

**Quarterly Groundwater and Treatment System Monitoring Report
(Quarter #3 – 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*

October 12, 2015

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

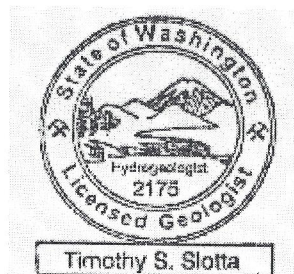


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1.0 INTRODUCTION

1.1 General

This report presents the results of the Third Quarter (Q3-2015) 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 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 Q3-2015 sampling event was conducted by SD&C on October 7, 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:

- 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.

The carbon treatment drums were not replenished during the current quarter because the sampling results indicated that there was life in the absorption capacity of the current drum.

2.0 FIELD ACTIVITIES

2.1 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, PW-1 and DIS-1 did not contain detectable concentrations of PHCs.

4.0 SUMMARY AND CONCLUSIONS

SD&C conducted this Q3-2015 groundwater monitoring and sampling event at the Lake Goodwin Grocery located in Stanwood, WA on October 7, 2015. 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 Q3-2015 results of the water samples collected from the monitoring wells (MW-4, 5, and 6), PW-1, and DIS-1 did not contain detectable concentrations of PHCs. The concentrations of the chemicals of concern in PW-1 decreased below the previous quarterly event.

The carbon in the treatment system continues to work properly. 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. One additional monitoring event is 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

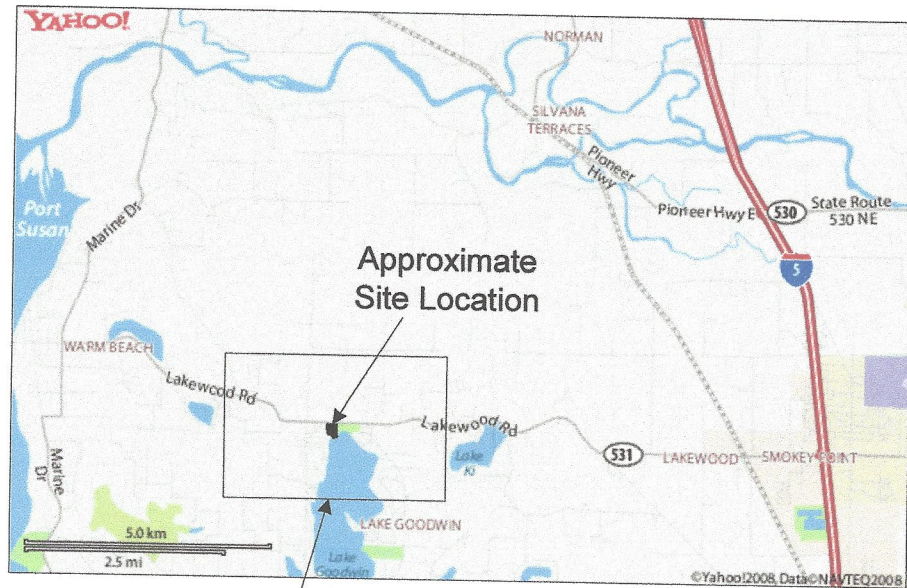
Sample ID	Sample Date	WTPH-G (mg/L, ppb)	Benzene (ug/L, ppb)	Toluene (ug/L, ppb)	Ethyl Benzene (ug/L, ppb)	Xylenes (ug/L, ppb)
Well Water						
PW-1	12-19-13	550,000	N/A	N/A	N/A	N/A
PW-1	3-5-14	330	2,400	14,000	3,800	30,000
PW-1	5-20-14	15	100	1,500	240	2,300
PW-1	8-15-14	0.067	<1	1.2	2	8.7
PW-1	12-8-14	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
PW-1	10-7-15	<0.05	<1	<1	<1	<3
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-4	10-7-15	<0.05	<1	<1	<1	<3
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-5	10-7-15	<0.05	<1	<1	<1	<3
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
MW-6	10-7-15	<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-1	10-7-15	<0.05	<1	<1	<1	<3
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

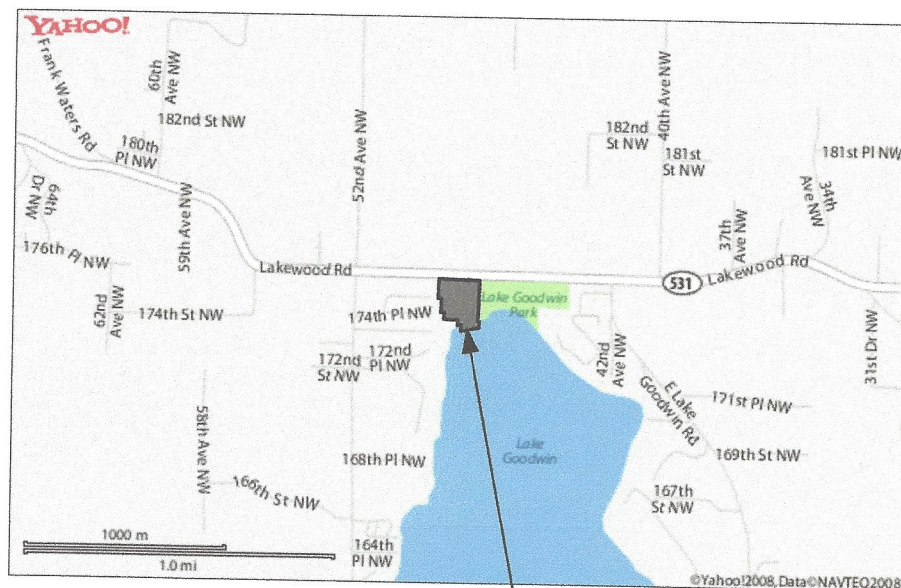
MTCA Method A cleanup levels for groundwater are from WAC chapter 173-340 revised 2-12-01.

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-4	10/7/15	342.06	2.75	339.31
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-5	10/7/15	342.87	3.84	339.03
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
MW-6	10/7/15	342.58	3.19	339.39



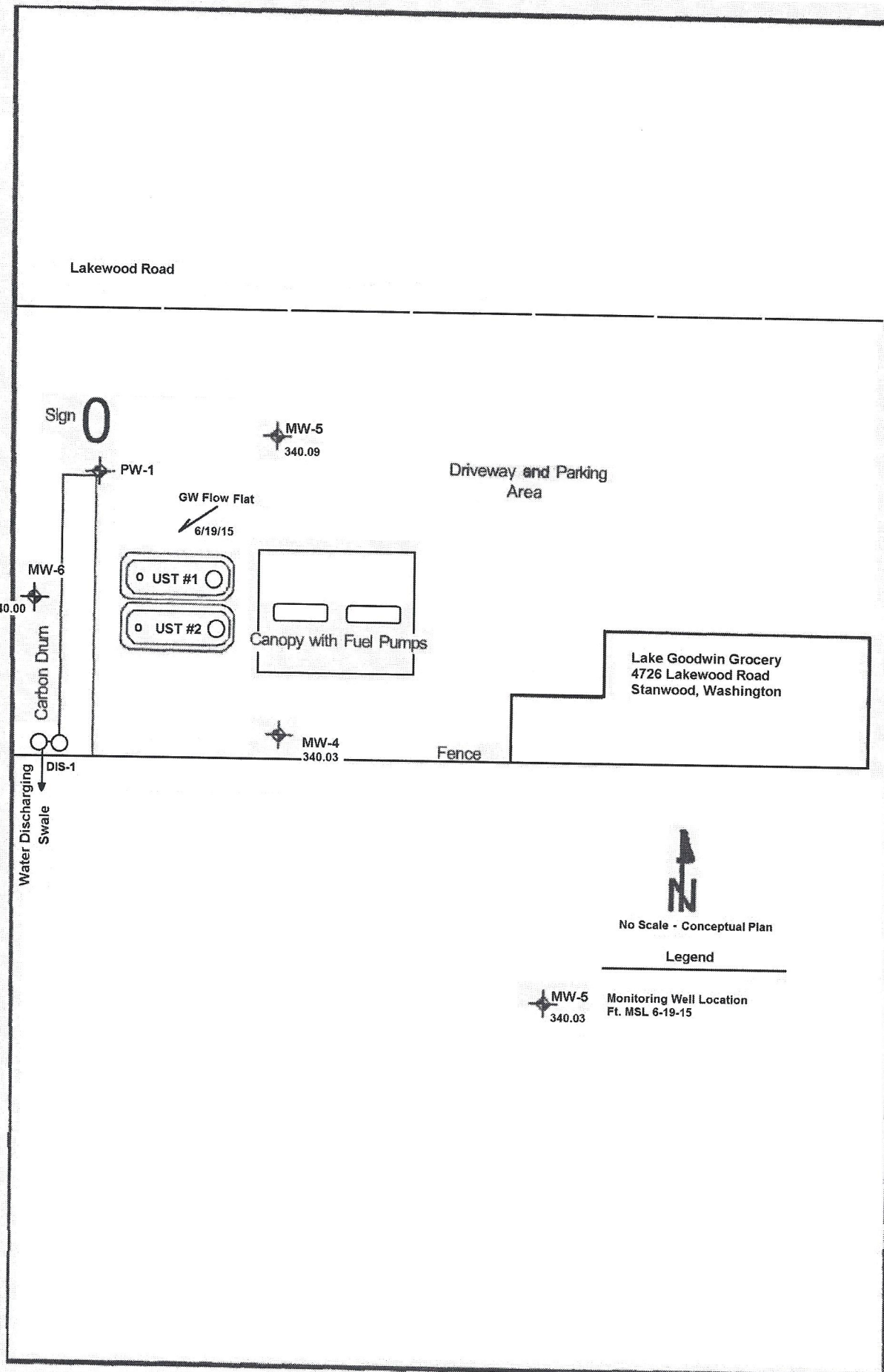
Area enlarged below

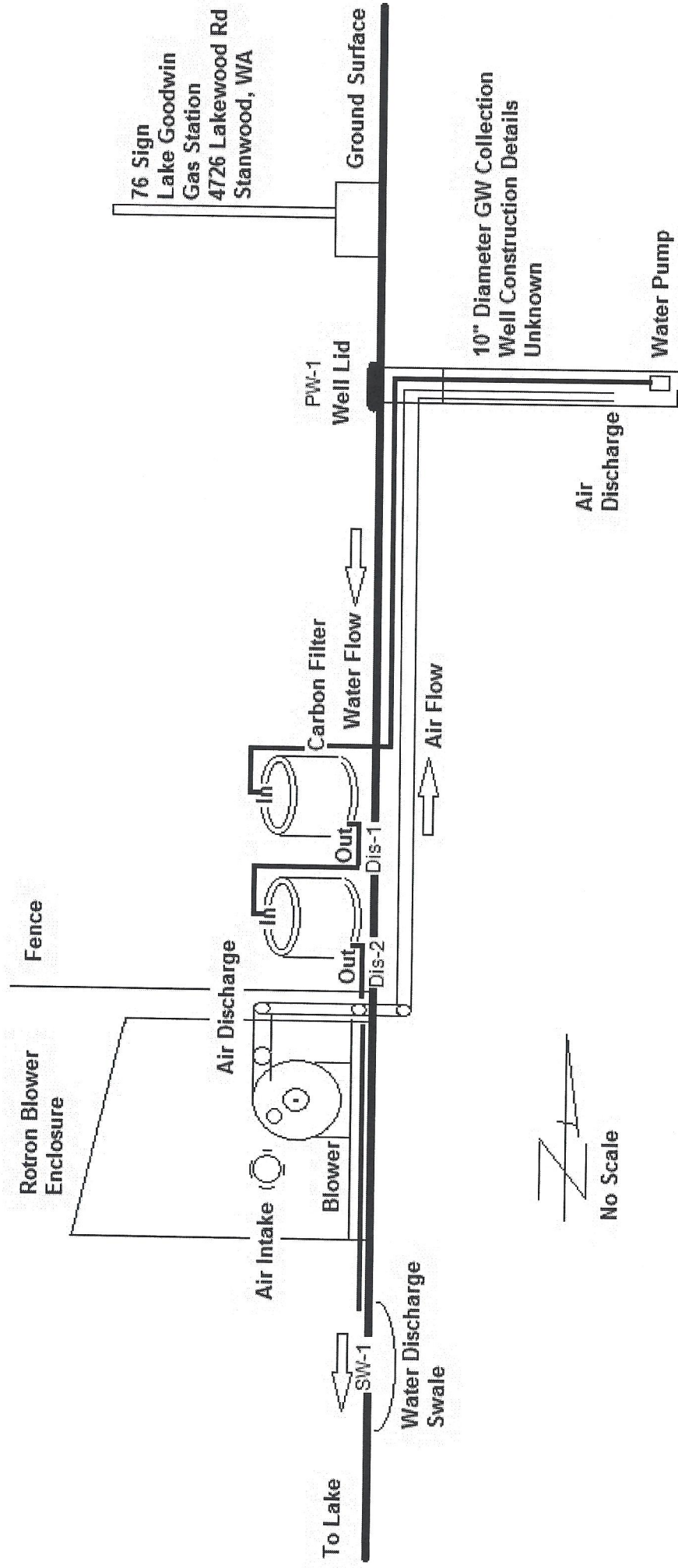


Lake Goodwin Gas Station
and RV Resort
4726 Lakewood Road
Stanwood, WA 98292

SD&C

Figure 1. Site Location Maps





APPENDIX I

LABORATORY REPORTS



October 9, 2015

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

Dear Mr. Slotta,

On October 7th, 5 samples were received by our laboratory and assigned our laboratory project number EV15100051. The project was identified as your Lake 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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ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208

PHONE 425-356-2600

FAX 425-356-2626

ALS Group USA, Corp

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



CERTIFICATE OF ANALYSIS

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

CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lake Goodwin

CLIENT SAMPLE ID MW-4

DATE: 10/9/2015

ALS JOB#: EV15100051

ALS SAMPLE#: EV15100051-01

DATE RECEIVED: 10/07/2015

COLLECTION DATE: 10/6/2015 1:00:00 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	10/08/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	10/08/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	87.8	10/08/2015	PAB
TFT	EPA-8021	88.9	10/08/2015	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: Lake Goodwin
CLIENT SAMPLE ID: MW-5

DATE: 10/9/2015
ALS JOB#: EV15100051
ALS SAMPLE#: EV15100051-02
DATE RECEIVED: 10/07/2015
COLLECTION DATE: 10/6/2015 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	10/08/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	10/08/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	98.6	10/08/2015	PAB
TFT	EPA-8021	94.6	10/08/2015	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: Lake Goodwin
CLIENT SAMPLE ID: MW-6

DATE: 10/9/2015
ALS JOB#: EV15100051
ALS SAMPLE#: EV15100051-03
DATE RECEIVED: 10/07/2015
COLLECTION DATE: 10/6/2015 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	10/08/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	10/08/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	96.9	10/08/2015	PAB
TFT	EPA-8021	95.8	10/08/2015	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: Lake Goodwin
CLIENT SAMPLE ID: PW-1

DATE: 10/9/2015
ALS JOB#: EV15100051
ALS SAMPLE#: EV15100051-04
DATE RECEIVED: 10/07/2015
COLLECTION DATE: 10/6/2015 11:30:00 AM
WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	50	1	UG/L	10/08/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	10/08/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	89.1	10/08/2015	PAB
TFT	EPA-8021	95.0	10/08/2015	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: Lake Goodwin
CLIENT SAMPLE ID: DIS-1

DATE: 10/9/2015
ALS JOB#: EV15100051
ALS SAMPLE#: EV15100051-05
DATE RECEIVED: 10/07/2015
COLLECTION DATE: 10/6/2015 11:00:00 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	10/08/2015	PAB
Benzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Toluene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Ethylbenzene	EPA-8021	U	1.0	1	UG/L	10/08/2015	PAB
Xylenes	EPA-8021	U	3.0	1	UG/L	10/08/2015	PAB

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT	NWTPH-GX	95.5	10/08/2015	PAB
TFT	EPA-8021	95.1	10/08/2015	PAB

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



Environmental

CERTIFICATE OF ANALYSIS

CLIENT: SD & C
PO Box 2071
Kirkland, WA 98083
CLIENT CONTACT: Tim Slotta
CLIENT PROJECT: Lake Goodwin

DATE: 10/9/2015
ALS SDG#: EV15100051
WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBG-100815W2 - Batch 97888 - Water by NWTPH-GX

ANALYTE	METHOD	RESULTS	QUAL	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U		UG/L	50	10/08/2015	PAB

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

MB-100815W2 - Batch 97888 - Water by EPA-8021

ANALYTE	METHOD	RESULTS	QUAL	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
Benzene	EPA-8021	U		UG/L	1.0	10/08/2015	PAB
Toluene	EPA-8021	U		UG/L	1.0	10/08/2015	PAB
Ethylbenzene	EPA-8021	U		UG/L	1.0	10/08/2015	PAB
Xylenes	EPA-8021	U		UG/L	3.0	10/08/2015	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: Lake Goodwin

DATE: 10/9/2015
ALS SDG#: EV15100051
WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: 97888 - Water by NWTPH-GX

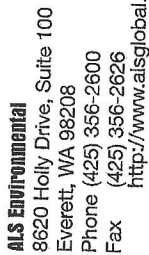
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range - BS	NWTPH-GX	94.9			10/08/2015	PAB
TPH-Volatile Range - BSD	NWTPH-GX	95.8	1		10/08/2015	PAB

ALS Test Batch ID: 97888 - Water by EPA-8021

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	ANALYSIS DATE	ANALYSIS BY
Benzene - BS	EPA-8021	98.2			10/08/2015	PAB
Benzene - BSD	EPA-8021	97.3	1		10/08/2015	PAB
Toluene - BS	EPA-8021	98.4			10/08/2015	PAB
Toluene - BSD	EPA-8021	98.5	0		10/08/2015	PAB
Ethylbenzene - BS	EPA-8021	99.5			10/08/2015	PAB
Ethylbenzene - BSD	EPA-8021	99.4	0		10/08/2015	PAB
Xylenes - BS	EPA-8021	103			10/08/2015	PAB
Xylenes - BSD	EPA-8021	102	0		10/08/2015	PAB

APPROVED BY

Laboratory Director



ALS Job# (Laboratory Use Only)

150000151A)

Date 10-6-15 Page 1 Of 1

PROJECT ID:	LAKE GOODWIN
REPORT TO COMPANY:	SDGC
PROJECT	T. SLOTTA
MANAGER:	P.O. Box 2071
ADDRESS:	KIRKLAND, WA 98083
PHONE:	(206) 459-5775
FAX:	
P.O. #:	E-MAIL: TS45DC@hotmail.com
INVOICE TO COMPANY:	COLONY INSURANCE
ATTENTION:	CAROL LYBEEK
ADDRESS:	

[illegible]

SIGNATURES (Name, Company, Date/Time):

1. Relinquished By: 7-Atto SDIC 17-7-15 1233

Received By: Rabban AS 10-7-15 15:33

2. Relinquished By: _____

Received By: _____

TURNAROUND REQUESTED in Business Days*
OTHER: Organic, Metals & Inorganic Analysis

Specify:

Fuels & Hydrocarbon Analysis

5	3	1	SAME DAY
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*Turnaround request less than standard may incur Rush Charges