425) 353-2888

Project Site Location:
XXX Lake St S
Kirkland, WA-98033
IECO Project: 10-0517

Tax ID: 9354900220, 9354900240, 0825059233

Stormwater Site Plan Prepared By:
Santhosh. J. Moolayil, BSCE

Stormwater Site Plan Preparation Date:
November 15, 2010

Approximate Construction Date:
May 1, 2011

P.O. Box-1478 • Everett, WA 98206 • Phone: (425) 303-9363
Fax: (425) 303-9362 • Email:info@insightengineering.net

TABLE OF CONTENTS

SECTION A - **PROJECT OVERVIEW**

SECTION B - **MINIMUM REQUIREMENTS SUMMARY**

SECTION C - **OFFSITE ANALYSIS**

SECTION D - **FLOW CONTROL DESIGN**

SECTION E - **CONVEYANCE ANALYSIS AND DESIGN**

SECTION F - **CSWPPP**

SECTION G- **WATER QUALITY DESIGN**

SECTION H - **OPERATIONS AND MAINTENANCE MANUAL**

SECTION A – PROJECT OVERVIEW

The proposed project "***Potala Village***" is located at XXXX Lake Street S in the City of Kirkland, Washington. More generally, the project site is located in Section 08, Township 25 North, and Range 5 East of the Willamette Meridian in King County, Washington. Refer to Vicinity Map attached later in the next page.

The project site consists of three parcels and is currently developed with two single-family homes and a Dry Cleaning Facility.

The project contains approximately 54,509 SF (1.25 acres). The proposal is to replace all the existing buildings with a mixed use project. The proposed project will have commercial use at the first floor and residential units at all the upper floors. Underground parking is proposed to meet the parking requirements. Access for the site will be from Lake Street South.

Frontage improvements are also proposed as a part of this project. Lake Street south will be modified with new curb and gutter along with a 10-ft sidewalk. 10th Avenue South will be modified with a new curb and gutter with 5-ft sidewalk behind a 4.5-ft of planter.

The project site slope towards the west to Lake Street South. Per Soils Survey of King County area; the project site contains Arents, Alderwood material 6 to 15 percent slopes (AmC). Please refer to the soil map attached in Section II.

The project site is located in the Cedar River Basin, East Lake Washington Sub-basin.

This report will follow the Technical Information Report requirements, per 2009 King County Surface Water Design Manual (KCSWDM) and Kirkland Addendum to the 2009 KCSWDM.

Per Surface Water Conditions #1 by City of Kirkland Public Works, direct discharge (no detention) is proposed due to the proximity to Lake Washington.

The proposal meets the requirements of Surface Area Exemption (less than 5,000 SF of new Pollution generating impervious surface) from Core Requirement #8 Water Quality, as outlined in KCSWDM and therefore exempt for water quality.

VICINITY MAP

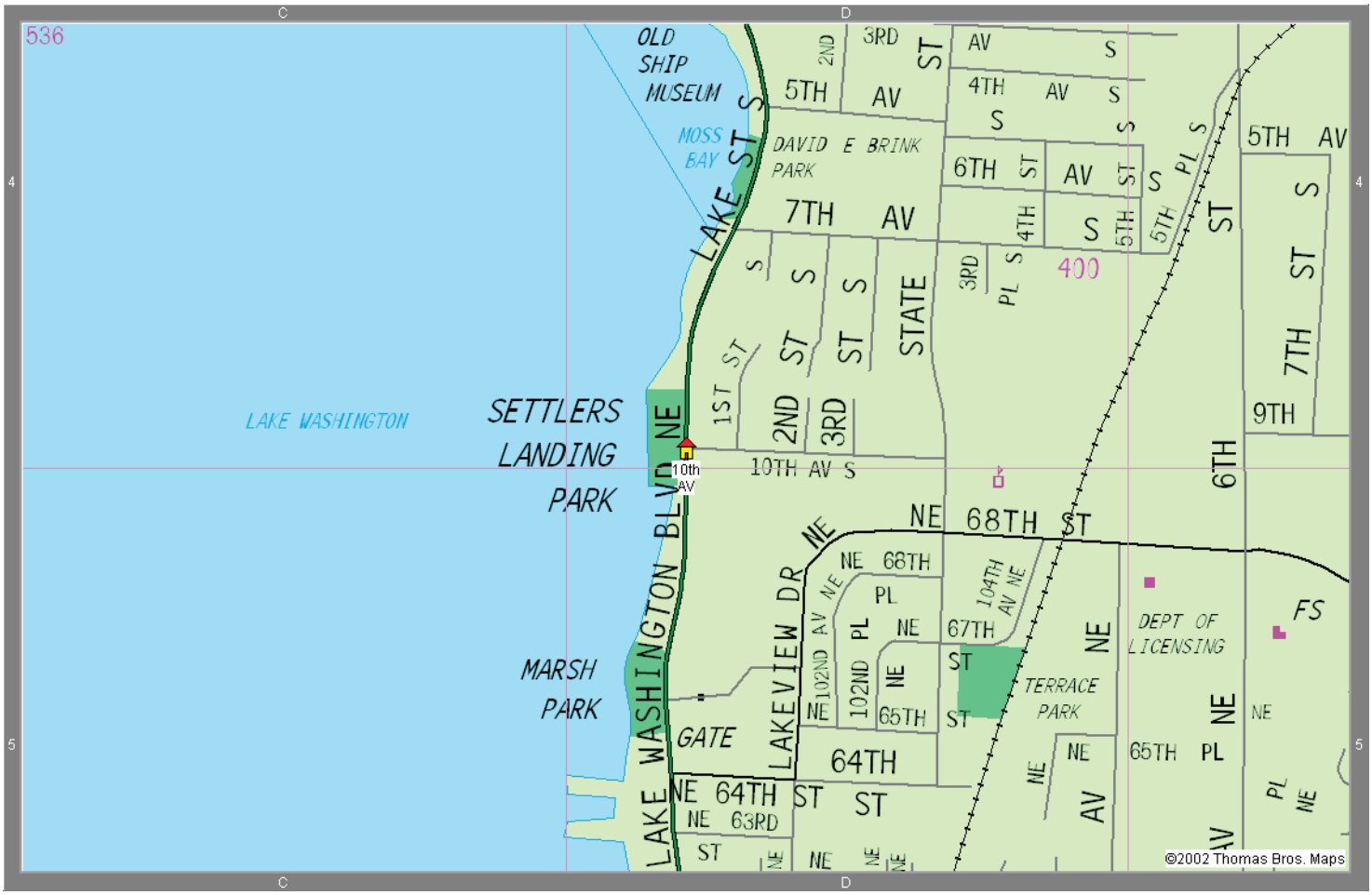

PHOTO TAKEN FROM THE 2002 THOMAS BROTHERS® GUIDE CD-ROM

Insight Engineering
3630 Colby Ave Everett, WA 98201
425-303-9363, 425-303-9362 f.
Info@insightengineering.net

FIGURE 1. VICINITY MAP

Potala Village
Kirkland, WA 98033

SCALE: 1" = 1,222'	**DATE:** 2/24/11	**JOB #:** 10-0517
BY: BRK	**FILE NAME:** 10-0520/doc/	

SECTION B – MINIMUM REQUIREMENTS SUMMARY

The project site consists of three parcels and is currently developed with two single-family homes and a Dry Cleaning Facility. Per Soils Survey of King County area; the project site contains Arents, Alderwood material 6 to 15 percent slopes (AmC). Please refer to the soil map attached in this section.

2009 KCSWDM Minimum Requirements Summary

MR: Minimum Requirement

MR #1 Discharge at the Natural Location: The proposal will continue to flow to its natural location and will not affect the existing drainage pattern

MR #2 Offsite Analysis: Refer to Section C for an offsite analysis.

MR #3 Flow Control: Per Surface Water Conditions #1 by City of Kirkland Public Works, direct discharge (no detention) is proposed due to the proximity to Lake Washington.

MR #4 Conveyance System: Roof drains and landscape areas will be tightlined to the existing drainage system.

MR #5 Erosion and Sedimentation Control: Infiltration trenches and rain gardens are proposed for onsite stormwater management.

MR #6 Maintenance and Operations: There is no privately maintained drainage facilities are proposed for the proposal. Therefore O&M manual is not required.

MR #7 Financial Guarantees and Liability: This will be provided upon construction plan approval.

MR #8 Water Quality: The proposal meets the requirements of Surface Area Exemption (less than 5,000 SF of new Pollution generating impervious surface) from Core Requirement #8 Water Quality, as outlined in KCSWDM and therefore exempt for water quality.

SOIL MAP

SOILS LEGEND

AmG - Arents, Alderwood material, 6 to 15 % slopes.

Insight Engineering
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425-303-9363, 425-303-9362 f.
Info@insightengineering.net

SOIL MAP
Potala Village
Kirkland, WA 98033

SCALE: NONE	**DATE:** 2/24/11	**JOB #:** 10-0520
BY: BRK	**FILE NAME:** 10-0520\docs\SOILMAP	

SECTION C – OFFSITE ANALYSIS

LEVEL 1 DOWNSTREAM ANALYSIS

TASK 1: STUDY AREA DEFINITION & MAPS

The proposed project "***Potala Village***" is located at XXXX Lake Street S in the City of Kirkland, Washington. More generally, the project site is located in Section 08, Township 25 North, and Range 5 East of the Willamette Meridian in King County, Washington. The project contains approximately 54,509 SF (1.25 acres).

The site is located in the Cedar River Drainage Basin, East Lake Washington Sub-basin.

Upstream Drainage Analysis

Based on the site reconnaissance and the topographic survey of the site, upstream runoff entering the site is minimal.

TASK 2: RESOURCE REVIEW

Support documentation for the following items shall be found in the Appendix.

Drainage Basin
The project site is located in the Cedar River Basin, East Lake Washington Sub-basin. See Drainage Basin Map in the Appendix.

Community Plan
The site is located in the Eastside Community Planning Area. See community planning area map in the Appendix.

Sensitive Area Map Folio
This site is not located in any Wetlands / 100-year Floodplain, Landslide Hazard, Seismic Hazard, Erosion Hazard or Coalmine Hazard areas. Also, there are no streams existing on the project site. See Appendix for the Sensitive Area Folio Maps.

Drainage Complaints
A request for drainage complaints within the one-mile downstream was made to Seppo Tervo, Surface Water Systems Engineer at the City ok Kirkland. According Seppo, there are no drainage complaints exist downstream of this project. Seppo can be reached at (425) 587-3851.

TASK 3: FIELD OBSERVATIONS

A site reconnaissance was performed by Brian R. Kalab, P.E. of Insight Engineering on October 10, 2010 to investigate upstream and downstream runoff. The weather was cloudy and was overcast with a temperature of around 50 degrees.

The project site consists of three parcels and is currently developed with two single-family homes and a Dry Cleaning Facility.
There are no signs of erosion problems on the site.

TASK 4: DRAINAGE SYSTEM AND PROBLEM DESCRIPTION

Please refer to the Downstream Analysis Map attached in the next page for more details.

The project site slopes towards the west to Lake Street South and enter into catch basins at two different locations (Point 1 and 2). The drainage then crosses Lake Street and heads west through a development, “Settlers Landing” via a closed 12-inch storm drain system (Point 3). This system flows to the west for about 180-ft and discharge to Lake Washington (Point 4).
This is where the downstream observations were stopped.

No existing problems were observed, and no potential problems could be deduced at the time of the site visit.

TASK 5: MITIGATION OF EXISTING OR POTENTIAL PROBLEMS

There are no drainage complaints exist downstream of this project. The project is exempt for detention and the proposed drainage is tight lined to the existing storm system. Therefore the downstream public channel is not expected to experience any future flooding problems.

SECTION D– FLOW CONTROL DESIGN

Per Surface Water Conditions #1 by City of Kirkland Public Works, direct discharge (no detention) is proposed due to the proximity to Lake Washington.

SECTION E – CONVEYANCE ANALYSIS AND DESIGN

The proposal is a direct discharge to Lake Washington and therefore a detailed conveyance analysis is not necessary for this proposal.

SECTION F – CSWPPP

Refer to the following pages for Construction Stormwater Pollution Prevention Plan.

SECTION G- WATER QUALITY DESIGN

The proposal meets the requirements of Surface Area Exemption (less than 5,000 SF of new Pollution generating impervious surface) from Core Requirement #8, Water quality as outlined in KCSWDM and therefore exempt for water quality also.

SECTION H– OPERATIONS AND MAINTENANCE MANUAL

There is no privately maintained drainage facilities are proposed for the proposal. Therefore O&M manual is not required.

APPENDIX

Stormwater Pollution Prevention Plan

For
POTALA VILLAGE KIRKLAND,LLC

Prepared For
City of Kirkland
123 5th Avenue
Kirkland, WA 98033-6189
425-587-3800

Owner	Developer	Operator/Contractor
Dargey Enterprises	Dargey Enterprises	
2804 Grand Ave, Ste-308	2804 Grand Ave, Ste-308	
Everett, WA 98206	Everett, WA 98206	

Project Site Location
XXX Lake Street S
Kirkland, WA 98033

Certified Erosion and Sediment Control Lead
Contractor to provide

SWPPP Prepared By
Insight Engineering
PO Box 1478
Everett, WA, 98206
425-303-9363

SWPPP Preparation Date
November 29, 2010

Approximate Project Construction Dates
May 1, 2011

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1.0 Introduction

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared as part of the Construction stormwater permit requirements for the Potala Village Kirkland,LLC project in Kirkland, Washington. The site is located at the intersection of 10th Ave S and Lake Street South. The existing site consists of three parcels with a total area of 1.25 Acres. The site is currently developed with two single-family homes and a dry cleaning facility that are proposed to be removed. The proposed development will have commercial use at the first floor and residential units at all the upper floors. Underground parking is proposed to meet the parking requirements. Access will be from Lake Street S. The proposal also includes frontage improvements on Lake St and 10th Ave. The project is exempt for detention and water quality.

The purpose of this SWPPP is to describe the proposed construction activities and all temporary and permanent erosion and sediment control (TESC) measures, pollution prevention measures, inspection/monitoring activities, and recordkeeping that will be implemented during the proposed construction project. The objectives of the SWPPP are to:

1. Implement Best Management Practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.

2. Prevent violations of surface water quality, ground water quality, or sediment management standards.

3. Prevent, during the construction phase, adverse water quality impacts including impacts on beneficial uses of the receiving water by controlling peak flow rates and volumes of stormwater runoff at the Permittee's outfalls and downstream of the outfalls.

This SWPPP was prepared using the Ecology SWPPP Template downloaded from the Ecology website on February 19, 2007. This SWPPP was prepared based on the requirements set forth in the Construction Stormwater General Permit and in the Stormwater Management Manual for Western Washington (SWMMWW 2005). The report is divided into seven main sections with several appendices that include stormwater related reference materials. The topics presented in the each of the main sections are:

- Section 1 – INTRODUCTION. This section provides a summary description of the project, and the organization of the SWPPP document.

- Section 2 – SITE DESCRIPTION. This section provides a detailed description of the existing site conditions, proposed construction activities, and calculated stormwater flow rates for existing conditions and post–construction conditions.

- Section 3 – CONSTRUCTION BMPs. This section provides a detailed description of the BMPs to be implemented based on the 12 required elements of the SWPPP (SWMMEW 2004).

- Section 4 – CONSTRUCTION PHASING AND BMP IMPLEMENTATION. This section provides a description of the timing of the BMP implementation in relation to the project schedule.

- Section 5 – POLLUTION PREVENTION TEAM. This section identifies the appropriate contact names (emergency and non-emergency), monitoring personnel, and the onsite temporary erosion and sedimentation control inspector

- Section 6 – INSPECTION AND MONITORING. This section provides a description of the inspection and monitoring requirements such as the parameters of concern to be monitored, sample locations, sample frequencies, and sampling methods for all stormwater discharge locations from the site.

- Section 7 – RECORDKEEPING. This section describes the requirements for documentation of the BMP implementation, site inspections, monitoring results, and changes to the implementation of certain BMPs due to site factors experienced during construction.

Supporting documentation and standard forms are provided in the following Appendices:

Appendix A – Site plans
Appendix B – Construction BMPs
Appendix C – Alternative Construction BMP list
Appendix D – General Permit
Appendix E – Site Log and Inspection Forms
Appendix F – Engineering Calculations

2.0 Site Description

2.1 Existing Conditions

The proposed project "***Potala Village***" is located at XXXX Lake Street S in the City of Kirkland, Washington. More generally, the project site is located in Section 08, Township 25 North, and Range 5 East of the Willamette Meridian in King County, Washington.

The project site consists of three parcels and is currently developed with two single-family homes and a Dry Cleaning Facility. The project site slope towards the west to Lake Street South. Per Soils Survey of King County area; the project site contains Arents, Alderwood material 6 to 15 percent slopes (AmC).

The project contains approximately 54,509 SF (1.25 acres). There are no critical areas located within the site. The access to the site is from Lake Street S.

2.2 Proposed Construction Activities

The proposed development will have commercial use at the first floor and residential units at all the upper floors. Underground parking is proposed to meet the parking requirements. Access will be from Lake Street S. The proposal also includes frontage improvements on Lake St and 10th Ave.

The project is exempt for detention and water quality. Access road and utilities are also part of this proposal.

After all building is constructed, planters will be landscaped and other areas disturbed during construction will be permanently re-vegetated.

The following summarizes details regarding site areas:

- Total site area: 1.25 acres
- Percent impervious area before construction: <20 %
- Percent impervious area after construction: 90 %
- Disturbed area during construction: 1.25 acres
- Disturbed area that is characterized as impervious (i.e., access roads, staging, parking): 1.12 acres

ATTACHMENT 23

3.0 Construction Stormwater BMPs

3.1 The 12 BMP Elements

3.1.1 Element #1 – Mark Clearing Limits

To protect adjacent properties and to reduce the area of soil exposed to construction, the limits of construction will be clearly marked before land-disturbing activities begin. Trees that are to be preserved, as well as all sensitive areas and their buffers, shall be clearly delineated, both in the field and on the plans. In general, natural vegetation and native topsoil shall be retained in an undisturbed state to the maximum extent possible. The BMPs relevant to marking the clearing limits that will be applied for this project include:

- Buffer Zones (BMP C102)

  The stream & wetland buffer will remain un-disturbed, as shown on the approved construction plans, permanently protected as a "Native Growth Protection Area".

- High Visibility Plastic or Metal Fence (BMP C103)

  Install orange barrier fencing along the clearing limits, according to the approved construction plans, prior to any construction activities. Maintain until all construction activities are completed.

Alternate BMPs for marking clearing limits are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

3.1.2 Element #2 – Establish Construction Access

Construction access or activities occurring on unpaved areas shall be minimized, yet where necessary, access points shall be stabilized to minimize the tracking of sediment onto public roads, and wheel washing, street sweeping, and street cleaning shall be employed to prevent sediment from entering state waters. All wash wastewater shall be controlled on site. The specific BMPs related to establishing construction access that will be used on this project include:

- Stabilized Construction Entrance (BMP C105)

Install the temporary construction entrance, according to the approved construction plans, prior to any clearing or grading activities. Maintain until the access road is paved.

Alternate construction access BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

3.1.3 Element #3 – Control Flow Rates

In order to protect the properties and waterways downstream of the project site, stormwater discharges from the site will be controlled.

Alternate flow control BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

The project site is located west of the Cascade Mountain Crest. As such, the project must comply with Minimum Requirement 7 (Ecology 2005).

In general, discharge rates of stormwater from the site will be controlled where increases in impervious area or soil compaction during construction could lead to downstream erosion, or where necessary to meet local agency stormwater discharge requirements (e.g. discharge to combined sewer systems).

3.1.4 Element #4 – Install Sediment Controls

All stormwater runoff from disturbed areas shall pass through an appropriate sediment removal BMP before leaving the construction site or prior to being discharged to an infiltration facility. The specific BMPs to be used for controlling sediment on this project include:

- Silt Fence (BMP C233)

  Install silt fencing, according to the approved plans, prior to any clearing or grading activities. Maintain until all construction activities are completed.

- Storm Drain Inlet Protection (BMP C220)

  Install catch basin filters, according to the approved construction plans, as catch basins are installed and become operable. Maintain until all construction activities are completed.

Alternate sediment control BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

In addition, sediment will be removed from paved areas in and adjacent to construction work areas manually or using mechanical sweepers, as needed, to minimize tracking of sediments on vehicle tires away from the site and to minimize wash-off of sediments from adjacent streets in runoff.

Whenever possible, sediment laden water shall be discharged into onsite, relatively level, vegetated areas (BMP C240 paragraph 5, page 4-102).

In some cases, sediment discharge in concentrated runoff can be controlled using permanent stormwater BMPs (e.g., infiltration swales, ponds, trenches). Sediment loads can limit the effectiveness of some permanent stormwater BMPs, such as those used for infiltration or bio-filtration; however, those BMPs designed to remove solids by settling (wet ponds or detention ponds) can be used during the construction phase. When permanent stormwater BMPs will be used to control sediment discharge during construction, the structure will be protected from excessive sedimentation with adequate erosion and sediment control BMPs. Any accumulated sediment shall be removed after construction is complete and the permanent stormwater BMP will be re-stabilized with vegetation per applicable design requirements once the remainder of the site has been stabilized.

The following BMP will be implemented as end-of-pipe sediment controls as required to meet permitted turbidity limits in the site discharge(s). Prior to the implementation of these technologies, sediment sources and erosion control and soil stabilization BMP efforts will be maximized to reduce the need for end-of-pipe sedimentation controls.

- Temporary Sediment Pond (BMP C241)

  Construct the temporary sediment pond, according to the approved construction plans, prior to any grading activities. Maintain until site grading is completed and the detention vault is operable

3.1.5 Element #5 – Stabilize Soils

Exposed and un-worked soils shall be stabilized with the application of effective BMPs to prevent erosion throughout the life of the project. The specific BMPs for soil stabilization that shall be used on this project include:

- Temporary and Permanent Seeding (BMP C120)

  Apply temporary hydro-seed to exposed and un-worked soils, according to the approved construction plans, as needed to prevent erosion during site grading. Apply permanent hydro-seed to areas at final grade as site grading is completed.

- Mulching (BMP C121)

  Apply mulching to exposed and un-worked soils, according to the approved construction plans, as needed to prevent erosion during site grading. Maintain until site grading is completed and permanent hydro-seed is applied.

- Plastic Covering (BMP C123)

  Cover stockpiles with plastic sheeting, according to the approved construction plans, as needed to prevent erosion during site grading. Maintain until stockpiles are removed from site.

- Early application of gravel base on areas to be paved

  Place gravel base on roadways, according to the approved construction plans, after roadways are graded to sub-grade. Maintain until roads are paved.

Alternate soil stabilization BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

The project site is located west of the Cascade Mountain Crest. As such, no soils shall remain exposed and unworked for more than 7 days during the dry season (May 1 to September 30) and 2 days during the wet season (October 1 to April 30). Regardless of the time of year, all soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on weather forecasts.

In general, cut and fill slopes will be stabilized as soon as possible and soil stockpiles will be temporarily covered with plastic sheeting. All stockpiled soils shall be stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

3.1.6 Element #6 – Protect Slopes

All cut and fill slopes will be designed, constructed, and protected in a manner than minimizes erosion. The following specific BMPs will be used to protect slopes for this project:

- Temporary and Permanent Seeding (BMP C120)

  Apply temporary hydro-seed to cut and fill slopes, according to the approved construction plans, as needed to minimize erosion during site grading. Apply permanent hydro-seed to cut and fill slopes at final grade as site grading is completed.

- Level Spreader (BMP C206)

  Construct the level spreader, according to the approved plans, after the detention vault is completed, and before the vault is made operable.

Alternate slope protection BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

3.1.7 Element #7 – Protect Drain Inlets

All storm drain inlets and culverts made operable during construction shall be protected to prevent unfiltered or untreated water from entering the drainage conveyance system. However, the first priority is to keep all access roads clean of sediment and keep street wash water separate from entering storm drains until treatment can be provided. Storm Drain Inlet Protection (BMP C220) will be implemented for all drainage inlets and culverts that could potentially be impacted by sediment-laden runoff on and near the project site. The following inlet protection measures will be applied on this project:

Drop Inlet Protection

- Catch Basin Filters

Install catch basin filters, according to the approved construction plans, as catch basins become operable. Maintain until all construction activities are completed.

If the BMP options listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D), or if no BMPs are listed above but deemed necessary during construction, the Certified Erosion and Sediment Control Lead shall implement one or more of the alternative BMP inlet protection options listed in Appendix C.

3.1.8 Element #8 – Stabilize Channels and Outlets

Where site runoff is to be conveyed in channels, or discharged to a stream or some other natural drainage point, efforts will be taken to prevent downstream erosion. The specific BMPs for channel and outlet stabilization that shall be used on this project include:

- Level Spreader (BMP C206)

  Construct level spreader, according to the approved construction plans, before the detention vault becomes operable.

- Outlet Protection (BMP C209)

  Place rip-rap pad at the temporary sediment pond outfall, according to the approved construction plans, before the pond becomes operable. Maintain until the pond is removed or made in-operable.

Alternate channel and outlet stabilization BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

The project site is located west of the Cascade Mountain Crest. As such, all temporary on-site conveyance channels shall be designed, constructed, and stabilized to prevent erosion from the expected peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour recurrence interval storm for the developed condition. Alternatively, the 10-year, 1-hour peak flow rate indicated by an approved continuous runoff simulation model, increased by a factor of 1.6, shall be used. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided at the outlets of all conveyance systems.

3.1.9 Element #9 – Control Pollutants

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater. Good housekeeping and preventative measures will be taken to ensure that the site will be kept clean, well organized, and free of debris. If required, BMPs to be implemented to control specific sources of pollutants are discussed below.

Vehicles, construction equipment, and/or petroleum product storage/dispensing:

- All vehicles, equipment, and petroleum product storage/dispensing areas will be inspected regularly to detect any leaks or spills, and to identify maintenance needs to prevent leaks or spills.
- On-site fueling tanks and petroleum product storage containers shall include secondary containment.
- Spill prevention measures, such as drip pans, will be used when conducting maintenance and repair of vehicles or equipment.
- In order to perform emergency repairs on site, temporary plastic will be placed beneath and, if raining, over the vehicle.
- Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.

Chemical storage:

- Any chemicals stored in the construction areas will conform to the appropriate source control BMPs listed in Volume IV of the Ecology stormwater manual. In Western WA, all chemicals shall have cover, containment, and protection provided on site, per BMP C153 for Material Delivery, Storage and Containment in SWMMWW 2005
- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations for application procedures and rates shall be followed.

Demolition:

- Dust released from demolished sidewalks, buildings, or structures will be controlled using Dust Control measures (BMP C140).

- Storm drain inlets vulnerable to stormwater discharge carrying dust, soil, or debris will be protected using Storm Drain Inlet Protection (BMP C220 as described above for Element 7).

- Process water and slurry resulting from saw-cutting and surfacing operations will be prevented from entering the waters of the State by implementing Saw-cutting and Surfacing Pollution Prevention measures (BMP C152).

Concrete and grout:

- Process water and slurry resulting from concrete work will be prevented from entering the waters of the State by implementing Concrete Handling measures (BMP C151).

Sanitary wastewater:

- Portable sanitation facilities will be firmly secured, regularly maintained, and emptied when necessary.

- Wheel wash or tire bath wastewater shall be discharged to a separate on-site treatment system or to the sanitary sewer as part of Wheel Wash implementation (BMP C106).

Solid Waste:

- Solid waste will be stored in secure, clearly marked containers.

The facility is not transportation-related and therefore subject to the criteria for determining if a Spill Prevention, Control, and Countermeasure (SPCC) Plan is required under the Federal regulations of the Clean Water Act (CWA).

The facility does not require a Spill Prevention, Control, and Countermeasure (SPCC) Plan under the Federal regulations of the Clean Water Act (CWA).

3.1.10 Element #10 – Control Dewatering

Alternate dewatering control BMPs are included in Appendix C as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the General NPDES Permit (Appendix D). To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit (as provided in Appendix D), the Certified Erosion and Sediment Control Lead will promptly initiate the implementation of one or more of the

alternative BMPs listed in Appendix C after the first sign that existing BMPs are ineffective or failing.

3.1.11 Element #11 – Maintain BMPs

All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Maintenance and repair shall be conducted in accordance with each particular BMP's specifications. Visual monitoring of the BMPs will be conducted at least once every calendar week and within 24 hours of any rainfall event that causes a discharge from the site. If the site becomes inactive, and is temporarily stabilized, the inspection frequency will be reduced to once every month.

All temporary erosion and sediment control BMPs shall be removed within 30 days after the final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

3.1.12 Element #12 – Manage the Project

Erosion and sediment control BMPs for this project have been designed based on the following principles:

- Design the project to fit the existing topography, soils, and drainage patterns.
- Emphasize erosion control rather than sediment control.
- Minimize the extent and duration of the area exposed.
- Keep runoff velocities low.
- Retain sediment on site.
- Thoroughly monitor site and maintain all ESC measures.
- Schedule major earthwork during the dry season.

As this project site is located west of the Cascade Mountain Crest, the project will be managed according to the following key project components:

Phasing of Construction

- The construction project is being phased to the extent practicable in order to prevent soil erosion, and, to the maximum extent possible, the transport of sediment from the site during construction.

- Re-vegetation of exposed areas and maintenance of that vegetation shall be an integral part of the clearing activities during each phase of construction, per the Scheduling BMP (C 162).

Seasonal Work Limitations

- From October 1 through April 30, clearing, grading, and other soil disturbing activities shall only be permitted if shown to the satisfaction of the local permitting authority that silt-laden runoff will be prevented from leaving the site through a combination of the following:

  - Site conditions including existing vegetative coverage, slope, soil type, and proximity to receiving waters; and

  - Limitations on activities and the extent of disturbed areas; and

  - Proposed erosion and sediment control measures.

- Based on the information provided and/or local weather conditions, the local permitting authority may expand or restrict the seasonal limitation on site disturbance.

- The following activities are exempt from the seasonal clearing and grading limitations:

  - Routine maintenance and necessary repair of erosion and sediment control BMPs;

  - Routine maintenance of public facilities or existing utility structures that do not expose the soil or result in the removal of the vegetative cover to soil; and

  - Activities where there is 100 percent infiltration of surface water runoff within the site in approved and installed erosion and sediment control facilities.

Coordination with Utilities and Other Jurisdictions

- Care has been taken to coordinate with utilities, other construction projects, and the local jurisdiction in preparing this SWPPP and scheduling the construction work.

Inspection and Monitoring

- All BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function. Site inspections shall be conducted by a person who is knowledgeable in the principles and practices of erosion and sediment control. This person has the necessary skills to:

  - Assess the site conditions and construction activities that could impact the quality of stormwater, and

  - Assess the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges.

- A Certified Erosion and Sediment Control Lead shall be on-site or on-call at all times.

- Whenever inspection and/or monitoring reveals that the BMPs identified in this SWPPP are inadequate, due to the actual discharge of or potential to discharge a significant amount of any pollutant, appropriate BMPs or design changes shall be implemented as soon as possible.

Maintaining an Updated Construction SWPPP

- This SWPPP shall be retained on-site or within reasonable access to the site.

- The SWPPP shall be modified whenever there is a change in the design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

- The SWPPP shall be modified if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The SWPPP shall be modified as necessary to include additional or modified BMPs designed to correct problems

identified. Revisions to the SWPPP shall be completed within seven (7) days following the inspection.

3.2 Site Specific BMPs

Site specific BMPs are shown on the TESC Plan Sheets and Details in Appendix A. These site specific plan sheets will be updated annually.

3.3 Additional Advanced BMPs

4.0 Construction Phasing and BMP Implementation

The BMP implementation schedule will be driven by the construction schedule. The following provides a sequential list of the proposed construction schedule milestones and the corresponding BMP implementation schedule. The list contains key milestones such as wet season construction.

The BMP implementation schedule listed below is keyed to proposed phases of the construction project, and reflects differences in BMP installations and inspections that relate to wet season construction. The project site is located west of the Cascade Mountain Crest. As such, the dry season is considered to be from May 1 to September 30 and the wet season is considered to be from October 1 to April 30.

- Estimate of Construction start date: May 1, 2011
- Estimate of Construction finish date: Dec 31, 2012
- **Wet Season started: Oct 1, 2011**
  Site inspections and monitoring conducted weekly and for applicable rain events as detailed in Section 6 of this SWPPP. Implement Element #12 BMPs and manage site to minimize soil disturbance during the wet season.
- Mobilize equipment on site May 1, 2011
- Mobilize and store all ESC and soil stabilization products May 15, 2011
- Install ESC measures: May 25, 2011
- Install stabilized construction entrance: May 25, 2011
- Begin clearing and grubbing: May 30, 2011
- Site grading begins: June 10, 2011
- Grade road and stabilize with gravel base Aug 10, 2011
- Begin excavation for new utilities and services Aug 15, 2011
- Soil stabilization on excavated side slopes (in idle, no work areas) Sept 1, 2011
- **Dry Season begins: May 1, 2011**
- Temporary erosion control measures (hydro-seeding) May 15, 2011
- Site grading ends: Aug 15, 2011
- Begin pouring concrete curbs & sidewalks and implement BMP C151: Aug 20, 2011
- Pave asphalt roads Aug 25, 2011
- **Wet Season Begins: Oct 1, 2011**

- Implement Element #12 BMPs and manage site to minimize soil disturbance during the wet season: Oct 1, 2011
- Final landscaping and planting begins: Nov 24, 2011
- Permanent erosion control measures (hydro-seeding): Dec 31, 2011

5.0 Pollution Prevention Team

5.1 Roles and Responsibilities

The pollution prevention team consists of personnel responsible for implementation of the SWPPP, including the following:

- Certified Erosion and Sediment Control Lead (CESCL) – primary contractor contact, responsible for site inspections (BMPs, visual monitoring, sampling, etc.); to be called upon in case of failure of any ESC measures.

- Resident Engineer – For projects with engineered structures only (sediment ponds/traps, sand filters, etc.): site representative for the owner that is the project's supervising engineer responsible for inspections and issuing instructions and drawings to the contractor's site supervisor or representative

- Emergency Ecology Contact – individual to be contacted at Ecology in case of emergency.

- Emergency Owner Contact – individual that is the site owner or representative of the site owner to be contacted in the case of an emergency.

- Non-Emergency Ecology Contact – individual that is the site owner or representative of the site owner than can be contacted if required.

- Monitoring Personnel – personnel responsible for conducting water quality monitoring; for most sites this person is also the Certified Erosion and Sediment Control Lead.

5.2 Team Members

Names and contact information for those identified as members of the pollution prevention team are provided in the following table.

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)		
Resident Engineer	**Brian Kalab / Insight Engineering**	**425-303-9363**
Emergency Ecology Contact	**Tracy Walters**	**425-649-7000**
Emergency Owner Contact		
Non-Emergency Ecology Contact	**Tracy Walters**	**425-649-7000**
Monitoring Personnel		

6.0 Site Inspections and Monitoring

Monitoring includes visual inspection, monitoring for water quality parameters of concern, and documentation of the inspection and monitoring findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements;
- Site inspections; and,
- Stormwater quality monitoring.

For convenience, the inspection form and water quality monitoring forms included in this SWPPP include the required information for the site log book. This SWPPP may function as the site log book if desired, or the forms may be separated and included in a separate site log book. However, if separated, the site log book but must be maintained on-site or within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

6.1 Site Inspection

All BMPs will be inspected, maintained, and repaired as needed to assure continued performance of their intended function. The inspector will be a Certified Erosion and Sediment Control Lead (CESCL) per BMP C160. The name and contact information for the CESCL is provided in Section 5 of this SWPPP.

Site inspection will occur in all areas disturbed by construction activities and at all stormwater discharge points. Stormwater will be examined for the presence of suspended sediment, turbidity, discoloration, and oily sheen. The site inspector will evaluate and document the effectiveness of the installed BMPs and determine if it is necessary to repair or replace any of the BMPs to improve the quality of stormwater discharges. All maintenance and repairs will be documented in the site log book or forms provided in this document. All new BMPs or design changes will be documented in the SWPPP as soon as possible.

6.1.1 Site Inspection Frequency

Site inspections will be conducted at least once a week and within 24 hours following any rainfall event which causes a discharge of stormwater from the site. For sites with temporary stabilization measures, the site inspection frequency can be reduced to once every month.

6.1.2 Site Inspection Documentation

The site inspector will record each site inspection using the site log inspection forms provided in Appendix E. The site inspection log forms may be separated from this SWPPP document, but will be maintained on-site or within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

6.2 Stormwater Quality Monitoring

6.2.1 Turbidity Sampling

Monitoring requirements for the proposed project will include either turbidity or water transparency sampling to monitor site discharges for water quality compliance with the 2005 Construction Stormwater General Permit (Appendix D). Sampling will be conducted at all discharge points at least once per calendar week.

Turbidity or transparency monitoring will follow the analytical methodologies described in Section S4 of the 2005 Construction Stormwater General Permit (Appendix D). The key benchmark values that require action are 25 NTU for turbidity (equivalent to 32 cm transparency) and 250 NTU for turbidity (equivalent to 6 cm transparency). If the 25 NTU benchmark for turbidity (equivalent to 32 cm transparency) is exceeded, the following steps will be conducted:

1. Ensure all BMPs specified in this SWPPP are installed and functioning as intended.

2. Assess whether additional BMPs should be implemented, and document revisions to the SWPPP as necessary.

3. Sample discharge location daily until the analysis results are less than 25 NTU (turbidity) or greater than 32 cm (transparency).

If the turbidity is greater than 25 NTU (or transparency is less than 32 cm) but less than 250 NTU (transparency greater than 6 cm) for more than 3 days, additional treatment BMPs will be implemented within 24 hours of the third consecutive sample that exceeded the benchmark value. Additional treatment BMPs to be considered will include, but are not limited to, off-site treatment, infiltration, filtration and chemical treatment.

If the 250 NTU benchmark for turbidity (or less than 6 cm transparency) is exceeded at any time, the following steps will be conducted:

1. Notify Ecology by phone within 24 hours of analysis (see Section 5.0 of this SWPPP for contact information).

2. Continue daily sampling until the turbidity is less than 25 NTU (or transparency is greater than 32 cm).

3. Initiate additional treatment BMPs such as off-site treatment, infiltration, filtration and chemical treatment within 24 hours of the first 250 NTU exceedance.

4. Implement additional treatment BMPs as soon as possible, but within 7 days of the first 250 NTU exceedance.

5. Describe inspection results and remedial actions taken in the site log book and in monthly discharge monitoring reports as described in Section 7.0 of this SWPPP.

6.2.2 pH Sampling

Stormwater runoff will be monitored for pH starting on the first day of any activity that includes more than 40 yards of poured or recycled concrete, or after the application of "Engineered Soils" such as, Portland cement treated base, cement kiln dust, or fly ash. This does not include fertilizers. For concrete work, pH monitoring will start the first day concrete is poured and continue until 3 weeks after the last pour. For engineered soils, the pH monitoring period begins when engineered soils are first exposed to precipitation and continue until the area is fully stabilized.

Stormwater samples will be collected daily from all points of discharge from the site and measured for pH using a calibrated pH meter, pH test kit, or wide range pH indicator paper. If the measured pH is 8.5 or greater, the following steps will be conducted:

1. Prevent the high pH water from entering storm drains or surface water.

2. Adjust or neutralize the high pH water if necessary using appropriate technology such as CO_2 sparging (liquid or dry ice).

3. Contact Ecology if chemical treatment other than CO_2 sparging is planned.

7.0 Reporting and Recordkeeping

7.1 Recordkeeping

7.1.1 Site Log Book

A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements;
- Site inspections; and,
- Stormwater quality monitoring.

For convenience, the inspection form and water quality monitoring forms included in this SWPPP include the required information for the site log book.

7.1.2 Records Retention

Records of all monitoring information (site log book, inspection reports/checklists, etc.), this Stormwater Pollution Prevention Plan, and any other documentation of compliance with permit requirements will be retained during the life of the construction project and for a minimum of three years following the termination of permit coverage in accordance with permit condition S5.C.

7.1.3 Access to Plans and Records

The SWPPP, General Permit, Notice of Authorization letter, and Site Log Book will be retained on site or within reasonable access to the site and will be made immediately available upon request to Ecology or the local jurisdiction. A copy of this SWPPP will be provided to Ecology within 14 days of receipt of a written request for the SWPPP from Ecology. Any other information requested by Ecology will be submitted within a reasonable time. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing in accordance with permit condition S5.G.

7.1.4 Updating the SWPPP

In accordance with Conditions S3, S4.B, and S9.B.3 of the General Permit, this SWPPP will be modified if the SWPPP is ineffective in eliminating or significantly minimizing

pollutants in stormwater discharges from the site or there has been a change in design, construction, operation, or maintenance at the site that has a significant effect on the discharge, or potential for discharge, of pollutants to the waters of the State. The SWPPP will be modified within seven days of determination based on inspection(s) that additional or modified BMPs are necessary to correct problems identified, and an updated timeline for BMP implementation will be prepared.

7.2 Reporting

7.2.1 Discharge Monitoring Reports

Water quality sampling results will be submitted to Ecology monthly on Discharge Monitoring Report (DMR) forms in accordance with permit condition S5.B. If there was no discharge during a given monitoring period, the form will be submitted with the words "no discharge" entered in place of the monitoring results. If a benchmark was exceeded, a brief summary of inspection results and remedial actions taken will be included. If sampling could not be performed during a monitoring period, a DMR will be submitted with an explanation of why sampling could not be performed.

7.2.2 Notification of Noncompliance

If any of the terms and conditions of the permit are not met, and it causes a threat to human health or the environment, the following steps will be taken in accordance with permit section S5.F:

1. Ecology will be immediately notified of the failure to comply.

2. Immediate action will be taken to control the noncompliance issue and to correct the problem. If applicable, sampling and analysis of any noncompliance will be repeated immediately and the results submitted to Ecology within five (5) days of becoming aware of the violation.

3. A detailed written report describing the noncompliance will be submitted to Ecology within five (5) days, unless requested earlier by Ecology.

In accordance with permit condition S4.F.6.b, the Ecology regional office will be notified if chemical treatment other than CO_2 sparging is planned for adjustment of high pH water (see Section 5.0 of this SWPPP for contact information).

7.2.3 Permit Application and Changes

In accordance with permit condition S2.A, a complete application form will be submitted to Ecology and the appropriate local jurisdiction (if applicable) to be covered by the General Permit.

Appendix A – Site Plans

Appendix B – Construction BMPs

Buffer Zones (BMP C102)

High Visibility Plastic or Metal Fence (BMP C103)

Stake and Wire Fence (BMP C104)

Stabilized Construction Entrance (BMP C105)

Temporary Sediment Pond (BMP C241)

Silt Fence (BMP C233)

Storm Drain Inlet Protection (BMP C220)

Detention Pond Or Vault

Temporary and Permanent Seeding (BMP C120)

Mulching (BMP C121)

Plastic Covering (BMP C123)

Early application of gravel base on areas to be paved

Temporary and Permanent Seeding (BMP C120)

Outlet Protection (BMP C209)

Appendix C – Alternative BMPs

The following includes a list of possible alternative BMPs for each of the 12 elements not described in the main SWPPP text. This list can be referenced in the event a BMP for a specific element is not functioning as designed and an alternative BMP needs to be implemented.

Element #1 - Mark Clearing Limits

Element #2 - Establish Construction Access

Element #3 - Control Flow Rates

Element #4 - Install Sediment Controls
Advanced BMPs:

Element #5 - Stabilize Soils

Element #6 - Protect Slopes

Element #8 - Stabilize Channels and Outlets

Element #10 - Control Dewatering
Additional Advanced BMPs to Control Dewatering:

Appendix D – General Permit

Appendix E – Site Inspection Forms (and Site Log)

The results of each inspection shall be summarized in an inspection report or checklist that is entered into or attached to the site log book. It is suggested that the inspection report or checklist be included in this appendix to keep monitoring and inspection information in one document, but this is optional. However, it is mandatory that this SWPPP and the site inspection forms be kept onsite at all times during construction, and that inspections be performed and documented as outlined below.

At a minimum, each inspection report or checklist shall include:

a. Inspection date/times

b. Weather information: general conditions during inspection, approximate amount of precipitation since the last inspection, and approximate amount of precipitation within the last 24 hours.

c. A summary or list of all BMPs that have been implemented, including observations of all erosion/sediment control structures or practices.

d. The following shall be noted:

   i. locations of BMPs inspected,

   ii. locations of BMPs that need maintenance,

   iii. the reason maintenance is needed,

   iv. locations of BMPs that failed to operate as designed or intended, and

   v. locations where additional or different BMPs are needed, and the reason(s) why

e. A description of stormwater discharged from the site. The presence of suspended sediment, turbid water, discoloration, and/or oil sheen shall be noted, as applicable.

f. A description of any water quality monitoring performed during inspection, and the results of that monitoring.

g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made as a result of the inspection.

h. A statement that, in the judgment of the person conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and the NPDES permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, as well as a schedule of implementation.

i. Name, title, and signature of person conducting the site inspection; and the following statement: "I certify under penalty of law that this report is true, accurate, and complete, to the best of my knowledge and belief".

When the site inspection indicates that the site is not in compliance with any terms and conditions of the NPDES permit, the Permittee shall take immediate action(s) to: stop, contain, and clean up the unauthorized discharges, or otherwise stop the noncompliance; correct the problem(s); implement appropriate Best Management Practices (BMPs), and/or conduct maintenance of existing BMPs; and achieve compliance with all applicable standards and permit conditions. In addition, if the noncompliance causes a threat to human health or the environment, the Permittee shall comply with the Noncompliance Notification requirements in Special Condition S5.F of the permit.