Transmittal

Date:	April 1, 2019	Reference No.:	062308
To:	Michael Warfel Washington Department of Ecology 3190 160th Avenue Southeast Bellevue, Washington 98008 5452		
Subject:	2018 Annual Groundwater Monitoring Report		

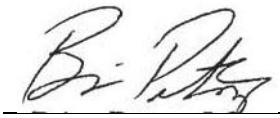
No. of Copies	Description/Title	Drawing No./ Document Ref.	Issue
1	2018 Annual Groundwater Monitoring Report	5	

Issued for: ☒ Your information ☐ As requested ☐ Construction ☐ Quotation
☐ Your approval/comments ☐ Returned to you ☐ For re-submission

Sent by: ☐ Overnight courier ☒ Same day courier ☐ Mailed under separate cover ☐ Mail enclosed
☐ Other: _____

Remarks:

Copy to: Richard Wright, Jacksons Food Stores

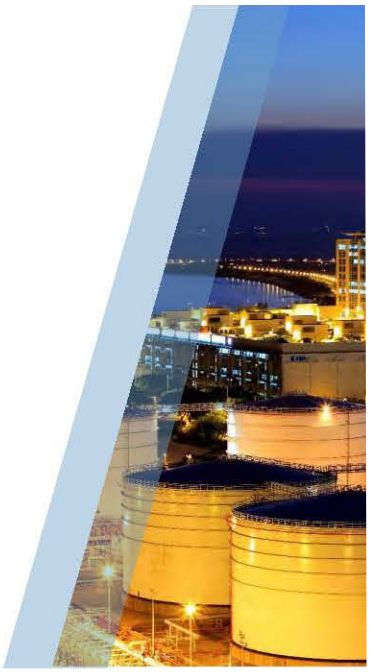
Completed by: Brian Peters [Please Print] Signed: 

Filing: Correspondence File

GHD Services Inc.
20818 44th Avenue West Suite 190 Lynnwood Washington 98036 USA
T 425 563 6500 **F** 425 563 6599 **W** www.ghd.com

2018 Annual Groundwater Monitoring Report

Jacksons Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington



Jacksons Food Stores

Table of Contents

Figure Index

Table Index

Appendix Index

1. Introduction

GHD Services, Inc. (GHD) prepared this report on behalf of Jacksons Food Stores. This annual report includes all groundwater monitoring data collected in 2018.

1.1 Site Information

Site Address	21641 Maple Valley Highway, Maple Valley, WA
Site Use	Jackson's Food Store No. 5017
GHD Project Manager	Brian Peters
Lead Agency and Contact	Washington State Department of Ecology, Michael Warfel
Agency Case No.	23177881
VCP No.	NW2995

2. Site Activities and Findings

2.1 Current Activities

GHD gauged and sampled wells according to the established monitoring program during 2018.

GHD prepared a Vicinity Map as Figure 1 and a December 2018 Groundwater Elevation and Chemical Concentration Map as Figure 2. GHD prepared Table 1 summarizing groundwater monitoring data and laboratory analytical results. Field forms and the laboratory analytical report are included as Appendices A and B, respectively.

2.2 Findings

Quarter/Date	4th /December 14, 2018
Groundwater Flow Direction	Not estimated
Hydraulic Gradient	Not calculated
Depth to Water	14.82 and 15.76 feet below top of well casing

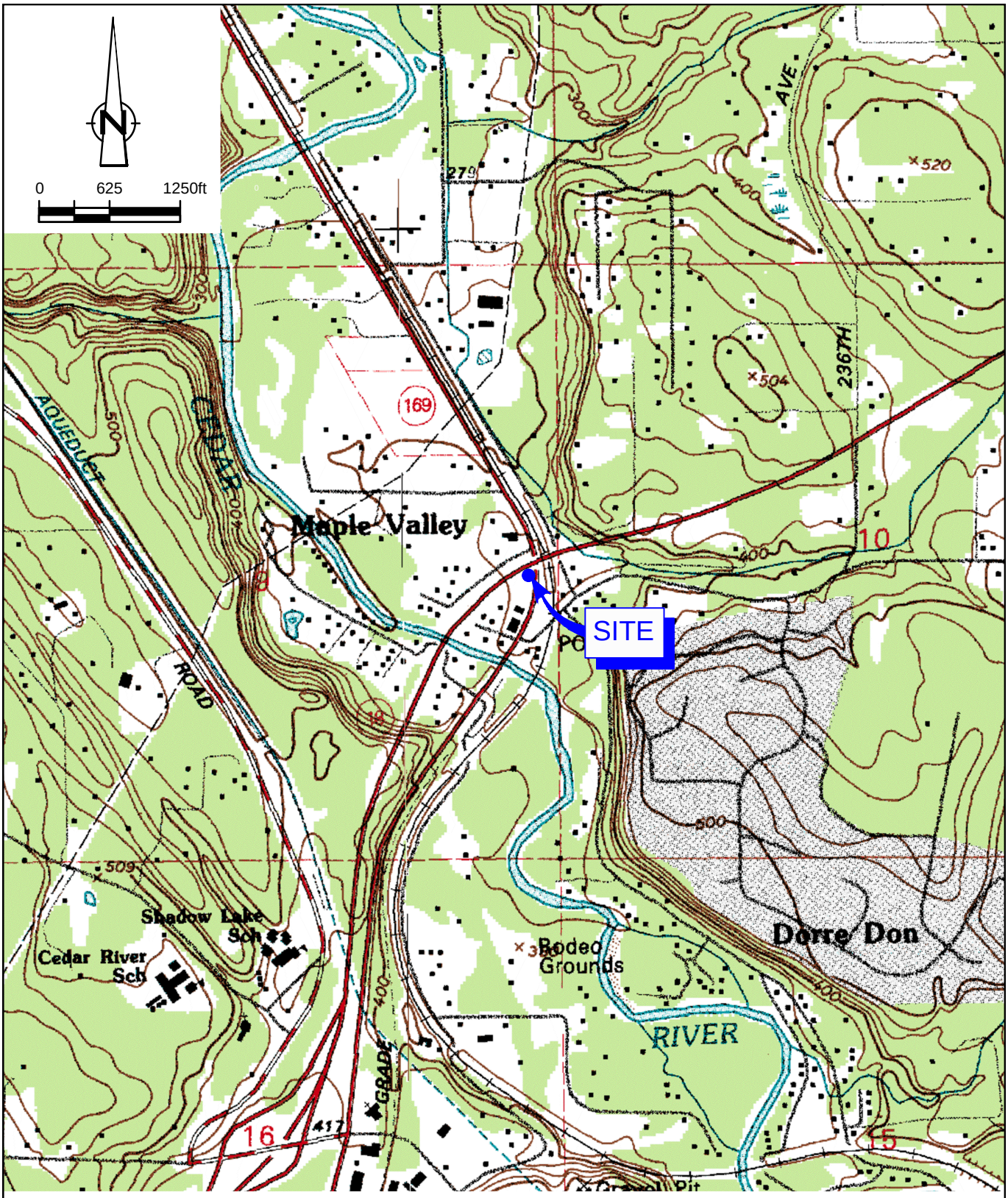
All of Which is Respectfully Submitted,

GHD

Emily Blakeway

Brian Peters, LG

Figures



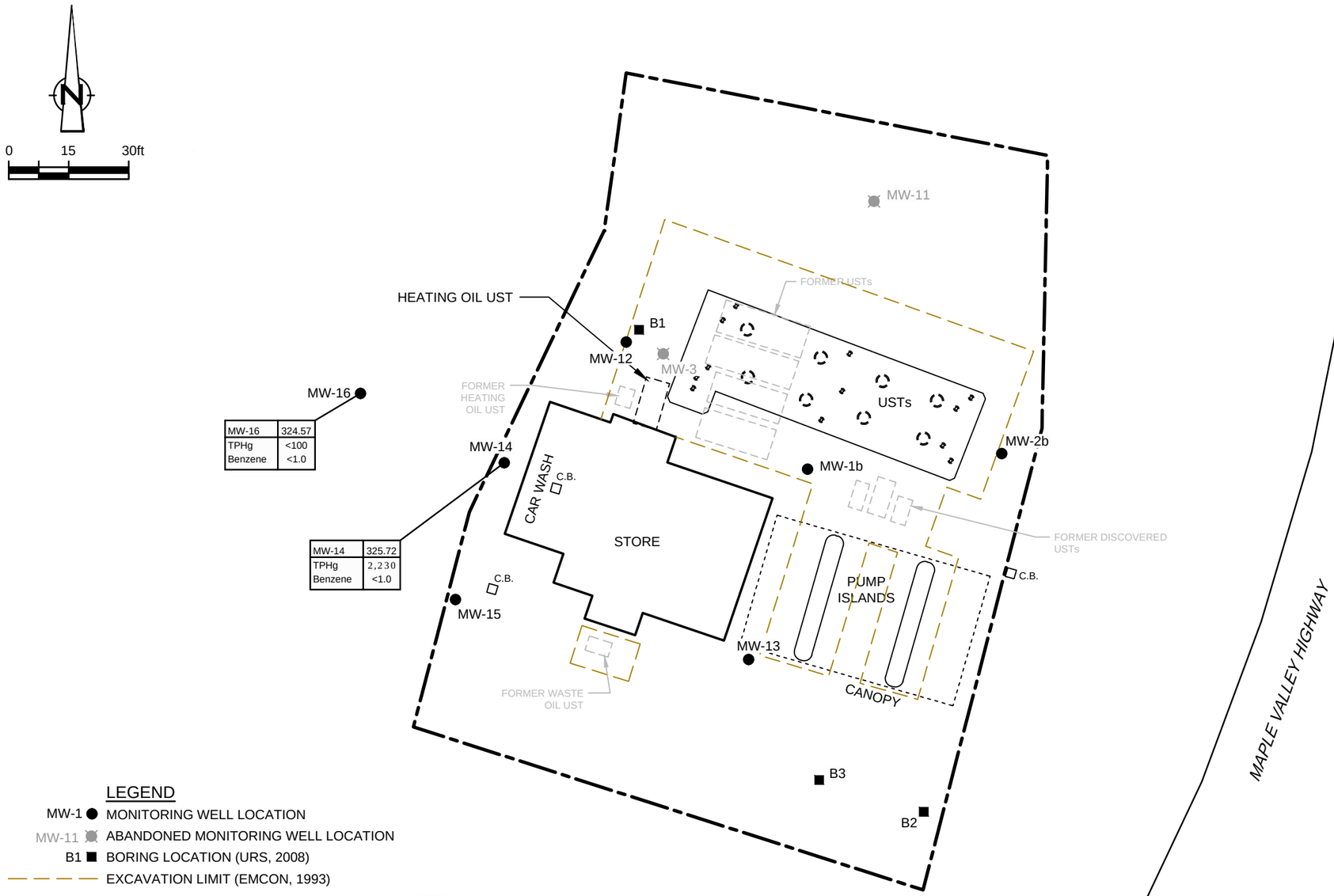
SOURCE: USGS QUADRANGLE MAP: MAPLE VALLEY, WA.

figure 1

VICINITY MAP
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

GHD

062308-18.01(005)GN-SO002.DWG Mar D22, 2019



LEGEND

- MW-1 ● MONITORING WELL LOCATION
- MW-11 ✱ ABANDONED MONITORING WELL LOCATION
- B1 ■ BORING LOCATION (URS, 2008)
- — — — EXCAVATION LIMIT (EMCON, 1993)

MW-16	324.57	← SAMPLE LOCATION / GROUNDWATER ELEVATION (MSL)
TPHg	<100	← RESULT
Benzene	<1.0	← PARAMETER

NOTES:

1. TPHg = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE.
2. <X = NOT DETECTED AT REPORTING LIMIT X.
3. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
4. CONCENTRATIONS IN BOLD TYPE INDICATE THAT ANALYTE WAS DETECTED ABOVE THE MODEL TOXICS CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL.

figure 2

GROUNDWATER ELEVATION AND CHEMICAL CONCENTRATION MAP - DECEMBER 14, 2018
JACKSON'S FOOD STORE NO. 5017
21641 RENTON-MAPLE VALLEY ROAD
Maple Valley, Washington

SOURCE:
DELTA CONSULTANTS, FIGURE 2, GROUNDWATER ELEVATION CONTOUR MAP, DATED 5/2/07;
STATEWIDE LAND SURVEYING INC. DATED 5/19/14.

NOTE:
WASHINGTON STATE PLANE COORDINATE SYSTEM NAD 83/CORS 96,
NORTH ZONE 4601, IN U.S. SURVEY FEET.

062308-18.01(005)GN-SO001.DWG Mar 22, 2019

Tables

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					800	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
			Feet			*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*					*ug/L*		*ug/L*	*ug/L*	*ug/L*
B2	05/20/08	---	---	---	---	<50	<250	<500	<5	<5	<5	<5	---	---	---	---	---	---	---	---	---	<50	---	---
MW-1b	12/19/02	340.10	12.53	---	327.57	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-1b	05/13/03	340.10	12.47	---	327.63	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-1b	08/20/03	340.10	13.10	---	327.00	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	12/10/03	340.10	12.25	---	327.85	530	<250	<500	**240**	180	5.7	21.2	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	01/08/04 [1]	340.10	12.35	---	327.75	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	05/26/04	340.10	12.75	---	327.35	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	11/15/04	340.10	12.95	---	327.15	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-1b	05/24/05	340.10	12.44	---	327.66	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-1b	10/26/05	340.10	13.10	---	327.00	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-1b	04/26/06	340.10	12.39	---	327.71	<50.0	<236	<472	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-1b	10/26/06	340.10	12.80	---	327.30	<50.0	<96.2	<96.2	<0.500	<0.500	<0.500	<3.00	--	--	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	--	---	---
MW-1b	04/05/07	340.10	15.12	---	324.98	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	--	---	---
MW-1b	05/29/08	340.10	12.62	---	327.48	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	--	---	---
MW-1b	06/09/08	340.10	12.60	---	327.50	<50	<250	<500	<5	<5	<5	<5	--	--	<5	<100	<10	<10	<10	---	--	<50	---	---
MW-1b	02/10/09	340.10	12.29	---	327.81	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	--	--	<1.0	<10	<2.0	<2.0	<2.0	---	<100	--	---	---
MW-1b	06/18/14	340.10	12.53	---	327.57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	09/04/14	340.10	12.75	---	327.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	12/22/14	340.10	12.51	---	327.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	06/19/15	340.10	12.78	---	327.32	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	08/26/15	340.10	13.20	---	326.90	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	11/12/15	340.10	13.04	---	327.06	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	03/25/16	340.10	13.35	---	326.75	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	07/11/16	340.10	14.00	---	326.10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	09/29/16	340.10	14.41	---	325.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	12/06/16	340.10	13.57	---	326.53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1b	03/16/17	340.10	12.98	---	327.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					800	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
				Feet		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*					*ug/L*		*ug/L*	*ug/L*	*ug/L*
MW-2b	12/19/02	339.47	11.57	---	327.90	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-2b	05/13/03	339.47	11.51	---	327.96	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-2b	08/20/03	339.47	12.50	---	326.97	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	12/10/03	339.47	11.32	---	328.15	<250	<250	<500	3.2	2.6	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	01/08/04 [1]	339.47	11.41	---	328.06	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	05/26/04	339.47	11.78	---	327.69	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	11/15/04	339.47	11.97	---	327.50	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-2b	05/24/05	339.47	12.41	---	327.06	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-2b	10/26/05	339.47	12.04	---	327.43	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-2b	04/26/06	339.47	11.34	---	328.13	<50.0	<236	<472	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-2b	10/26/06	339.47	11.78	---	327.69	<50.0	<97.1	<97.1	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-2b	04/05/07	339.47	14.85	---	324.62	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<1.00	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-2b	05/29/08	339.47	11.59	---	327.88	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-2b	06/09/08	339.47	11.57	---	327.9	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	---	<50	---	---
MW-2b	02/10/09	339.47	11.26	---	328.21	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-2b	06/18/14	339.47	11.45	---	328.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	09/04/14	339.47	11.14	---	328.33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	12/22/14	339.47	11.45	---	328.02	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	06/19/15	339.47	11.59	---	327.88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	08/26/15	339.47	12.10	---	327.37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	11/12/15	339.47	11.99	---	327.48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	03/25/16	339.47	11.94	---	327.53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	07/11/16	339.47	12.34	---	327.13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	09/29/16	339.47	12.78	---	326.69	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	12/06/16	339.47	12.05	---	327.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2b	03/16/17	339.47	11.64	---	327.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	08/09/90	---	13.32	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	05/08/91	---	12.60	---	---	ND	ND	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-3	Well Decommissioned in 1993																							
MW-11	08/17/92	---	11.83	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-11	04/09/93	---	11.32	---	---	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-11	Well Decommissioned in 1995																							

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	**Date**	**TOC**	**DTW**	**SPH**	**GWE**	**TPHg**	**TPHd**	**TPHo**	**B**	**T**	**E**	**X**	**EDB**	**EDC**	**MTBE**	**TBA**	**DIPE**	**ETBE**	**TAME**	**PCE**	**Ethanol**	**Total Lead**	**Naphthalene**	**Total**
	Model Toxics Control Act Method A Cleanup Levels					**800**	**500**	**500**	**5**	**1000**	**700**	**1000**	**0.01**	**5**	**20**	**N/A**	**N/A**	**N/A**	**N/A**	**5**	**N/A**	**15**	**160**	**0.1**
				Feet		***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***	***ug/L***					***ug/L***		***ug/L***	***ug/L***	***ug/L***
MW-12	08/17/92	340.34	13.19	---	327.15	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	08/17/92	340.34	13.19	---	327.15	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	04/09/93	340.34	12.73	---	327.61	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	04/09/93	340.34	12.73	---	327.61	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/19/02	340.34	12.95	---	327.39	<250	<250	<750	<0.5	<0.5	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-12	05/13/03	340.34	12.90	---	327.44	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-12	08/20/03	340.34	13.21	---	327.13	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	12/10/03	340.34	12.66	---	327.68	<250	<250	<500	**32**	24	<1	2.3	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	01/08/04 [1]	340.34	12.83	---	327.51	<100	---	---	0.326	2.14	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	05/26/04	340.34	13.10	---	327.24	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	11/15/04	340.34	13.29	---	327.05	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-12	05/24/05	340.34	12.80	---	327.54	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-12	10/26/05	340.34	13.41	---	326.93	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-12	04/26/06	340.34	12.75	---	327.59	<50.0	<245	<490	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-12	10/26/06	340.34	13.11	---	327.23	<50.0	<96.2	138	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-12	04/05/07	340.34	16.24	---	324.1	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-12	05/29/08	340.34	12.91	---	327.43	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-12	06/09/08	340.34	12.92	---	327.42	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	---	<50	---	---
MW-12	02/10/09	340.34	12.66	---	327.68	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-12	06/18/14	340.34	13.74	---	326.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	09/04/14	340.34	13.03	---	327.31	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/22/14	340.34	12.80	---	327.54	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	06/19/15	340.34	13.18	---	327.16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	08/26/15	340.34	13.51	---	326.83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	11/12/15	340.34	13.42	---	326.92	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	03/25/16	340.34	13.75	---	326.59	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	07/11/16	340.34	14.37	---	325.97	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	09/29/16	340.34	14.74	---	325.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	12/06/16	340.34	13.96	---	326.38	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-12	03/16/17	340.34	13.35	---	326.99	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					800	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
				Feet		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*					*ug/L*		*ug/L*	*ug/L*	*ug/L*
MW-13	08/17/92	340.16	12.92	---	327.24	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	04/09/93	340.16	12.42	---	327.74	ND	---	---	ND	ND	ND	ND	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/19/02	340.16	12.70	---	327.46	<250	<250	<750	<0.5	0.69	<0.5	<0.5	---	---	<0.5	<2.5	<0.5	<0.5	<0.5	---	---	---	---	---
MW-13	05/13/03	340.16	12.62	---	327.54	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	---	---	---	---
MW-13	08/20/03	340.16	13.52	---	326.64	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	12/10/03	340.16	12.37	---	327.79	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	01/08/04 [1]	340.16	12.54	---	327.62	<100	---	---	<0.25	<0.5	<0.5	<1	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	05/26/04	340.16	12.83	---	327.33	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	11/15/04	340.16	13.01	---	327.15	<250	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<5	<5	<5	---	<5,000	---	---	---
MW-13	05/24/05	340.16	12.51	---	327.65	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-13	10/26/05	340.16	13.28	---	326.88	<50	<250	<500	<1	<1	<1	<1	---	---	<1	<50	<2	<2	<5	---	<5,000	---	---	---
MW-13	04/26/06	340.16	12.44	---	327.72	<50.0	<245	<490	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<150	---	---	---
MW-13	10/26/06	340.16	12.89	---	327.27	<50.0	<96.2	129	<0.500	<0.500	<0.500	<3.00	---	---	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-13	04/05/07	340.16	15.91	---	324.25	<50.0	<250	<500	<0.500	<0.500	<0.500	<3.00	<0.500	<0.500	<5.00	<50.0	<1.00	<1.00	<1.00	---	<250	---	---	---
MW-13	05/29/08	340.16	12.65	---	327.51	<50.0	<250	<500	<1	<1	<1	<1	<0.01	<1	<1	<5	<1	<1	<1	---	<5,000	---	---	---
MW-13	06/09/08	340.16	12.66	---	327.50	<50	<250	<500	<5	<5	<5	<5	---	---	<5	<100	<10	<10	<10	---	--	<50	---	---
MW-13	02/10/09	340.16	12.36	---	327.80	<100	<100	<100	<0.50	<1.0	<1.0	<1.0	---	---	<1.0	<10	<2.0	<2.0	<2.0	---	<100	---	---	---
MW-13	06/18/14	340.16	12.58	---	327.58	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	09/04/14	340.16	12.81	---	327.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/22/14	340.16	12.51	---	327.65	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	06/19/15	340.16	12.46	---	327.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	08/26/15	340.16	13.31	---	326.85	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	11/12/15	340.16	13.15	---	327.01	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	03/25/16	340.16	13.28	---	326.88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	07/11/16	340.16	13.92	---	326.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	09/29/16	340.16	14.38	---	325.78	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	12/06/16	340.16	13.56	---	326.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-13	03/16/17	340.16	12.96	---	327.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					800	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
				Feet		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*					*ug/L*		*ug/L*	*ug/L*	*ug/L*
MW-14	06/12/14	340.54	13.74	---	326.80	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	06/18/14	340.54	13.74	---	326.80	**3,520**	**1,040 / 1,210 a**	<93.9 / <93.9 a	<1.00	0.255 J	<1.00	0.740 J	**0.255 J**	0.385 J	<1.00	---	---	---	---	1.61 b	---	4.96	0.895 J	---
MW-14	09/04/14	340.54	13.93	---	326.61	**3,160**	**831 / 972 a**	<94.3 / <98.0 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	1.65	---	5.13	<5.00	---
MW-14	12/22/14	340.54	13.71	---	326.83	**2,250**	**979 / 1,230 a**	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.09	---	5.85	<5.00	---
MW-14	06/19/15	340.54	13.98	---	326.56	**2,540**	<400	<400	<1.0	<1.0	<1.0	<3.0	<0.0096	---	---	---	---	---	---	---	---	---	---	---
MW-14	08/26/15	340.54	14.42	---	326.12	**2,390**	<400	<400	---	---	---	---	4	---	---	---	---	---	---	---	---	---	---	---
MW-14	11/12/15	340.54	13.81	---	326.73	**1,110**	<400	<400	---	---	---	---	<0.0017	---	---	---	---	---	---	---	---	---	---	---
MW-14	03/25/16	340.54	14.94	---	325.60	**1,800**	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	07/11/16	340.54	15.48	---	325.06	**1,330**	450	<270	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	09/29/16	340.54	15.81	---	324.73	799	490	280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	12/06/16	340.54	15.11	---	325.43	**1,460**	<220	<420	<1.0	0.12 J	0.14 J	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	03/16/17	340.54	14.69	---	325.85	<250	<470	<470	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-14	12/14/18	340.54	14.82	---	325.72	**2,230**	<380	<380	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	06/12/14	339.54	12.75	---	326.79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	06/18/14	339.54	13.19	---	326.35	<100	27.0 J / <93.9 a	a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	2.02 b	---	<2	<5.00	---
MW-15	09/04/14	339.54	13.39	---	326.15	<100	<94.3 / <98.0 a	<94.3 / <98.0 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	---	---	---	---	2.51	---	<2	<5.00	---
MW-15	12/22/14	339.54	13.19	---	326.35	<100	<93.9 / <93.9 a	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.34	---	<2	<5.00	---
MW-15	06/19/15	339.54	13.50	---	326.04	<2,000	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	08/26/15	339.54	13.64	---	325.90	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	11/12/15	339.54	13.20	---	326.34	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	03/25/16	339.54	14.08	---	325.46	<100	<410	<410	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	07/11/16	339.54	14.60	---	324.94	<250	<180	<270	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	09/29/16	339.54	14.97	---	324.57	<250	<190	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	12/06/16	339.54	14.32	---	325.22	<100	<220	<420	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-15	03/16/17	339.54	13.86	---	325.68	<250	<480	<480	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---

Table 1

Summary of Groundwater Monitoring Data
Jackson's Food Store No. 5017
21641 Maple Valley Highway
Maple Valley, Washington

						HYDROCARBONS			VOCs												METALS	PAHs	PCBs
Sample ID	Date	TOC	DTW	SPH	GWE	TPHg	TPHd	TPHo	B	T	E	X	EDB	EDC	MTBE	TBA	DIPE	ETBE	TAME	PCE	Ethanol	Total Lead	Naphthalene	Total
	Model Toxics Control Act Method A Cleanup Levels					800	500	500	5	1000	700	1000	0.01	5	20	N/A	N/A	N/A	N/A	5	N/A	15	160	0.1
				Feet		*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*	*ug/L*					*ug/L*		*ug/L*	*ug/L*	*ug/L*
MW-16	12/12/14	340.33	14.19	---	326.14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/22/14	340.33	14.24	---	326.09	<100	<93.9 / <93.9 a	<93.9 / <93.9 a	<1.00	<1.00	<1.00	<2.00	<0.210	<1.00	<1.00	<10.0	<2.00	<1.00	<1.00	2.28	---	<2	<5.00	---
MW-16	06/19/15	340.33	14.43	---	325.90	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	08/26/15	340.33	14.80	---	325.53	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	11/12/15	340.33	14.35	---	325.98	<100	<400	<400	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	03/25/16	340.33	15.58	---	324.75	<100	<380	<380	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	07/11/16	340.33	15.98	---	324.35	<250	290	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	09/29/16	340.33	16.25	---	324.08	<250	<180	<280	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/06/16	340.33	15.73	---	324.60	<100	<220	<420	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	03/16/17	340.33	15.36	---	324.97	<250	<430	<430	<0.50	<0.50	<0.50	<1.5	---	---	---	---	---	---	---	---	---	---	---	---
MW-16	12/14/18	340.33	15.76	---	324.57	<100	<390	<390	<1.0	<1.0	<1.0	<3.0	---	---	---	---	---	---	---	---	---	---	---	---

Notes:
SPH = Separate phase hydrocarbons (thickness measured in feet)
DTW = Depth to Water in feet
GWE = Groundwater Elevation in feet relative to mean sea level
TOC = Top of Casing in feet relative to mean sea level
All results in micrograms per liter (µg/L) unless otherwise indicated
TPHg = Total petroleum hydrocarbons as gasoline analyzed by NWTPH-Gx unless otherwise noted.
TPHd = Total petroleum hydrocarbons as diesel, analyzed by NWTPH-Dx unless otherwise noted
TPHo = Total petroleum hydrocarbons as oil, analyzed by NWTPH-Dx unless otherwise noted
BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B unless otherwise noted.
EDB = 1,2-Dibromoethane analyzed by EPA Method 8011
EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B
VOCs = Volatile organic compounds
PCE = Tetrachloroethene by EPA Method 8260B
PAHs = Polycyclic aromatic hydrocarbons analyzed by EPA Method 8270C-SIM
<x = Not detected at laboratory reporting limit x
--- = Not analyzed
Concentrations in bold type indicate the analyte was detected above MTCA Method A cleanup levels

1 = Well was purged prior to groundwater sampling on January 8, 2004
* indicates the groundwater samples were additionally analyzed for full list of VOCs by EPA Method 8260B; some analytes concentrations were detected above the laboratory reporting limits but no concentrations were above MTCA Method A cleanup levels. Please see corresponding laboratory report for detected HVOCs.
a = diesel and heavy oil results were reported in two values. The first value is obtained by Method NWTPH-DX with Silica Gel Cleanup; the second value is obtained by NWTPH-Dx without Silica Gel Cleanup.
b = Compound was found in the blank and sample.
J = Result is less than the reporting limits but greater than or equal to the method detection limits and the concentration is an approximate value.

Appendices

Appendix A
Field Forms

WELL GAUGING DATA

Project # 181214-HP1 Date 12/14/18 Client GHD

Site 21641 Maple Valley Hwy, Maple Valley, WA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-14	1409	2					14.82	20.04		
MW-16	1411	2					15.76	25.28		

LOW FLOW WELL MONITORING DATA SHEET

Project #: 181214-HP1	Client: GHD
Sampler: HP	Gauging Date: 12/14/18
Well I.D.: MW-14	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 20.04	Depth to Water (ft.): 14.82
Depth to Free Product: —	Thickness of Free Product (feet): —
Referenced to: (PVC) Grade	Flow Cell Type: YSI ProPlus

Purge Method: 2" Grundfos Pump | (Peristaltic Pump) | Bladder Pump
Sampling Method: (Dedicated Tubing) | New Tubing | Other ____

Start Purge Time: 1415 Flow Rate: 100 mL/min Pump Depth: 18'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
1421	12.1	6.74	80	11	0.87	11	600	15.15
1424	12.1	6.72	80	8	0.75	7	900	15.15
1427	12.1	6.69	79	7	0.50	-3	1200	15.15
1430	12.0	6.68	78	6	0.47	-8	1500	15.15
1433	12.0	6.68	78	6	0.42	-10	1800	15.15

Did well dewater? Yes (No)	Amount actually evacuated: 1.8 L
Sampling Time: 1435	Sampling Date: 12/14/18
Sample I.D.: GW-062308-5017-121418-MW-14	Laboratory: Pace
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See C.O.C.
Equipment Blank I.D.: @ Time	Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 181214-MP1	Client: GHD
Sampler: MP	Gauging Date: 12/14/18
Well I.D.: MW-16	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 25.28	Depth to Water (ft.): 15.76
Depth to Free Product: ✓	Thickness of Free Product (feet): ✓
Referenced to: (PVC) Grade	Flow Cell Type: YSI ProPlus

Purge Method: 2" Grundfos Pump | (Peristaltic Pump) | Bladder Pump

Sampling Method: (Dedicated Tubing) | New Tubing | Other ____

Start Purge Time: 1445 Flow Rate: 100 mL/min Pump Depth: 23'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (mL))	Depth to Water (ft.)
1451	15.2	6.62	103	16	2.75	103	600	15.97
1454	15.0	6.54	105	14	2.70	122	900	15.97
1457	15.1	6.53	104	13	2.62	104	1200	16.01
1500	15.1	6.52	105	13	2.61	105	1500	16.01
1503	15.1	6.51	105	12	2.81	105	1800	16.01

Did well dewater? Yes (No)	Amount actually evacuated: 1.8 L
Sampling Time: 1505	Sampling Date: 12/14/18
Sample I.D.: GW-062308-5017-121418-MW-16	Laboratory: Pace
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: See COC.
Equipment Blank I.D.: @ Time	Duplicate I.D.:

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

2302588

Section A Required Client Information:

Company: GHD Services
Address: 732 Broadway Ste 301
Tacoma, WA 98402
Email To: Brian.Peters@GHD.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Brian.Peters@GHD.com
Copy To: Jeffery.Cloud@GHD.com
Purchase Order No.:
Project Name: JFS- Maple Valley - 5017
Project Number: 062308

Section C Invoice Information:

Attention:
Company Name: GHD Services
Address:
Pace Quote Reference:
Pace Project Manager: Jennifer Gross
Pace Profile #: 38895

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: Maple Valley WA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	NWTPH-Gx	BTEX	NWTPH-Dx	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-062308-5017-121418-MW-14	WT		12/14/18	1435				8				X						X	X	X		
2	GW-062308-5017-121418-MW-16	WT		12/14/18	1505				3				X						X	X	X		
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	BlankTechSvcs	12/14/18	1600				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Patrick Ho

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 12/14/18

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

WELLHEAD INSPECTION FORM

Client: GHD Site: 21641 Maple Valley Hwy, Maple Valley, WA Date: 12/14/18

Job #: 181214-HP1 Technician: HP Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency: Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade	Other (explain in notes)	Well Not Inspected (explain in notes)	Notes (list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)
MW-14													X		water bailed
MW-16					1								X		water bailed

NOTES:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME GHD @ JFS Maple Valley 21641 Maple Valley Hwy				PROJECT NUMBER 61214-HP1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI ProPlus	353 #4	12/11/18 0900	pH 4 7 10	4.00 7.05 9.98	✓	10.1°C	
			Cond 3000 ORP-240	3887 250	✓		
			DO-100%	101.2%	✓		

SPH or Purge Water Drum Log

Client: GHD- Seattle

Site Address: 21641 Maple Valley Hwy, Maple Valley, WA

STATUS OF DRUM(S) UPON ARRIVAL						
Date	12/14/18					
Number of drum(s) empty:	Ø					
Number of drum(s) 1/4 full:	Ø					
Number of drum(s) 1/2 full:	Ø					
Number of drum(s) 3/4 full:	Ø					
Number of drum(s) full:	Ø					
Total drum(s) on site:	Ø					
Are the drum(s) properly labeled?	—					
Drum ID & Contents:	—					
If any drum(s) are partially or totally filled, what is the first use date:	—					

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	12/14/18					
Number of drums empty:	Ø					
Number of drum(s) 1/4 full:	1					
Number of drum(s) 1/2 full:	Ø					
Number of drum(s) 3/4 full:	Ø					
Number of drum(s) full:	Ø					
Total drum(s) on site:	1					
Are the drum(s) properly labeled?	YES					
Drum ID & Contents:	—					

LOCATION OF DRUM(S)
Describe location of drum(s): BY DUMPSTERS

FINAL STATUS						
Number of new drum(s) left on site this event	1					
Date of inspection:	12/14/18					
Drum(s) labelled properly:	Y					
Logged by BTS Field Tech:	HP					
Office reviewed by:						

Appendix B
Laboratory Analytical Report

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 27, 2018

Brian Peters
GHD Services, Inc.
20818 44th Avenue W
Suite 190
Lynnwood, WA 98036

RE: Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Dear Brian Peters:
Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Emily Blakeway, GHD
Jeffrey Cloud, GHD Services Inc.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10459376001	**GW-062308-5017-121718-MW-14**	Water	12/14/18 14:35	12/19/18 10:05
10459376002	**GW-062308-5017-121718-MW-16**	Water	12/14/18 15:05	12/19/18 10:05

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10459376001	**GW-062308-5017-121718-MW-14**	NWTPH-Dx	ST1	4	PASI-M
		NWTPH-Gx	AG1	2	PASI-M
		EPA 8260B	DS2	7	PASI-M
10459376002	**GW-062308-5017-121718-MW-16**	NWTPH-Dx	ST1	4	PASI-M
		NWTPH-Gx	AG1	2	PASI-M
		EPA 8260B	DS2	7	PASI-M

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Method: **NWTPH-Dx**
Description: NWTPH-Dx GCS LV
Client: GHD Services Inc
Date: December 27, 2018

General Information:
2 samples were analyzed for NWTPH-Dx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA Mod. 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Method: **NWTPH-Gx**
Description: NWTPH-Gx GCV
Client: GHD Services Inc
Date: December 27, 2018

General Information:
2 samples were analyzed for NWTPH-Gx. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

PROJECT NARRATIVE

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Method: **EPA 8260B**
Description: 8260B VOC
Client: GHD Services Inc
Date: December 27, 2018

General Information:
2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Sample: GW-062308-5017-121718-MW-14 **Lab ID: 10459376001** Collected: 12/14/18 14:35 Received: 12/19/18 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	ND	mg/L	0.38	1	12/20/18 09:07	12/21/18 21:42	68334-30-5	
Motor Oil Range	ND	mg/L	0.38	1	12/20/18 09:07	12/21/18 21:42		
Surrogates								
o-Terphenyl (S)	69	%.	50-150	1	12/20/18 09:07	12/21/18 21:42	84-15-1	
n-Triacontane (S)	75	%.	50-150	1	12/20/18 09:07	12/21/18 21:42	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**2230**	ug/L	100	1		12/22/18 03:53		G+,G-
Surrogates								
a,a,a-Trifluorotoluene (S)	130	%.	50-150	1		12/22/18 03:53	98-08-8	
8260B VOC	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		12/22/18 07:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/18 07:32	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/18 07:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/18 07:32	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%.	75-125	1		12/22/18 07:32	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		12/22/18 07:32	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125	1		12/22/18 07:32	460-00-4	

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Sample: GW-062308-5017-121718-MW-16 **Lab ID: 10459376002** Collected: 12/14/18 15:05 Received: 12/19/18 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range	ND	mg/L	0.39	1	12/20/18 09:07	12/21/18 22:04	68334-30-5	
Motor Oil Range	ND	mg/L	0.39	1	12/20/18 09:07	12/21/18 22:04		
Surrogates								
o-Terphenyl (S)	64	%.	50-150	1	12/20/18 09:07	12/21/18 22:04	84-15-1	
n-Triacontane (S)	77	%.	50-150	1	12/20/18 09:07	12/21/18 22:04	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		12/24/18 17:34		G-
Surrogates								
a,a,a-Trifluorotoluene (S)	65	%.	50-150	1		12/24/18 17:34	98-08-8	
8260B VOC	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		12/22/18 03:08	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		12/22/18 03:08	100-41-4	
Toluene	ND	ug/L	1.0	1		12/22/18 03:08	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		12/22/18 03:08	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%.	75-125	1		12/22/18 03:08	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		12/22/18 03:08	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125	1		12/22/18 03:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

QC Batch: 582255 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10459376001

METHOD BLANK: 3156150 Matrix: Water
Associated Lab Samples: 10459376001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	12/22/18 02:28	
a,a,a-Trifluorotoluene (S)	%.	73	50-150	12/22/18 02:28	

METHOD BLANK: 3156151 Matrix: Water
Associated Lab Samples: 10459376001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	12/22/18 02:45	
a,a,a-Trifluorotoluene (S)	%.	65	50-150	12/22/18 02:45	

LABORATORY CONTROL SAMPLE & LCSD: 3156152 3156153

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	957	961	96	96	41-137	0	20	
a,a,a-Trifluorotoluene (S)	%.				64	73	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3156905 3156906

Parameter	Units	10459403002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	ND	1000	1000	1120	1010	112	101	30-145	10	30	
a,a,a-Trifluorotoluene (S)	%.						71	68	50-150			

SAMPLE DUPLICATE: 3156907

Parameter	Units	10459834001 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	
a,a,a-Trifluorotoluene (S)	%.	47	55	16		

SAMPLE DUPLICATE: 3156908

Parameter	Units	10459403004 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

SAMPLE DUPLICATE: 3156908

Parameter	Units	10459403004 Result	Dup Result	RPD	Max RPD	Qualifiers
a,a,a-Trifluorotoluene (S)	%.	59	58	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

QC Batch: 582587 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10459376002

METHOD BLANK: 3157791 Matrix: Water
Associated Lab Samples: 10459376002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	12/24/18 15:35	
a,a,a-Trifluorotoluene (S)	%.	69	50-150	12/24/18 15:35	

LABORATORY CONTROL SAMPLE & LCSD: 3157792 3157793

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1080	989	108	99	41-137	9	20	
a,a,a-Trifluorotoluene (S)	%.				99	74	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3157848 3157849

Parameter	Units	10459403007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	302	1000	1000	1320	1280	101	98	30-145	3	30	
a,a,a-Trifluorotoluene (S)	%.						89	89	50-150			

SAMPLE DUPLICATE: 3157850

Parameter	Units	10459403008 Result	Dup Result	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	ND	ND		30	G-
a,a,a-Trifluorotoluene (S)	%.	71	66	7		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

QC Batch: 582368 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV 465 W
Associated Lab Samples: 10459376001, 10459376002

METHOD BLANK: 3156532 Matrix: Water
Associated Lab Samples: 10459376001, 10459376002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	12/22/18 01:56	
Ethylbenzene	ug/L	ND	1.0	12/22/18 01:56	
Toluene	ug/L	ND	1.0	12/22/18 01:56	
Xylene (Total)	ug/L	ND	3.0	12/22/18 01:56	
1,2-Dichloroethane-d4 (S)	%.	96	75-125	12/22/18 01:56	
4-Bromofluorobenzene (S)	%.	97	75-125	12/22/18 01:56	
Toluene-d8 (S)	%.	99	75-125	12/22/18 01:56	

LABORATORY CONTROL SAMPLE: 3156533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.3	91	75-126	
Ethylbenzene	ug/L	20	19.3	96	75-125	
Toluene	ug/L	20	19.7	98	74-125	
Xylene (Total)	ug/L	60	57.6	96	75-125	
1,2-Dichloroethane-d4 (S)	%.			95	75-125	
4-Bromofluorobenzene (S)	%.			99	75-125	
Toluene-d8 (S)	%.			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3156534 3156535

Parameter	Units	10459376002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	17.1	18.2	85	91	62-140	6	30	
Ethylbenzene	ug/L	ND	20	20	17.9	19.5	90	98	75-131	9	30	
Toluene	ug/L	ND	20	20	18.6	19.8	93	99	68-132	6	30	
Xylene (Total)	ug/L	ND	60	60	54.4	58.7	91	98	69-135	8	30	
1,2-Dichloroethane-d4 (S)	%.						95	94	75-125			
4-Bromofluorobenzene (S)	%.						100	98	75-125			
Toluene-d8 (S)	%.						98	99	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

QC Batch: 582003 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV
Associated Lab Samples: 10459376001, 10459376002

METHOD BLANK: 3154922 Matrix: Water
Associated Lab Samples: 10459376001, 10459376002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/L	ND	0.40	12/21/18 18:18	
Motor Oil Range	mg/L	ND	0.40	12/21/18 18:18	
n-Triacontane (S)	%.	106	50-150	12/21/18 18:18	
o-Terphenyl (S)	%.	89	50-150	12/21/18 18:18	

LABORATORY CONTROL SAMPLE & LCSD: 3154923 3154924

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	2	1.9	2.0	97	101	50-150	3	20	
Motor Oil Range	mg/L	2	1.9	2.0	97	99	50-150	3	20	
n-Triacontane (S)	%.				105	105	50-150			
o-Terphenyl (S)	%.				90	91	50-150			

SAMPLE DUPLICATE: 3154925

Parameter	Units	10459376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	ND	0.39		30	
Motor Oil Range	mg/L	ND	ND		30	
n-Triacontane (S)	%.	75	89	19		
o-Terphenyl (S)	%.	69	77	13		

SAMPLE DUPLICATE: 3154926

Parameter	Units	10459408001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/L	0.64	0.60	7	30	
Motor Oil Range	mg/L	ND	ND		30	
n-Triacontane (S)	%.	98	76	25		
o-Terphenyl (S)	%.	89	81	10		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

G+	Late peaks present outside the GRO window.
G-	Early peaks present outside the GRO window.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Parameter	Matrix	Analytical Method	Preparation Method
8260B VOC	Water	SW-846 8260B/5030B	N/A

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 062308 JFS-Maple Valley-5017
Pace Project No.: 10459376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10459376001	**GW-062308-5017-121718-MW-14**	EPA Mod. 3510C	582003	NWTPH-Dx	582436
10459376002	**GW-062308-5017-121718-MW-16**	EPA Mod. 3510C	582003	NWTPH-Dx	582436
10459376001	**GW-062308-5017-121718-MW-14**	NWTPH-Gx	582255		
10459376002	**GW-062308-5017-121718-MW-16**	NWTPH-Gx	582587		
10459376001	**GW-062308-5017-121718-MW-14**	EPA 8260B	582368		
10459376002	**GW-062308-5017-121718-MW-16**	EPA 8260B	582368		

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed ac

WO# : 10459376

10459376

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GHD Services	Report To: Brian.Peters@GHD.com	Attention:
Address: 732 Broadway Ste 301 Tacoma, WA 98402	Copy To: Jeffery.Cloud@GHD.com	Company Name: GHD Services
Email To: Brian.Peters@GHD.com	Purchase Order No.:	Address:
Phone: Fax:	Project Name: JFS- Maple Valley - 5017	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: 062308	Pace Project Manager: Jennifer Gross
		Pace Profile #: 38895

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: Maple Valley WA

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	NWTPH-Gx	BTEX	NWTPH-Dx	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	GW-062308-5017-121418-MW-14	WT		12/14/18	1435				3				X					X	X	X		001
2	GW-062308-5017-121418-MW-16	WT		12/14/18	1505				3				X					X	X	X		002
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Blair/TechSves	12/14/18	1600	SHIPPED VIA FEDEX	12/18/18	1600				
				IJ-PACE	12/19/18	10:05	20	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Patrick Ho

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/14/18

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt

Client Name: GHD

Project #:

WO#: 10459376

PM: JMG **Due Date: 12/27/18**

CLIENT: GHD_WA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7475 9396 6235

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☐ G87A9170600254 ☒ G87A9155100842 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Cooler Temp Read (°C): 2.0 **Cooler Temp Corrected (°C):** 2.0 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** 0.0 **Date and Initials of Person Examining Contents:** 12/19/18 LJ

USDA Regulated Soil (☒ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used?	☒ Yes ☐ No	9.
-Pace Containers Used?	☒ Yes ☐ No	
Containers Intact?	☒ Yes ☐ No	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☐ No ☒ N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? Matrix: WT	☒ Yes ☐ No	12.
All containers needing acid/base preservation have been checked?	☐ Yes ☐ No ☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes ☐ No ☒ N/A	Sample #
	☒ Yes ☐ No ☐ N/A	Initial when completed: Lot # of added preservative:
Head space in VOA Vials (>6mm)?	☐ Yes ☒ No ☐ N/A	14.
Trip Blank Present?	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes ☐ No ☒ N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 12/20/18

Note: Whenever there is a discrepancy affecting North Car ...mples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: LJ