GROUNDWATER INVESTIGATION REPORT
POINT ROBERTS MARINA RESORT
713 SIMUNDSON DRIVE
POINT ROBERTS, WASHINGTON

prepared for:

Point Roberts Marina Resort
713 Simundson Drive
Point Roberts, Washington 98281

December 22, 2016

whatcom ENVIRONMENTAL

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compliance consulting

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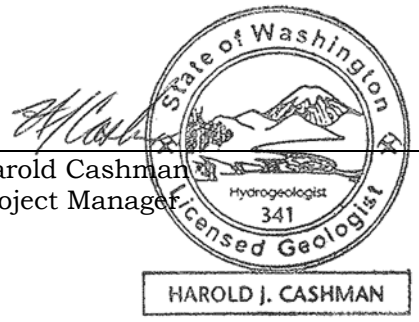

Harold Cashman
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ACRONYMS AND ABBREVIATIONS

ARAR	-	Applicable and Relevant and Appropriate Requirements
AST	-	Aboveground Storage Tank
bgs	-	below ground surface
BTEX	-	Benzene, Toluene, Ethylbenzene, and Xylenes
COC	-	Contaminant/Chemical of Concern
CSID	-	Cleanup Site Identification Number
CSM	-	Conceptual Site Model
CUL	-	Clean-up levels
Ecology	-	Washington State Department of Ecology
EDB	-	1,2-Dibromoethane
EDC	-	1,2-Dichloroethane
ERNS	-	Emergency Response Notification System
ESA	-	Environmental Site Assessment
FOC	-	Fraction of Organic Carbon
FSID	-	Facility Site Identification Number
LUST	-	Leaking Underground Storage Tank
MTCA	-	Model Toxics Control Act
NFA	-	No Further Action
PAH	-	Polycyclic Aromatic Hydrocarbons
PID	-	Photoionization Detector
PCB	-	Polychlorinated Biphenyls
RCW	-	Revised Code of Washington
REC	-	Recognized Environmental Condition
TPH	-	Total Petroleum Hydrocarbons
TEE	-	Terrestrial Ecological Evaluation
UST	-	Underground Storage Tank
VCP	-	Voluntary Cleanup Program
VOC	-	Volatile Organic Compounds
WAC	-	Washington State Administrative Code
WCHD	-	Whatcom County Health Department

EXECUTIVE SUMMARY

A subsurface investigation was conducted at the Point Roberts Marina property located at 713 Simundson Drive in Point Roberts, Washington. The investigation was undertaken in an effort to demonstrate that soil and groundwater at the site were no longer impacted by the gasoline release documented in previous investigations at the site.

Two underground storage tanks (UST) were removed from the site in April 2016. Soil samples collected during the UST removal confirmed a release of petroleum contamination to the subsurface. Following the removal of the tanks, a petroleum contamination soil (PCS) removal action was conducted in an effort to remediate the site. Approximately 1,300 tons of soil were removed from the site and bioremediated at an adjacent property owned by the Point Roberts Marina Resort.

In order to confirm that the release had not impacted groundwater at the site, monitoring wells were installed near the remedial excavation. In November 2016, three GeoProbe soil borings were advanced to a depth of 15 feet below ground surface (bgs), and monitoring wells were installed in each soil boring.

Soil samples collected from each boring indicated that soil was not impacted by petroleum contamination above the applicable MTCA Method A target cleanup level.

Groundwater samples were collected from each of the monitoring wells in November 2016. Laboratory analytical results indicated that groundwater at the site has not been impacted by petroleum contamination above the applicable MTCA Method A target cleanup levels.

Based on the results of the groundwater investigation and previous investigations completed at the site, soil and groundwater impacted by the release has been fully remediated to meet the MTCA Method A cleanup criteria for unrestricted land use.

1.0 INTRODUCTION

1.1 GENERAL SITE INFORMATION

The site is located at 713 Simundson Drive in Point Roberts, Washington. The site, as defined by MTCA, is comprised of one parcel (405310416422) and is located in the southwest quarter of the northeast quarter of Section 10 in township 40 North, Range 3 West. The site is situated approximately 800 feet north of the Strait of Georgia, and approximately 1.6 miles south of the US/Canada border. The site is zoned as Rural Community by Whatcom County. A site location map is provided as Figure 1.

The median elevation of the site is approximately 15 feet above mean sea level. The site topography is generally flat. The property is covered by an asphalt parking lot; grassy fields; a multi-tenant building with retail shops, restaurants, and offices; and a canopy for boat storage.

1.2 SITE GEOLOGY

The site is located in the northern portion of the Puget Sound Basin. The region is characterized by thick sequences of Pleistocene glacial advance outwash and melt-water deposits that settled on a basement of tectonically deformed sedimentary and ancient metamorphic bedrock. The glacial deposits have been reworked by more recent fluvial, lacustrine, and aeolian actions into the landforms present today.

Soils in the area of the site are described in the Soil Survey of Whatcom County Area Washington (USDA, 1992). Soils at the site are described as Whitehorn silt loams with slopes ranging from 0 to 2 percent. The Whitehorn soil is very deep, poorly drained soil that formed in a mixture of loess, volcanic ash, and glaciofluvial deposits over glaciomarine deposits. Permeability is slow, and available water capacity is high.

The site is primarily underlain by glaciomarine drift of the Everson Interstade of the Fraser Glaciation (WSDNR, 2000). The drift consists of moderately to poorly indurated, moderately to unsorted diamicton with lenses and discontinuous beds of moderately to well-sorted gravel, sand, silt, and clay. Bedding is massive to poorly

stratified in marine sediments and locally cross-bedded in sandy interbeds. Color is gray to blue-gray to olive-gray to brown, depending on the oxidation state. Thickness ranges from a few meters to as much as 90 meters.

1.3 SITE HYDROGEOLOGY

Groundwater was encountered in each soil boring at a depth of approximately 6 to 8 feet bgs. Groundwater at the site generally flows west-southwest, towards the marina, with an average gradient of approximately 0.002 ft/ft. The groundwater flow direction and gradient map for November 2016 is presented on Figure 2.

2.0 PREVIOUS INVESTIGATIONS

Previous investigations conducted at the site are summarized below.

2.1 2016 – UST SITE ASSESSMENT

Whatcom Environmental Services personnel conducted a UST Site Assessment as two USTs were closed and removed from the ground on April 14, 2016. The results of the site assessment were documented in a report titled *Underground Storage Tank Site Assessment at Closure: Point Roberts Marina, 713 Simundson Dr., Point Roberts, Washington, 98281*. The report was submitted to Ecology on May 27, 2016.

The two USTs (one 15,000-gallon gasoline tank and one 15,000-gallon diesel tank) were closed and removed as part of a system upgrade. Soil samples were collected in accordance with the Washington State Department of Ecology (Ecology) UST Site Assessment guidance standards (Ecology, 2003). One soil sample was collected as part of the site assessment. Field screening and laboratory analytical results indicated that a release had occurred to soil adjacent to the gasoline tank (WES, 2016a).

2.2 2016 – PCS REMOVAL ACTION

A petroleum contaminated soil (PCS) removal action was conducted following removal of the tanks in an effort to remediate contamination discovered at the site. The results of the remedial action were documented in a report *titled Petroleum Contaminated Soil Removal Action Report, Point Roberts Marina Resort, 713 Simundson Dr., Point Roberts, Washington, 98281*. The report was submitted to Ecology on July 18, 2016.

Approximately 1,300 tons of soil were excavated from the site. Thirteen clean confirmation soil samples were collected from the floor and sidewalls of the final excavation to document the success of the remedy. All final soil samples results were below the MTCA Method A cleanup level. Excavated soil was bioremediated at an adjacent property owned by the Point Roberts Marina Resort (WES, 2016b).

2.3 2016 – SOIL BIOREMEDIATION

Soil generated during the PCS removal action was bioremediated on a nearby property via land treatment under a Fill and Grade Permit issued by Whatcom County. The soil bioremediation was documented in a report titled *Petroleum Contaminated Soil Bioremediation Report, Point Roberts Marina Resort, 713 Simundson Dr., Point Roberts, Washington, 98281*. The report was submitted to Ecology on August 31, 2016.

The bioremediation cell was split into five sections for treatment. Following three months of treatment via tilling, and four rotations of the lifts, all soil had been successfully remediated. Soil samples were collected throughout the process to document the remediation, and all final soil sample results met the Category 1 Soil Reuse Standards (WES, 2016c).

3.0 INVESTIGATIVE METHODS

The subsurface conditions at the site were investigated in November 2016 in order to demonstrate that soils and groundwater at the site were no longer impacted by the gasoline release to soil and groundwater, as documented in the previous investigations. Three soil borings were advanced and soil samples were collected for laboratory analysis. Three groundwater monitoring wells were installed in the borings, and groundwater samples were collected for laboratory analysis. Monitoring well locations are shown on Figure 2.

3.1 SOIL BORINGS AND SOIL SAMPLE COLLECTION PROCEDURES

Subsurface utilities were located several days prior to drilling and the boring locations were pre-cleared to a depth of approximately 5 feet bgs using a hand auger before initiating each soil boring. The soil borings were drilled by Cascade Drilling, and supervised by Whatcom Environmental Services staff.

The drill rig equipment was decontaminated prior to initiating each soil boring. The borings were continuously cored to an average depth of 15 feet below grade. Soil cores were logged in the field and soil descriptions generally followed ASTM D 2487 'Unified Soil Classification System' procedures for description and identification of soils. The soil borings were identified as MW-1 through MW-3. Soil boring logs are included in Appendix A.

The soil cores were field screened for evidence of petroleum compounds. The soil was evaluated in the field for organic vapors using a photoionization detector (PID) and for petroleum products using sheen tests. Immediately after the soil cores were described, a portion of each sample was sheen tested and the remainder of the sample was placed in a labeled re-sealable bag. The PID was inserted into the re-sealable bag in order to evaluate the presence of organic vapors, and a headspace organic vapor detection in parts per million (ppm) was recorded on the boring log. Sheen tests were recorded as: NS – no sheen, VSS – very slight sheen, SS – slight sheen, MS – moderate sheen, and HS – heavy sheen. Soil sample descriptions and field screening results are summarized in Table 1.

Soil samples were collected from each soil boring location via EPA Method 5035A. The samples were placed in sample containers provided by the lab. Soil samples were stored on ice in a cooler immediately after collection. Standard industry protocols regarding sample collection, preservation, chain-of-custody, and shipping were followed. The samples were identified by both the boring number from which they originated and the depth from which they were collected, e.g. *MW-1 6.5 ft*.

3.2 SOIL SAMPLE ANALYTICAL PROCEDURES

Soil samples were analyzed at ALS Laboratory Group in Everett, Washington. ALS is accredited by the Washington State Department of Ecology. Strict chain-of-custody and QA/QC protocols were followed for each sample. The following laboratory methods were used to analyze the soil samples:

NWTPH-Dx: Diesel and oil range total petroleum hydrocarbons (TPH)

NWTPH-Gx: Volatile (gasoline) range TPH

EPA Method 8021: Benzene, toluene, ethylbenzene, and total xylenes (BTEX constituents) and Methyl Tert-Butyl Ether (MTBE)

EPA Method 6020: Lead

3.3 GROUNDWATER MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLE COLLECTION PROCEDURES

Groundwater monitoring wells were installed in each of the three soil borings. The wells were correspondingly identified as MW-1 through MW-3. The monitoring wells were installed to a depth of 15 feet bgs and were constructed with pre-packed machine slotted, 2-inch diameter PVC pipe. The well screen lengths are 10 feet and the top of the PVC well casings are protected with flush-mounted well monuments. The groundwater monitoring well construction diagrams are provided in Appendix B.

The monitoring wells were developed using disposable bailers prior to sampling. Water was bailed from each well until the turbidity decreased. Each monitoring well was sampled using the low-flow sampling technique, recommended and approved by the U.S. Environmental Protection Agency (USEPA, 1998). The low-flow sampling technique minimizes the impact of the purging process on groundwater chemistry and provides an accurate representation of the groundwater's condition at the time of sampling. Prior to sampling, the depth-to-water was measured in each well, and the groundwater elevation

was calculated for the sampling event. A YSI Model 556 multi-probe meter was used in conjunction with a flow-through cell to monitor groundwater chemistry during the low-flow purging process. Purging was considered adequate and groundwater samples were collected when the water chemistry parameters had stabilized.

Groundwater samples were collected in sample bottles provided by the analytical laboratory and stored on ice in a cooler immediately after collection. Dissolved lead samples were filtered in the field using a disposable 0.45 μm in-line filter. One duplicate sample and one equipment blank sample were also collected during each sampling event. Standard industry protocols regarding sample collection, preservation, chain-of-custody, and shipping were followed. Groundwater samples were identified by the monitoring well identification number of the well from which they were collected. The monitoring wells were sampled in November 2016.

3.4 GROUNDWATER SAMPLE ANALYTICAL PROCEDURES

All groundwater samples were analyzed at ALS Laboratory Group in Everett, Washington. Strict chain-of-custody and QA/QC protocols were followed for each sample. The following laboratory methods were used to analyze the groundwater samples:

NWTPH-Dx: Diesel and oil range TPH
NWTPH-Gx: Volatile (gasoline) range TPH
EPA Method 8021: BTEX and MTBE
EPA Method 200.8: Dissolved Lead

Due to the close proximity of the bay, both the soil and groundwater samples were analyzed for diesel range total petroleum hydrocarbon (NWTPH-Dx) with silica gel cleanup. The silica gel cleanup removes vascular plant debris, polar molecules, humanic acids, tannins, lipids, polymers and proteins which may cause a significant increase in the TPH concentrations. When these types of organic compounds are present at the site, EPA recommends the use of silica gel cleanup to properly characterize the soil and groundwater conditions.

4.0 SELECTION OF CLEANUP STANDARDS

4.1 SOIL CLEANUP STANDARDS

The MTCA Method A target cleanup levels for soil were selected as screening levels for this remedial investigation. Those levels have been established for unrestricted land use in accordance with WAC 173-340 and can be found in Table 740-1 (Ecology, 2013).

4.2 GROUNDWATER CLEANUP STANDARDS

The MTCA Method A target cleanup levels for groundwater were selected as screening levels for this remedial investigation. Those levels have been established for unrestricted land use in accordance with WAC 173-340 and can be found in Table 720-1 (Ecology, 2013).

5.0 INVESTIGATION RESULTS

5.1 SOIL SAMPLE RESULTS

Six soil samples were collected at various depths from the soil boring locations. The soil sample descriptions, depths of collection and field screening results are included in Table 1. The soil sample laboratory analytical data are summarized in Table 2. The original laboratory analytical data report is included in Appendix C.

None of the soil samples collected during the investigation contained any analytes at concentrations which exceeded the MTCA Method A target cleanup levels. Diesel range TPH was detected in sample *MW-2 9.5ft* at a concentration below the MTCA Method A cleanup level. All samples contained background levels of lead. All samples were analyzed within the prescribed holding times, and sample analytical QA/QC results were within acceptable limits.

5.2 GROUNDWATER SAMPLE RESULTS

Groundwater samples were collected from each of the wells on November 30, 2016. The groundwater laboratory analytical data are summarized in Table 3. The original laboratory analytical data report is included in Appendix D.

The water quality indicator parameter measurements were collected immediately prior to sample collection as per the EPA recommended low-flow groundwater sampling method (USEPA 1998). The depth-to-water and final water quality indicator parameter measurements for each well are shown on Table 4.

Laboratory analytical results indicated that none of the monitoring wells contained detectable concentrations of any of the analytes.

6.0 CONCLUSIONS

Whatcom Environmental Services Inc. has successfully documented the remediation of all contaminated soil and groundwater at the Point Roberts Marina site located at 713 Simundson Drive in Point Roberts, Washington.

Three soil borings were drilled in November 2016 near the remedial excavation from the UST system upgrade performed earlier in 2016, and monitoring wells were installed in each of the borings. Soil samples were collected from each boring. Soil sample results indicated that soil is not impacted by petroleum contamination above the MTCA Method A cleanup level. Groundwater samples collected from the monitoring wells indicated that groundwater at the site has no detectable concentrations of petroleum products.

Soil and groundwater remaining at the site meet the MTCA Method A target cleanup levels for unrestricted land use. This report documents the successful soil and groundwater remediation completed at the Point Roberts Marina Resort.

7.0 LIMITATIONS

No site assessment can wholly eliminate uncertainty regarding the potential for contamination in connection with a property. Documentation of the soil remediation by Whatcom Environmental Services is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental contamination in connection with the subject property.

The interpretation of soil and groundwater conditions is based on field observations and chemical analytical data collected from relatively widely spaced sampling locations at the site. It is possible that contamination exists in areas that were not explored, sampled, or analyzed. No warranty, express or implied, is given regarding the presence of hidden or unidentified sources of contamination of the subject property. In addition, no warranty, express or implied is given regarding geotechnical or geologic hazards.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted environmental practices in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Whatcom Environmental Services has prepared this report for the exclusive use of the Point Roberts Marina Resort, their authorized agents, and regulatory agencies. Whatcom Environmental prepares a report for the client's exclusive use for a particular project and in accordance with generally accepted practices at the time of investigation. This report was prepared for exclusive use by the Point Roberts Marina Resort and its authorized agents and may not be used, relied upon, or assigned to a third party without written consent from Whatcom Environmental Services. This report is not intended for use by others, and the information contained herein is not applicable to other sites. This report may be made available to regulatory agencies.

8.0 REFERENCES

U.S. Department of Agriculture (USDA). 1992. Soil Survey of Whatcom County Area, Washington. Soil Conservation Service. 481 pp.

Washington State Department of Ecology (Ecology). 2013. Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC. Publication No. 94-06.

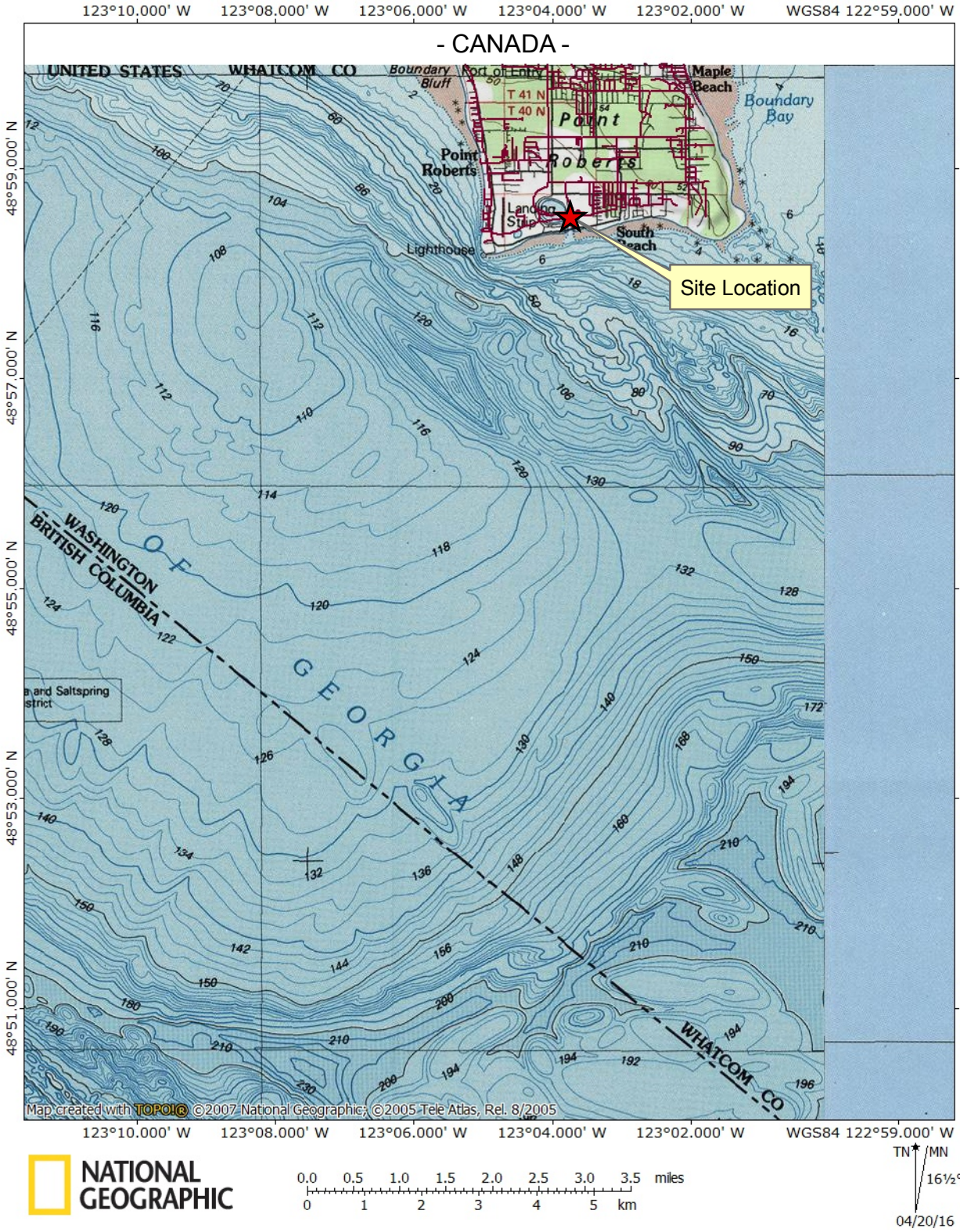
Washington State Department of Ecology. 2016. Guidance for Remediation of Petroleum Contaminated Sites. Publication No. 10-09-057.

Washington State Department of Natural Resources (WSDNR). 2000. Geologic Map of the Bellingham 1:100,000 Quadrangle, Washington. Open File Report 2000-5.

Whatcom Environmental Services. May 27, 2016a. Underground Storage Tank Site Assessment at Closure: Point Roberts Marina, 713 Simundson Dr., Point Roberts, Washington.

Whatcom Environmental Services. July 18, 2016b. Petroleum Contaminated Soil Removal Action Report, Point Roberts Marina Resort, 713 Simundson Dr., Point Roberts, Washington.

Whatcom Environmental Services. August 31, 2016c. Petroleum Contaminated Soil Bioremediation Report, Point Roberts Marina Resort, 713 Simundson Dr., Point Roberts, Washington.



Prepared for:	Prepared by:	Site Location Map	
Point Roberts Marina Resort	nwhatcom ENVIRONMENTAL	Point Roberts Marina UST 4/20/16	Figure 1

Monitoring Wells

Catch Basin

GW Contours 11/30/2016

New UST Pit

0 20 40 60 80 Feet

1 inch = 40 feet

All data are approximate and should be used for relative location reference only. 2014 aerial photograph (GoogleEarth).

Groundwater Elevation and Monitoring Well Location Map

Prepared for:

Point Roberts Marina Resort

Prepared by:

whatcom ENVIRONMENTAL

713 Simundson Drive
Point Roberts, WA 98281

Point Roberts Marina UST

12/14/16

Figure 2

Table 1. Soil Sample Descriptions - Point Roberts Marina

Sample ID	Date	Soil Sample Description	PID (ppm)	Sheen Test[a]
MW-1 6.5 ft	11/17/2016	Coarse sand with gravel, gray, loose, wet.	0	NS
MW-1 14 ft	11/17/2016	Fine sand with silt, gray, firm to loose, wet.	0.1	NS
MW-2 9.5 ft	11/17/2016	Silty fine sand, organic rich, dark brown, firm, moist.	34.5	NS
MW-2 15 ft	11/17/2016	Medium sand, gray, loose, saturated.	0	NS
MW-3 8.5 ft	11/17/2016	Medium to fine sand with trace gravel, clay, and minor silt, gray, loose, wet.	0	NS
MW-3 15 ft	11/17/2016	Medium sand with shell fragments, dark gray, loose, saturated.	0	NS

[a] - NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

Table 2. Soil Sample Analytical Results - Point Roberts Marina

Sample ID	Date	NWTPH-Gx Volatile Range	NWTPH-Dx Diesel Range	NWTPH-Dx Oil Range	EPA-8021 Benzene	EPA-8021 Toluene	EPA-8021 Ethylbenzene	EPA-8021 Xylenes	EPA-8021 MTBE	EPA-6020 Lead
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MTCA Method A Clean-up Levels:		100/30[a]	2,000	2,000	0.03	7	6	9	0.1	250
MW-1 6.5 ft	11/17/2016	ND(<3)	ND(<25)	ND(<50)	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	1.1
MW-1 14 ft	11/17/2016	ND(<3)	ND(<25)	ND(<50)	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	2.1
MW-2 9.5 ft	11/17/2016	ND(<3)	ND(<40)[b]	84	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	13
MW-2 15 ft	11/17/2016	ND(<3)	ND(<25)	ND(<50)	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	1.6
MW-3 8.5 ft	11/17/2016	ND(<3)	ND(<26)[b]	ND(<52)[b]	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	5.4
MW-3 15 ft	11/17/2016	ND(<3)	ND(<25)	ND(<50)	ND(<0.03)	ND(<0.05)	ND(<0.05)	ND(<0.2)	ND(<0.1)	1.7

[a] - Cleanup level dependent on BTEX concentrations

[b] - Reporting limits raised due to low percent solids

ND - indicates analyte was Not Detected at level above reporting limit (shown in parentheses)

All samples collected using EPA Method 5035A

Table 3. Groundwater Sample Analytical Results - Point Roberts Marina

Sample ID	Date	NWTPH-Gx Gasoline Range µg/L	NWTPH-Dx[b] Diesel Range µg/L	NWTPH-Dx[b] Lube-Oil Range µg/L	EPA-8021 Benzene µg/L	EPA-8021 Toluene µg/L	EPA-8021 Ethylbenzene µg/L	EPA-8021 Xylenes µg/L	EPA-8021 MTBE µg/L	EPA-200.8 Lead (Dissolved) µg/L
MTCA Method A Cleanup Levels:		1,000/800[a]	500	500	5	1,000	700	1,000	20	15
MW-1	11/30/2016	ND(<50)	ND(<130)	ND(<250)	ND(<3)	ND(<1)	ND(<1)	ND(<3)	ND(<3)	ND(<1)
MW-2	11/30/2016	ND(<50)	ND(<130)	ND(<250)	ND(<3)	ND(<1)	ND(<1)	ND(<3)	ND(<3)	ND(<1)
MW-3	11/30/2016	ND(<50)	ND(<130)	ND(<250)	ND(<3)	ND(<1)	ND(<1)	ND(<3)	ND(<3)	ND(<1)
Equipment Blank	11/30/2016	ND(<50)	ND(<130)	ND(<250)	ND(<3)	ND(<1)	ND(<1)	ND(<3)	ND(<3)	ND(<1)

[a] - Cleanup level dependent on BTEX concentrations

[b] - NWTPH-Dx run with Silica Gel Cleanup

ND - indicates analyte was not detected at level above reporting limit (shown in parentheses)

All wells were sampled using PVI method

Table 4. Groundwater Chemistry Parameters - Point Roberts Marina

Well ID	Date	DTW (ft)	GW Elevation (ft)	Temp (°C)	EC (mS/cm)	TDS (g/L)	Salinity (ppt)	DO (mg/L)	pH	ORP (mV)	Turbidity NTU
MW-1	11/30/16	5.18	9.34	13.59	2.98	1.94	1.56	0.2	7.40	-210.1	11.2
MW-2	11/30/16	5.40	9.22	13.64	1.92	1.25	0.99	3.39	7.46	-108.3	7.29
MW-3	11/30/16	5.31	9.13	13.38	1.76	1.15	0.90	0.43	7.51	-135.6	4.22

APPENDIX A

Soil Borelogs

Boring Log

Project: Point Roberts Well Instalation
Client: Point Roberts Marina
Boring Number: MW-1
Location: Northeast of Tank Pit
Date Completed: 11/17/16

Sheet: 1 of 1
Drilled by: Cascade Drilling - Frank
Logged by: WES - Jake R.
First Encountered Water: ~6.5 ft bgs
Total Depth: 15 ft

Depth	Description	Blow Count	PID (ppm)	Sheen	Sample
Surface	3 in. asphalt	Hand cleared to 5 ft. bgs.			
1.0 ft:	Medium sand with gravel, brown, loose, dry.		0.2	NS	
2.0 ft:	Same as above.		0.2	NS	
3.0 ft:	Medium sand with silt and occasional gravel, brown, loose, dry.		0.1	NS	
4.0 ft:	Medium sand with silt and gravel, salt and pepper gray, loose, moist.		0.1	NS	
5.0 to 8.0 ft:	Coarse sand with gravel, shell fragments, gray, firm to loose, wet.		0.0	NS	6.5 ft
8.0 to 9.0 ft:	Clayey silt, gray, soft, wet.		0.0	NS	
9.0 to 10.0 ft:	Silt, organic rich with rootlets, dark brown, firm, moist.		0.0	NS	
10.0 to 15.0 ft:	Medium to fine sand with trace silt and gravel, shell fragments, gray, firm to loose, wet. Strong "clam" odor		0.0	NS	14 ft
	Soil Sample Collection Depth				

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NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

Boring Log

Project: Point Roberts Well Instalation
Client: Point Roberts Marina
Boring Number: MW-2
Location: West of Tank Pit
Date Completed: 11/17/16

Sheet: 1 of 1
Drilled by: Cascade Drilling - Frank
Logged by: WES - Jake R.
First Encountered Water: ~6 ft bgs
Total Depth: 15 ft

Depth	Description	Blow Count	PID (ppm)	Sheen	Sample
Surface	3 in. asphalt	Hand cleared to 5 ft. bgs.			
1.0 ft:	Medium sand with gravel, brown, loose, dry.		0.3	NS	
2.0 ft:	Medium sand with gravel, trace shell fragments, brown, loose, dry.		0.0	NS	
3.0 ft:	Same as above.		0.0	NS	
4.0 ft:	Medium sand with gravel, trace shell fragments, brown, loose, slightly moist.		0.0	NS	
5.0 to 8.0 ft:	Coarse sand with gravel, light brown, loose, wet.		0.0	NS	
8.0 to 9.0 ft:	Medium to fine sand with gravel, shell fragements, gray, loose, wet.		0.0	NS	
9.0 to 10.0 ft:	Silty fine sand, organic rich with rootlets, dark brown, firm, moist. Strong "sewage" odor		34.5	NS	9.5 ft
10.0 to 15.0 ft:	Medium to fine sand with trace gravel, shells, gray, loose, saturated. Strong "clam" odor		0.0	NS	15 ft
	Soil Sample Collection Depth				

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NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

Boring Log

Project: Point Roberts Well Instalation
Client: Point Roberts Marina
Boring Number: MW-3
Location: South of Tank Pit
Date Completed: 11/17/16

Sheet: 1 of 1
Drilled by: Cascade Drilling - Frank
Logged by: WES - Jake R.
First Encountered Water: ~8 ft bgs
Total Depth: 15 ft

Depth	Description	Blow Count	PID (ppm)	Sheen	Sample
Surface	3 in. asphalt	Hand cleared to 5 ft. bgs.			
1.0 ft:	Medium sand with gravel, brown, loose, moist.		0.3	NS	
2.0 ft:	Medium sand with gravel, trace shell fragments, brown, loose, moist.		0.0	NS	
3.0 ft:	Same as above.		0.0	NS	
4.0 ft:	Medium to coarse sand with gravel, trace shell fragments, brown, loose, moist.		0.0	NS	
5.0 to 8.0 ft:	Coarse sand with gravel, light brown, loose, moist. Limited Recovery.		0.0	NS	
8.0 to 9.0 ft:	Medium to fine sand with trace gravel, clay and minor silt at 8.5 ft, gray, loose, wet.		0.0	NS	8.5 ft
9.0 to 10.0 ft:	Silty fine sand, organic rich with rootlets, dark brown, firm, moist. Strong "sewage" odor		7.5	NS	
10.0 to 15.0 ft:	Medium to fine sand with trace shell fragments, dark gray, loose, saturated. Strong "clam" odor		1.6 at 13 ft.	NS	15 ft
	Soil Sample Collection Depth				

WHATCOM ENVIRONMENTAL SERVICES INC.

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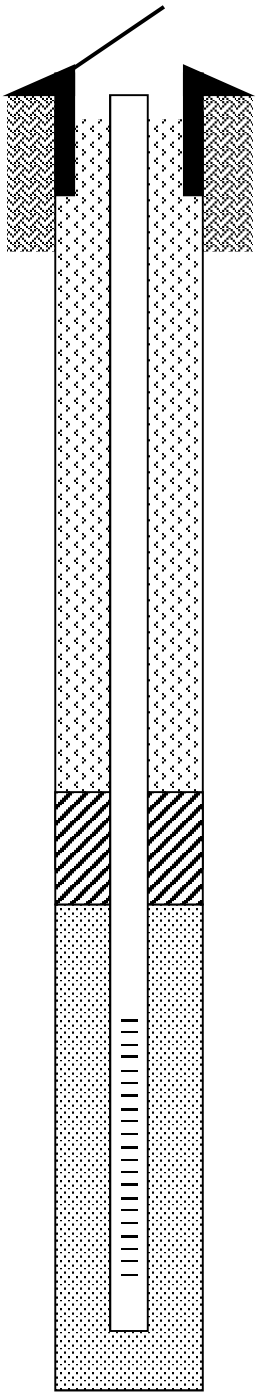
NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

APPENDIX B

Well Construction Diagrams

Well Design Specifications



Depths in Feet Below Ground Surface

2'

3'

5'

15'

15'2"

15'2"

Not to Scale

Elevations (feet): Top of Casing: 14.4403 ft
Mean Sea Level (MSL) Ground Elevation: 14.8002 ft

Coordinates: 729137.2263 E 1104841.6661 N

Coordinate System: HORIZ: NAD 83/91 & VERT: NAVD 88

Type of Casing: PVC

Casing Diameter: 2"

Screen Slot: 0.01

Screen Style: Machine Cut

Sand Pack: Colorado Silica 10/20

Bentonite Seal: Pure Gold

Grout Type: Chip **Weight:**

Bore Hole Diameter: 3"

Drill Rig: GeoProbe

Drilled by: Frank - Cascade Drilling

Logged by: Jake Reijm - Whatcom Environmental

Completion Date: 11/17/2016

Date of Measurement	D-T-W (ft. bgs)	Water Level (ft. MSL)	Field pH	Field EC (mS/cm)
11/30/2016	5.18	9.34	7.4	2.98

Comments: Well installed with GeoProbe.
Prepack well screens.

Project: Point Roberts Marina

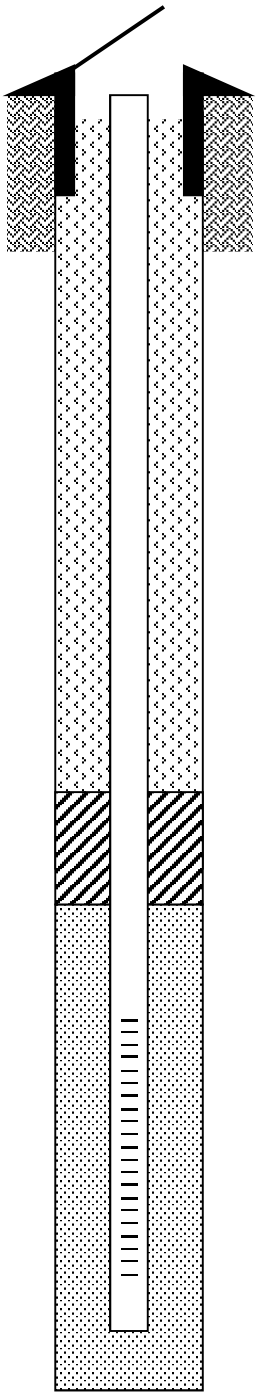
Location: Northeast of tank pit

Whatcom Environmental Services
228 East Champion Street #101
Bellingham, WA 98225
(360) 752-9571

MW-1

Ecology Well ID:
BJY-395

Well Design Specifications



Depths in Feet Below Ground Surface

2'

3'

5'

15'

15'2"

15'2"

Not to Scale

Elevations (feet): Top of Casing: 14.6248 ft
Mean Sea Level (MSL) Ground Elevation: 15.0585 ft

Coordinates: 729090.5667 E 1104780.4223 N

Coordinate System: HORIZ: NAD 83/91 & VERT: NAVD 88

Type of Casing: PVC

Casing Diameter: 2"

Screen Slot: 0.01

Screen Style: Machine Cut

Sand Pack: Colorado Silica 10/20

Bentonite Seal: Pure Gold

Grout Type: Chip **Weight:**

Bore Hole Diameter: 3"

Drill Rig: GeoProbe

Drilled by: Frank - Cascade Drilling

Logged by: Jake Reijm - Whatcom Environmental

Completion Date: 11/17/2016

Date of Measurement	D-T-W (ft. bgs)	Water Level (ft. MSL)	Field pH	Field EC (mS/cm)
11/30/2016	5.4	9.22	7.46	1.92

Comments: Well installed with GeoProbe.
Prepack well screens.

Project: Point Roberts Marina

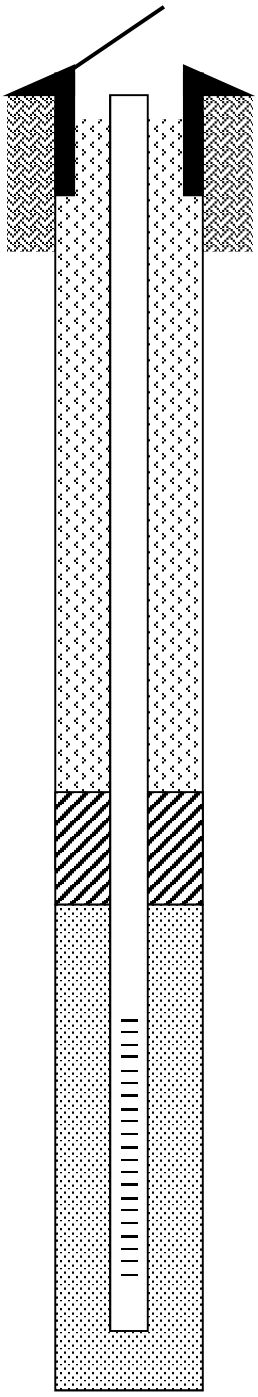
Location: West of Tank Pit

Whatcom Environmental Services
228 East Champion Street #101
Bellingham, WA 98225
(360) 752-9571

MW-2

Ecology Well ID:
BJY-396

Well Design Specifications



Depths in Feet Below Ground Surface

2'

3'

5'

15'

15'2"

15'2"

Not to Scale

Elevations (feet): Top of Casing: 14.4403 ft
Mean Sea Level (MSL) Ground Elevation: 14.8002 ft

Coordinates: 729064.0024 E 1104807.9173 N

Coordinate System: HORIZ: NAD 83/91 & VERT: NAVD 88

Type of Casing: PVC

Casing Diameter: 2"

Screen Slot: 0.01

Screen Style: Machine Cut

Sand Pack: Colorado Silica 10/20

Bentonite Seal: Pure Gold

Grout Type: Chip **Weight:**

Bore Hole Diameter: 3"

Drill Rig: GeoProbe

Drilled by: Frank - Cascade Drilling

Logged by: Jake Reijm - Whatcom Environmental

Completion Date: 11/17/2016

Date of Measurement	D-T-W (ft. bgs)	Water Level (ft. MSL)	Field pH	Field EC (mS/cm)
11/30/2016	5.31	9.13	7.51	1.76

Comments: Well installed with GeoProbe.
Prepack well screens.

Project: Point Roberts Marina

Location: South of Tank Pit

Whatcom Environmental Services
228 East Champion Street #101
Bellingham, WA 98225
(360) 752-9571

MW-3

Ecology Well ID:
BJY-397

APPENDIX C

Soil Laboratory Analytical Data

November 28, 2016

Mr. Harold Cashman
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Cashman,

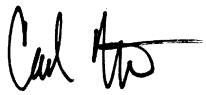
On November 18th, 6 samples were received by our laboratory and assigned our laboratory project number EV16110135. The project was identified as your Point Roberts Marina. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group



Carl Nott
Operations Manager

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS JOB#:	EV16110135
		ALS SAMPLE#:	EV16110135-01
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 11:50:00 AM
CLIENT SAMPLE ID	MW-1 6.5ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**1.1**	0.50	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**91.6**	11/21/2016	DLC
TFT	EPA-8021	**95.2**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**105**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS JOB#:	EV16110135
		ALS SAMPLE#:	EV16110135-02
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 12:00:00 PM
CLIENT SAMPLE ID	MW-1 14ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**2.1**	0.50	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**92.0**	11/21/2016	DLC
TFT	EPA-8021	**100**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**123**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS JOB#:	EV16110135
		ALS SAMPLE#:	EV16110135-03
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 1:30:00 PM
CLIENT SAMPLE ID	MW-2 9.5ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	ND- F2	40	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	**84**	50	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**13**	0.54	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**107**	11/21/2016	DLC
TFT	EPA-8021	**117**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**91.2**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
F2 - Reporting limit for compound raised due to low percent solids.
Chromatogram indicates that it is likely that sample contains an unidentified oil range product.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS JOB#:	EV16110135
		ALS SAMPLE#:	EV16110135-04
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 1:40:00 PM
CLIENT SAMPLE ID	MW-2 15ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**1.6**	0.50	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**101**	11/21/2016	DLC
TFT	EPA-8021	**108**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**92.7**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	11/28/2016 EV16110135 EV16110135-05
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 2:40:00 PM
CLIENT SAMPLE ID	MW-3 8.5ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	ND- F2	26	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	ND- F2	52	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**5.4**	0.50	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**97.5**	11/21/2016	DLC
TFT	EPA-8021	**98.5**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**95.9**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
F2 - Reporting limit for compound raised due to low percent solids.

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ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	11/28/2016 EV16110135 EV16110135-06
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	11/18/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/17/2016 2:50:00 PM
CLIENT SAMPLE ID	MW-3 15ft	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	11/21/2016	DLC
Methyl T-Butyl Ether	EPA-8021	U	0.10	1	MG/KG	11/21/2016	DLC
Benzene	EPA-8021	U	0.030	1	MG/KG	11/21/2016	DLC
Toluene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Ethylbenzene	EPA-8021	U	0.050	1	MG/KG	11/21/2016	DLC
Xylenes	EPA-8021	U	0.20	1	MG/KG	11/21/2016	DLC
TPH-Diesel Range	NWTPH-DX w/ SGA	U	25	1	MG/KG	11/21/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	50	1	MG/KG	11/21/2016	EBS
Lead	EPA-6020	**1.7**	0.50	5	MG/KG	11/21/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**91.3**	11/21/2016	DLC
TFT	EPA-8021	**95.0**	11/21/2016	DLC
C25	NWTPH-DX w/ SGA	**90.0**	11/21/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 9820 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS SDG#:	EV16110135
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Harold Cashman		
CLIENT PROJECT:	Point Roberts Marina		

LABORATORY BLANK RESULTS

MBG-112016S - Batch 110200 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	11/20/2016	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-112016S - Batch 110200 - Soil by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Methyl T-Butyl Ether	EPA-8021	U	MG/KG	0.10	11/20/2016	DLC
Benzene	EPA-8021	U	MG/KG	0.030	11/20/2016	DLC
Toluene	EPA-8021	U	MG/KG	0.050	11/20/2016	DLC
Ethylbenzene	EPA-8021	U	MG/KG	0.050	11/20/2016	DLC
Xylenes	EPA-8021	U	MG/KG	0.20	11/20/2016	DLC

U - Analyte analyzed for but not detected at level above reporting limit.

MB-111816S - Batch 110042 - Soil by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	11/18/2016	EBS
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	11/18/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB-112116S - Batch 110083 - Soil by EPA-6020

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Lead	EPA-6020	U	MG/KG	0.10	11/21/2016	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	11/28/2016
		ALS SDG#:	EV16110135
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Harold Cashman		
CLIENT PROJECT:	Point Roberts Marina		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 110200 - Soil by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**87.8**			66.5	122.7	11/20/2016	DLC
TPH-Volatile Range - BSD	NWTPH-GX	**87.0**	**1**		66.5	122.7	11/21/2016	DLC

ALS Test Batch ID: 110200 - Soil by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Methyl T-Butyl Ether - BS	EPA-8021	**94.1**			66	116	11/20/2016	DLC
Methyl T-Butyl Ether - BSD	EPA-8021	**95.6**	**2**		66	116	11/20/2016	DLC
Benzene - BS	EPA-8021	**103**			67.7	124	11/20/2016	DLC
Benzene - BSD	EPA-8021	**104**	**2**		67.7	124	11/20/2016	DLC
Toluene - BS	EPA-8021	**97.3**			71	123	11/20/2016	DLC
Toluene - BSD	EPA-8021	**100**	**3**		71	123	11/20/2016	DLC
Ethylbenzene - BS	EPA-8021	**97.7**			69.8	117	11/20/2016	DLC
Ethylbenzene - BSD	EPA-8021	**100**	**3**		69.8	117	11/20/2016	DLC
Xylenes - BS	EPA-8021	**102**			70	119	11/20/2016	DLC
Xylenes - BSD	EPA-8021	**104**	**2**		70	119	11/20/2016	DLC

ALS Test Batch ID: 110042 - Soil by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**106**			75.5	122.1	11/19/2016	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**98.5**	**200**		75.5	122.1	11/19/2016	EBS

ALS Test Batch ID: 110083 - Soil by EPA-6020

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Lead - BS	EPA-6020	**104**			80	120	11/21/2016	RAL
Lead - BSD	EPA-6020	**97.8**	**6**		80	120	11/21/2016	RAL

APPROVED BY

Operations Manager

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ALS Group USA, Corp dba ALS Environmental

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1611035

Date 11/17/16 Page 1 Of 1

PROJECT ID:	Point Roberts Marina
REPORT TO COMPANY:	Whatcom Environmental
PROJECT MANAGER:	Harold Cashman
ADDRESS:	220 E. Champion St. #101 Bellingham, WA 98225
PHONE: 360-752-9571	FAX: 360-752-9573
P.O. #:	E-MAIL: hycashman@whatcom...
INVOICE TO COMPANY:	
ATTENTION:	SAME AS ABOVE
ADDRESS:	

ANALYSIS REQUESTED

OTHER (Specify)

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX + SGA	NWTPH-GX	BTEX by EPA 8260 ☐	MTBE by EPA 8260 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify) Lead (Pb)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-1 6.5ft	11/17/16	11:50	Soil	1		X	X	X	X									X		2	
2. MW-1 14ft	↓	12:00	↓	2		X	X	X	X									X		2	
3. MW-2 9.5ft		1:30		3		X	X	X	X									X		2	
4. MW-2 15ft		1:40		4		X	X	X	X									X		2	
5. MW-3 8.5ft		2:40		5		X	X	X	X									X		2	
6. MW-3 15ft		2:50		6		X	X	X	X									X		2	
7.																					
8.																					
9.																					
10.																					

SPECIAL INSTRUCTIONS VOAs filled via 5035A

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Juliet Ryan, WES, 11/17/16 6PM
   Received By:
2. Relinquished By:
   Received By: Shawn Roberson ALS 11/18/16 3:50 pm

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: [10] Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: [5] Standard | 3 | 1 | SAME DAY

OTHER: Specify:

*Turnaround request less than standard may incur Rush Charges

APPENDIX D

Groundwater Laboratory Analytical Data

December 12, 2016

Mr. Harold Cashman
Whatcom Environmental Svcs., Inc.
228 E. Champion St., Suite 101
Bellingham, WA 98225

Dear Mr. Cashman,

On December 1st, 5 samples were received by our laboratory and assigned our laboratory project number EV16120002. The project was identified as your Point Roberts Marina. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	12/12/2016
		ALS JOB#:	EV16120002
		ALS SAMPLE#:	EV16120002-01
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	12/01/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/30/2016 10:25:00 AM
CLIENT SAMPLE ID	MW-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/01/2016	PAB
Methyl T-Butyl Ether	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2016	EBS
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	12/02/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**91.0**	12/01/2016	PAB
TFT	EPA-8021	**87.6**	12/01/2016	PAB
C25	NWTPH-DX w/ SGA	**76.8**	12/02/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	12/12/2016
		ALS JOB#:	EV16120002
		ALS SAMPLE#:	EV16120002-02
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	12/01/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/30/2016 11:15:00 AM
CLIENT SAMPLE ID	MW-2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/01/2016	PAB
Methyl T-Butyl Ether	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2016	EBS
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	12/02/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**97.8**	12/01/2016	PAB
TFT	EPA-8021	**92.9**	12/01/2016	PAB
C25	NWTPH-DX w/ SGA	**82.5**	12/02/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/12/2016 EV16120002 EV16120002-03
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	12/01/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/30/2016 12:15:00 PM
CLIENT SAMPLE ID	MW-3	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/01/2016	PAB
Methyl T-Butyl Ether	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2016	EBS
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	12/02/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**95.9**	12/01/2016	PAB
TFT	EPA-8021	**91.9**	12/01/2016	PAB
C25	NWTPH-DX w/ SGA	**105**	12/02/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	12/12/2016
		ALS JOB#:	EV16120002
		ALS SAMPLE#:	EV16120002-04
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	12/01/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/30/2016 9:30:00 AM
CLIENT SAMPLE ID	MW-WES-1	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/01/2016	PAB
Methyl T-Butyl Ether	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2016	EBS
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	12/02/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**99.4**	12/01/2016	PAB
TFT	EPA-8021	**95.2**	12/01/2016	PAB
C25	NWTPH-DX w/ SGA	**105**	12/02/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE: ALS JOB#: ALS SAMPLE#:	12/12/2016 EV16120002 EV16120002-05
CLIENT CONTACT:	Harold Cashman	DATE RECEIVED:	12/01/2016
CLIENT PROJECT:	Point Roberts Marina	COLLECTION DATE:	11/30/2016 12:40:00 PM
CLIENT SAMPLE ID	MW-WES-2	WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	12/01/2016	PAB
Methyl T-Butyl Ether	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	12/01/2016	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	12/01/2016	PAB
TPH-Diesel Range	NWTPH-DX w/ SGA	U	130	1	UG/L	12/02/2016	EBS
TPH-Oil Range	NWTPH-DX w/ SGA	U	250	1	UG/L	12/02/2016	EBS
Lead (Dissolved)	EPA-200.8	U	1.0	1	UG/L	12/02/2016	RAL

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	**98.8**	12/01/2016	PAB
TFT	EPA-8021	**94.2**	12/01/2016	PAB
C25	NWTPH-DX w/ SGA	**103**	12/02/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	12/12/2016
		ALS SDG#:	EV16120002
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Harold Cashman		
CLIENT PROJECT:	Point Roberts Marina		

LABORATORY BLANK RESULTS

MBG-120116W - Batch 110394 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	UG/L	50	12/01/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-120116W - Batch 110394 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Methyl T-Butyl Ether	EPA-8021	U	UG/L	3.0	12/01/2016	PAB
Benzene	EPA-8021	U	UG/L	1.0	12/01/2016	PAB
Toluene	EPA-8021	U	UG/L	1.0	12/01/2016	PAB
Ethylbenzene	EPA-8021	U	UG/L	1.0	12/01/2016	PAB
Xylenes	EPA-8021	U	UG/L	3.0	12/01/2016	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-120116W2 - Batch 110390 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	12/01/2016	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	12/01/2016	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MB2-120116W - Batch 110365 - Water by EPA-200.8

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Lead (Dissolved)	EPA-200.8	U	UG/L	1.0	12/02/2016	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental

CERTIFICATE OF ANALYSIS

CLIENT:	Whatcom Environmental Svcs., Inc. 228 E. Champion St., Suite 101 Bellingham, WA 98225	DATE:	12/12/2016
		ALS SDG#:	EV16120002
		WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Harold Cashman		
CLIENT PROJECT:	Point Roberts Marina		

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 110394 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	**95.4**			66.5	122.7	12/01/2016	PAB
TPH-Volatile Range - BSD	NWTPH-GX	**98.8**	**4**		66.5	122.7	12/01/2016	PAB

ALS Test Batch ID: 110394 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Methyl T-Butyl Ether - BS	EPA-8021	**104**			69.2	133	12/01/2016	PAB
Methyl T-Butyl Ether - BSD	EPA-8021	**107**	**3**		69.2	133	12/01/2016	PAB
Benzene - BS	EPA-8021	**95.3**			83	120	12/01/2016	PAB
Benzene - BSD	EPA-8021	**95.5**	**0**		83	120	12/01/2016	PAB
Toluene - BS	EPA-8021	**93.6**			85	115	12/01/2016	PAB
Toluene - BSD	EPA-8021	**93.2**	**0**		85	115	12/01/2016	PAB
Ethylbenzene - BS	EPA-8021	**93.9**			85	113	12/01/2016	PAB
Ethylbenzene - BSD	EPA-8021	**93.8**	**0**		85	113	12/01/2016	PAB
Xylenes - BS	EPA-8021	**91.7**			85	116	12/01/2016	PAB
Xylenes - BSD	EPA-8021	**91.7**	**0**		85	116	12/01/2016	PAB

ALS Test Batch ID: 110390 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range - BS	NWTPH-DX	**92.8**			67	125.2	12/01/2016	EBS
TPH-Diesel Range - BSD	NWTPH-DX	**92.9**	**0**		67	125.2	12/02/2016	EBS

ALS Test Batch ID: 110365 - Water by EPA-200.8

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS MIN	LIMITS MAX	ANALYSIS DATE	ANALYSIS BY
Lead (Dissolved) - BS	EPA-200.8	**90.9**			87.5	107	12/02/2016	RAL
Lead (Dissolved) - BSD	EPA-200.8	**95.4**	**5**		87.5	107	12/02/2016	RAL

APPROVED BY

Laboratory Director

ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): EV1612 0002

Date 11/30/16 Page 1 Of 1

PROJECT ID: Point Roberts Marina
REPORT TO COMPANY: Whatcom Environmental
PROJECT MANAGER: Harold Cashman
ADDRESS: 228 E. Champion St #101, Bellingham, WA 98225
PHONE: 360-752-9571 FAX: 360-752-9573
P.O. #: E-MAIL: hycashman@whatcom
INVOICE TO COMPANY:
ATTENTION: SAME AS ABOVE
ADDRESS:

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX + SGA	NWTPH-GX	BTEX by EPA 8021 ☐	MTBE by EPA 8021 ☐	Halogenated Volatiles by EPA 8260	Volatile Organic Compounds by EPA 8260	EDB / EDC by EPA 8260 SIM (water)	EDB / EDC by EPA 8260 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	PCB by EPA 8082 ☐ Pesticides by EPA 8081 ☐	Metals-MTCA-5 ☐ RCRA-8 ☐ Pri Pol ☐ TAL ☐	Metals Other (Specify) Lead (Pb)	TCLP-Metals ☐ VOA ☐ Semi-Vol ☐ Pest ☐ Herbs ☐	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-1	11/30/16	10:25	water	1		X	X	X	X									X		5	
2. MW-2		11:15		2		X	X	X	X									X		5	
3. MW-3		12:15		3		X	X	X	X									X		5	
4. MW-WES-1		9:30		4		X	X	X	X									X		5	
5. MW-WES-2		12:40		5		X	X	X	X									X		5	
6.																					
7.																					
8.																					
9.																					
10.																					

OTHER (Specify)

SPECIAL INSTRUCTIONS: Metals were field filtered. Please Return Cooler to WES.

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Matthew, WES, 11/30/16, 3PM
   Received By:
2. Relinquished By:
   Received By: Shawn Robinson ALS 12/1/16 10:05am

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis: (10) Standard | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis: (5) Standard | 3 | 1 | SAME DAY

OTHER: Specify:

*Turnaround request less than standard may incur Rush Charges