

**Quarterly Groundwater and Treatment System Monitoring Report
(Quarter #2 – 2015)****Lake Goodwin Gas Station
4726 Lakewood Road
Stanwood, WA****Prepared for:***Ms. Karen Ryan
Lake Goodwin Gas Station
4726 Lakewood Road
Stanwood, WA***Submitted by:***Slotta Design & Consulting (SD&C)
PO Box 2071
Kirkland, WA 98083*

July 1, 2015

Timothy S. Slotta
Timothy S. Slotta L.H.G. #2175
Hydrogeologist

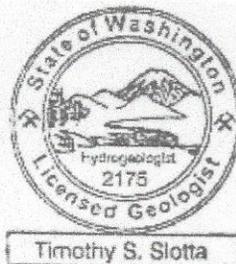


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1.0 INTRODUCTION

1.1 General

This report presents the results of the Second Quarter (Q2-2015) monitoring event conducted by Slotta Design and Consulting (SD&C) at the Lake Goodwin Grocery located in Stanwood, Washington (Figure 1). The groundwater sampling, and monitoring activities were conducted in accordance with the Washington Department of Ecology (Ecology's) Model Toxics Control Act (MTCA) WAC 173-340, Voluntary Cleanup Program (VCP), with the intent of achieving "no further action" (NFA) designation for the site.

1.2 Site Description

The irregular-shaped property located at 4726 Lakewood Road, is situated on the shoreline of Lake Goodwin. The 6.79 acre property is comprised of 13 parcels used as a recreational vehicle resort. The property includes the Lake Goodwin Grocery, a 1926-era convenience store with an office, and a 1998-era gas station canopy with two operational underground storage tanks (USTs). The gas station area is mostly concrete and asphalt paved and used for parking and fuel distribution. The principal site features as they relate to the gas station building are illustrated in Figure 2. The grocery store and fuel distribution canopy are located on the central portion of the site adjacent to Lakewood Road located to the north. The site is generally level and slopes gradually toward Lake Goodwin, which is located directly to the south/southeast. The property is bordered to the west by undeveloped land and east by Snohomish County's Lake Goodwin Park.

1.3 Background

SD&C was contracted on December 19, 2013 to review the site conditions after a gasoline spill occurred. Groundwater in monitoring wells in the vicinity of the release area (MW-4, 5, and 6) contained petroleum hydrocarbon compounds (PHC) at concentrations which exceeded MTCA method A cleanup levels. The results of the groundwater samples collected from the wells are included in Table 1, and the elevation data measured from each monitoring well is included in Table 2.

After the spill the water level control well (PW-1), contained 18-inches of free-phase PHC product. PW-1 is a 12-inch diameter PVC sewer pipe which was installed during site upgrades in 1987. PW-1 is currently operated to create a localized depression of the shallow water table in the area, and lower the water level in the vicinity of the UST compound and the fuel pumps. The water from PW-1 has historically been discharged to the ground surface in a grassy bio-swale south of the fuel distribution area and has not been regulated. The PW-1 discharge has been retrofitted to discharge through parallel 55-gallon carbon filters. An air sparging system is also in operation at PW-1 which is composed of a Rotron-blower connected with subsurface 2" PVC piping to discharge beneath the groundwater surface. A system schematic illustrating the air-sparging, and pumping with carbon treatment is included in Figure 3.

1.4 Scope of Work

The Q2-2015 sampling event was conducted by SD&C on June 25, 2015. This report summarizes the sampling data and historical results of samples collected from the monitoring wells, PW-1, and the water treatment system discharge (DIS-1).

SD&C conducted the following quarterly monitoring activities:

- Installing a replacement carbon canister on the treatment system.
- Collecting groundwater from the sampling locations.
- Submitting the samples under chain-of-custody to a laboratory for analysis.
- Evaluating the results of the laboratory analyses of the water samples.
- Preparing this written report to summarize the field data and the laboratory results.

2.0 FIELD ACTIVITIES

2.1 Replacement of Carbon Vessel

The primary carbon vessel, attached in parallel with the secondary vessel at the water treatment system, was replaced using a new 55-gallon drum. The carbon drum was supplied by Evoqua Water Systems and replaced by SD&C on June 19th, 2015.

2.2 Water Monitoring and Sampling

The monitoring wells (MW-4, 5 and 6) were sampled in accordance with EPA approved protocol using a low flow peristaltic pump directly into laboratory prepared VOA vials. The PW-1 and DIS-1 samples were collected directly from the discharge piping. The water samples were delivered under chain-of-custody to ALS Laboratory of Everett, WA for analysis.

3.0 CHEMICAL ANALYSES AND RESULTS

3.1 Laboratory Analyses of Water Samples

Copies of the original laboratory reports are included as Appendix I. The water samples were analyzed for the following constituents:

- Total Petroleum Hydrocarbons (TPH) Volatile Range as Gasoline, using Ecology Method WTPH-Gx; and

- Benzene, Toluene, Ethyl Benzene, Xylenes (BTEX), using EPA Method 8020 modified.

3.2 Results of Sample Analyses

The results of the samples are summarized in Table 1. The samples from all of the monitoring wells, and DIS-1 did not contain detectable concentrations of PHCs. The sample from PW-1 contained detectable concentrations of WTPH-G, and Xylenes, which did not exceed the MTCA method A cleanup levels.

4.0 SUMMARY AND CONCLUSIONS

SD&C conducted this Q2-2015 groundwater monitoring and sampling event at the Lake Goodwin Grocery located in Stanwood, WA on June 19, 2015. Facility maintenance activities conducted during the quarter included the carbon filter replacement. The quarterly water monitoring and remediation activities were conducted with the intent of achieving an NFA designation with Ecology's VCP. Ecology requires four consecutive quarters of water monitoring data with chemical concentrations below the MTCA method A cleanup levels prior to authorizing a NFA.

The Q2-2015 results of the water samples collected from the monitoring wells (MW-4, 5, and 6) did not contain detectable concentrations of PHCs. PW-1 contained concentrations of WTPH-G and Xylenes at concentrations which do not exceed the MTCA method A cleanup levels. The concentrations of the chemical of concern decreased below the previous quarterly event.

The carbon in the treatment system was refreshed during this quarterly sampling event and continues to be working properly. The Q2-2015 results of the sample collected from the treatment system discharge DIS-1 did not contain detectable concentrations of PHC. The continued operation of the air sparging system at the pumping well PW-1 appears to be successful in reducing the PHC concentrations in the groundwater.

On June 1, 2015 SD&C received notice that the site has been accepted into the VCP. This report will be submitted to Ecology for their review. Two additional monitoring events are required to fulfill the MTCA requirements.

5.0 LIMITATIONS

SD&C's conclusions are based on conditions encountered at the time of field activities, information provided, and the results of qualitative sampling. The opinions expressed in this report are based on an evaluation of the subsurface conditions encountered, and the assumption that the water conditions in proximity to the sample sites do not deviate appreciably from those

examined. Any unusual conditions not identified during this monitoring event should be brought to the attention of SD&C so that modifications may be made if necessary.

SD&C's work was performed in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

6.0 REFERENCES

Ecology. October 1992. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks*. Washington State Department of Ecology, Olympia, Washington. 35 pp.

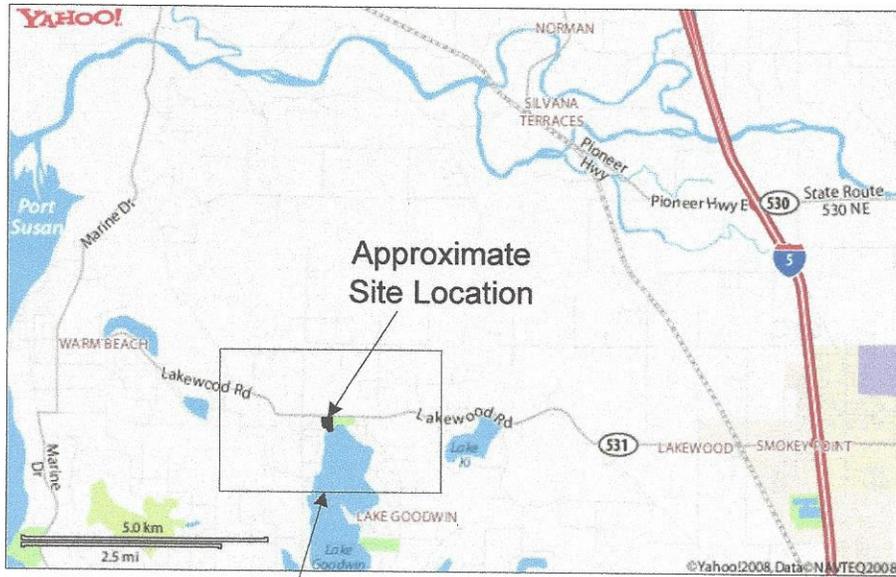
**Table 1 - Laboratory Chemical Analytical Results
Groundwater Samples Lake Goodwin Grocery - Stanwood, WA**

Sample ID	Sample Date	WTPH-G (mg/L, ppb)	Benzene (ug/L, ppb)	Toluene (ug/L, ppb)	Ethyl Benzene (ug/L, ppb)	Xylenes (ug/L, ppb)
Well Water						
PW-1	12-19-13	550,000	N/A	N/A	N/A	N/A
PW-1	3-5-14	330	2,400	14,000	3,800	30,000
PW-1	5-20-14	15	100	1,500	240	2,300
PW-1	8-15-14	0.067	<1	1.2	2	8.7
PW-1	12-8-14	6.8	30	62	92	750
PW-1	3-31-15	0.930	<1	<1	2	30
PW-1	6-19-15	0.120	<1	<1	<1	6.9
MW-4						
MW-4	12-19-13	17	57	960	350	2,100
MW-4	3-5-14	<0.05	<1	<1	<1	<3
MW-4	5-20-14	<0.05	<1	<1	<1	<3
MW-4	8-15-14	<0.05	<1	<1	<1	<3
MW-4	12-8-14	<0.05	<1	<1	<1	<3
MW-4	3-31-15	<0.05	<1	<1	<1	<3
MW-4	6-19-15	<0.05	<1	<1	<1	<3
MW-5						
MW-5	12-19-13	1.9	15	180	47	280
MW-5	3-5-14	<0.05	<1	<1	<1	<3
MW-5	5-20-14	<0.05	<1	<1	<1	<3
MW-5	8-15-14	<0.05	<1	<1	<1	<3
MW-5	12-8-14	<0.05	<1	<1	<1	<3
MW-5	3-31-15	<0.05	<1	<1	<1	<3
MW-5	6-19-15	<0.05	<1	<1	<1	<3
MW-6						
MW-6	12-19-13	1.6	11	130	34	220
MW-6	3-5-14	<0.05	7.1	<1	<1	<3
MW-6	5-20-14	<0.05	3.7	<1	<1	<3
MW-6	8-15-14	<0.05	3.7	<1	<1	<3
MW-6	12-8-14	<0.05	<1	<1	<1	<3
MW-6	3-31-15	<0.05	<1	<1	<1	<3
MW-6	6-19-15	<0.05	<1	<1	<1	<3
Discharge Water						
Discharge Water Dis-1	1-3-14	<0.05	<1	<1	<1	<3
Discharge Water Dis-1	5-13-14	<0.05	<1	<1	<1	<3
Discharge Water Dis-1	12-8-14	<0.05	<1	<1	<1	<3
Discharge Water Dis-1	3-31-15	<0.05	<1	<1	<1	<3
Discharge Water Dis-1	6-19-15	<0.05	<1	<1	<1	<3
Discharge Water Dis-2						
Discharge Water Dis-2	5-13-14	<0.05	<1	<1	<1	<3
Discharge Water Dis-2	8-15-14	<0.05	<1	<1	<1	<3
Storm Water						
SW-1	5-13-14	<0.05	<1	<1	<1	<3
MTCA Method A cleanup level		1.0	5	1,000	700	1,000
Method Reporting Limit		0.050	1	1	1	1

Milligrams per liter (mg/L), parts per million (ppm) Micrograms per liter (ug/L), parts per billion (ppb).
 <1.0 = not detected at or above the method reporting limit. N/A = not analyzed
 MTCA Method A cleanup levels for groundwater are from WAC chapter 173-340 revised 2-12-01.

Table 2
Monitoring Well Elevation Data
Lake Goodwin Grocery – Stanwood, WA

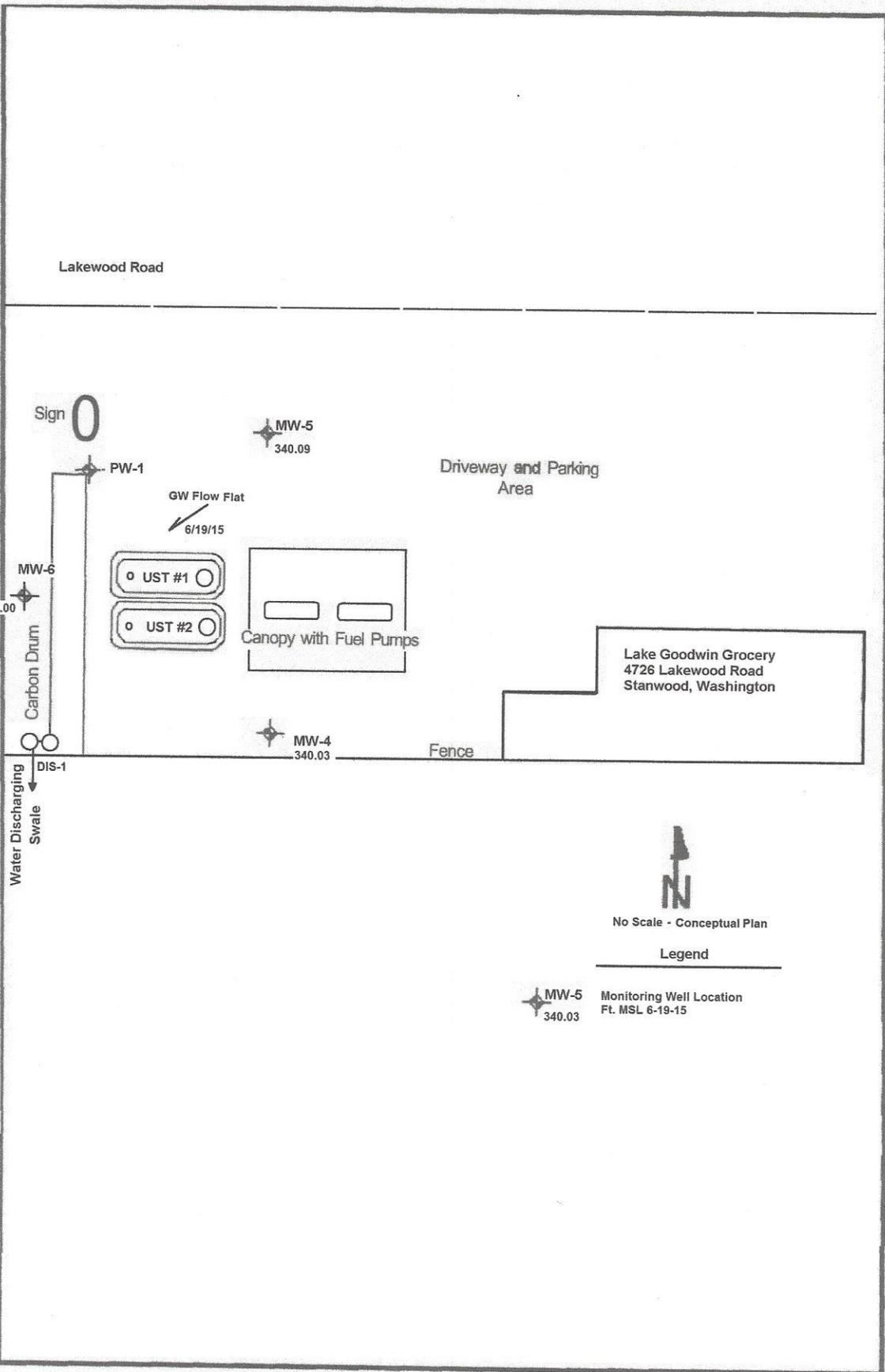
Monitoring Well	Date	Casing Elevation	Depth to Groundwater	Groundwater Elevation
MW-4	5/13/14	342.06	1.16	340.90
MW-4	8/15/14	342.06	2.66	339.40
MW-4	12/15/14	342.06	.92	341.14
MW-4	3/31/15	342.06	1.54	340.52
MW-4	6/19/15	342.06	2.03	340.03
MW-5	5/13/14	342.87	2.33	340.54
MW-5	8/15/14	342.87	3.75	339.12
MW-5	12/15/14	342.87	1.84	341.03
MW-5	3/31/15	342.87	2.02	340.85
MW-5	6/19/15	342.87	2.78	340.09
MW-6	5/13/14	342.58	1.66	340.92
MW-6	8/15/14	342.58	3.10	339.48
MW-6	12/15/14	342.58	1.32	341.26
MW-6	3/31/15	342.58	1.63	340.95
MW-6	6/19/15	342.58	2.58	340.00

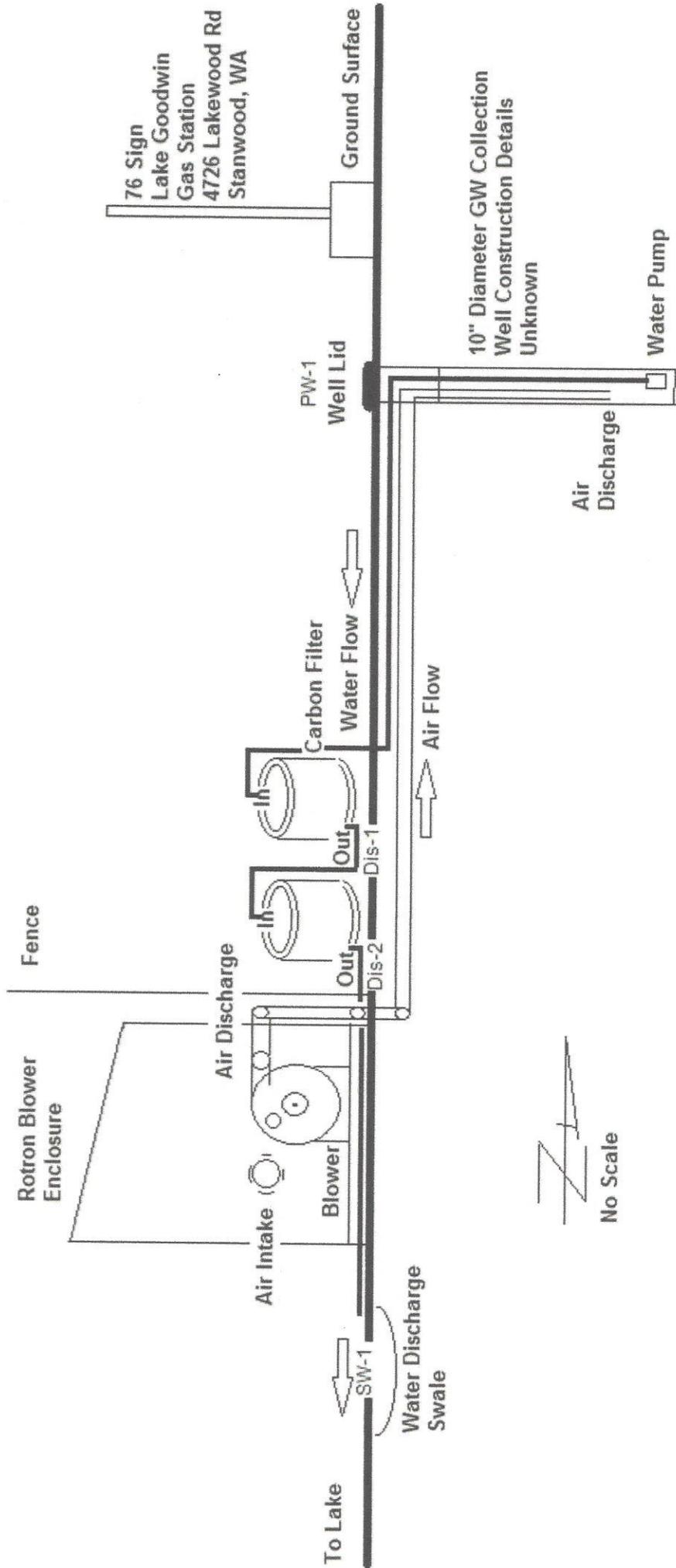


Area enlarged below



Lake Goodwin Gas Station
and RV Resort
4726 Lakewood Road
Stanwood, WA 98292





SD&C

Treatment System Schematic

Figure 3

APPENDIX I

LABORATORY REPORTS



June 24, 2015

Mr. Tim Slotta
SD & C
PO Box 2071
Kirkland, WA 98083

Dear Mr. Slotta,

On June 19th, 5 samples were received by our laboratory and assigned our laboratory project number EV15060138. The project was identified as your Lk Goodwin. 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

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Environmental

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CERTIFICATE OF ANALYSIS

CLIENT:	SD & C PO Box 2071 Kirkland, WA 98083	DATE:	6/24/2015
CLIENT CONTACT:	Tim Slotta	ALS JOB#:	EV15060138
CLIENT PROJECT:	Lk Goodwin	ALS SAMPLE#:	EV15060138-01
CLIENT SAMPLE ID	MW-4	DATE RECEIVED:	06/19/2015
		COLLECTION DATE:	6/19/2015 11:06:00 AM
		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	06/20/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	06/20/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	106	06/20/2015	PAB
TFT	EPA-8021	113	06/20/2015	PAB

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



CERTIFICATE OF ANALYSIS

CLIENT:	SD & C PO Box 2071 Kirkland, WA 98083	DATE:	6/24/2015
CLIENT CONTACT:	Tim Slotta	ALS JOB#:	EV15060138
CLIENT PROJECT:	Lk Goodwin	ALS SAMPLE#:	EV15060138-02
CLIENT SAMPLE ID:	MW-5	DATE RECEIVED:	06/19/2015
		COLLECTION DATE:	6/19/2015 11:36:00 AM
		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	06/20/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	06/20/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	113	06/20/2015	PAB
TFT	EPA-8021	120	06/20/2015	PAB

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



CERTIFICATE OF ANALYSIS

CLIENT:	SD & C PO Box 2071 Kirkland, WA 98083	DATE:	6/24/2015
CLIENT CONTACT:	Tim Slotta	ALS JOB#:	EV15060138
CLIENT PROJECT:	Lk Goodwin	ALS SAMPLE#:	EV15060138-03
CLIENT SAMPLE ID:	MW-6	DATE RECEIVED:	06/19/2015
		COLLECTION DATE:	6/19/2015 12:00:00 PM
		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	06/20/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	06/20/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	108	06/20/2015	PAB
TFT	EPA-8021	118	06/20/2015	PAB

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



CERTIFICATE OF ANALYSIS

CLIENT:	SD & C PO Box 2071 Kirkland, WA 98083	DATE:	6/24/2015
CLIENT CONTACT:	Tim Slotta	ALS JOB#:	EV15060138
CLIENT PROJECT:	Lk Goodwin	ALS SAMPLE#:	EV15060138-04
CLIENT SAMPLE ID	DIS-1	DATE RECEIVED:	06/19/2015
		COLLECTION DATE:	6/19/2015 12:30:00 PM
		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	06/20/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/20/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	06/20/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	106	06/20/2015	PAB
TFT	EPA-8021	115	06/20/2015	PAB

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



CERTIFICATE OF ANALYSIS

CLIENT:	SD & C PO Box 2071 Kirkland, WA 98083	DATE:	6/24/2015
CLIENT CONTACT:	Tim Slotta	ALS JOB#:	EV15060138
CLIENT PROJECT:	Lk Goodwin	ALS SAMPLE#:	EV15060138-05
CLIENT SAMPLE ID:	PW-1	DATE RECEIVED:	06/19/2015
		COLLECTION DATE:	6/19/2015 10:30:00 AM
		WDOE ACCREDITATION:	C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	120	50	1	UG/L	06/22/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	06/22/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/22/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/22/2015	PAB
Xylenes	EPA-8021	6.9	3.0	1	UG/L	06/22/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	116	06/22/2015	PAB
TFT	EPA-8021	126	06/22/2015	PAB

U - Analyte analyzed for but not detected at level above reporting limit.
Chromatogram indicates that it is likely that sample contains highly weathered gasoline.



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
 PO Box 2071
 Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
 CLIENT PROJECT: Lk Goodwin

DATE: 6/24/2015
 ALS SDG#: EV15060138
 WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBG-061915W2 - Batch 94504 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	06/19/2015	PAB

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

MB-061915W2 - Batch 94504 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U	1.0	1	UG/L	06/19/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	06/19/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	06/19/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	06/19/2015	PAB

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



CERTIFICATE OF ANALYSIS

CLIENT: SD & C
 PO Box 2071
 Kirkland, WA 98083

CLIENT CONTACT: Tim Slotta
 CLIENT PROJECT: Lk Goodwin

DATE: 6/24/2015
 ALS SDG#: EV15060138
 WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 94504 - Water by NWTPH-GX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	83.1			06/19/2015	PAB
TPH-Volatile Range - BSD	NWTPH-GX	90.4	8		06/19/2015	PAB

ALS Test Batch ID: 94504 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	105			06/19/2015	PAB
Benzene - BSD	EPA-8021	105	1		06/19/2015	PAB
Toluene - BS	EPA-8021	105			06/19/2015	PAB
Toluene - BSD	EPA-8021	106	1		06/19/2015	PAB
Ethylbenzene - BS	EPA-8021	107			06/19/2015	PAB
Ethylbenzene - BSD	EPA-8021	109	2		06/19/2015	PAB
Xylenes - BS	EPA-8021	110			06/19/2015	PAB
Xylenes - BSD	EPA-8021	112	2		06/19/2015	PAB

APPROVED BY

Laboratory Director

