TECHNICAL MEMORANDUM

To: Mr. Aaron Wilcox
From: Jonathan Horowitz, PE
Date: April 26, 2016
Subject: **Handy Mart** - **Groundwater Monitoring Results**

INTRODUCTION

HydroCon Environmental, LLC (HydroCon) is submitting this technical memorandum to Wilcox & Flegel to document the work completed at 1410 Ocean Beach Highway in Longview, Washington (the site) in April 2016. The work was conducted according to our Master Services Agreement (MSA), dated July 11, 2014.

FIELD ACTIVITIES

On April 14, 2016, HydroCon personnel mobilized to the site to perform the groundwater monitoring. Upon arrival at the site, the well cap on each well was removed and the water level was allowed to equilibrate prior to measuring the depth to water (DTW). The depth to water in each well was measured using a clean electronic water level indicator. Water levels were measured at the scribed reference mark (north end of the top of the PVC casing) at each well. A table detailing the groundwater levels and elevations and a figure indicating the groundwater flow direction are included in the attachments. Depth to water in the wells ranged from 6.41 to 8.03 feet below top of casing. Groundwater elevations were calculated based on an arbitrary measuring point. Based on the measured groundwater elevations, the groundwater flows towards the north-northwest at an approximate gradient of 0.0008 feet/foot. This flow direction is changed from the previous sampling event when groundwater was measured to flow in a southwest direction at a gradient of .0003 feet/foot. However, the change in groundwater flow direction is likely the result of seasonal variations as the April 2016 flow direction is similar to the April 2015 flow direction.

HydroCon purged monitoring wells MW-1 through MW-3 with a low flow peristaltic pump equipped with new length of LDPE tubing attached to a new length of silicone tubing. Field parameters (pH, temperature, and specific conductivity) were measured and recorded on a Groundwater Sample Collection field form along with the depth to water measurements (included in the attachment). Purging was completed when the field parameters had stabilized.

Samples were collected immediately after purging and placed in labeled laboratory-prepared sample bottles. The samples were shipped in an iced cooler along with chain-of-custody documentation to the project laboratory for analysis.

A total of three groundwater samples were collected for laboratory analysis. Each sample was analyzed for the following set of parameters:

- Gasoline Range Organics (GRPH) by Northwest Method NWTPH-Gx; and
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by EPA Method 8021B.

SAMPLING RESULTS

GRPH was detected at concentrations above the laboratory Method Reporting Limits (MRLs) in one of the samples (from MW-3) submitted; however, the detected concentration was below the applicable MTCA Method A Cleanup Level. Benzene was detected at a concentration of 3.7 micrograms per liter (µg/L) in the sample from MW-1, and at 1.41 µg/L in the sample from MW-1. Both concentrations are below the MTCA Method A Cleanup Level of 5 µg/L. GRPH and the remaining BTEX constituents were not detected at concentrations above the laboratory MRLs. A summary data table and the laboratory report are included in the attachments.

DISCUSSION

Based on the analytical results, HydroCon recommends the following:

- The next round of monitoring should be conducted during the third quarter of 2016.
- Based on the exceedance of benzene during the previous quarterly sampling event in February 2016, groundwater monitoring should continue until four consecutive quarters with no detected concentrations exceeding MTCA Method A Cleanup Levels have been achieved.

QUALIFICATIONS

HydroCon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. HydroCon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations. Please note that HydroCon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report.

Findings and conclusions resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this monitoring. Subsurface conditions may vary from those encountered at specific sampling locations or during other

surveys, tests, assessments, investigations, or exploratory services; the data, interpretations and findings are based solely upon data obtained at the time and within the scope of these services.

This report is intended for the sole use of **Wilcox & Flegel**. This report may not be used or relied upon by any other party without the written consent of HydroCon. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

The conclusions presented in this report are, in part, based upon subsurface sampling performed at selected locations and depths. There may be conditions between borings or samples that differ significantly from those presented in this report and which cannot be predicted by this study.

CLOSING

We appreciate the opportunity to perform these services for Wilcox & Flagel. Please contact the undersigned at (360) 703-6079 if you have any questions regarding the information provided in this letter report.

Sincerely,

Jonathan Horowitz, PE
Project Engineer

Figures
Figure 1 – Site Location Map
Figure 2 – Site Features Map
Figure 3 – Groundwater Analytical Results
Figure 4 – Groundwater Elevations and Contour Map
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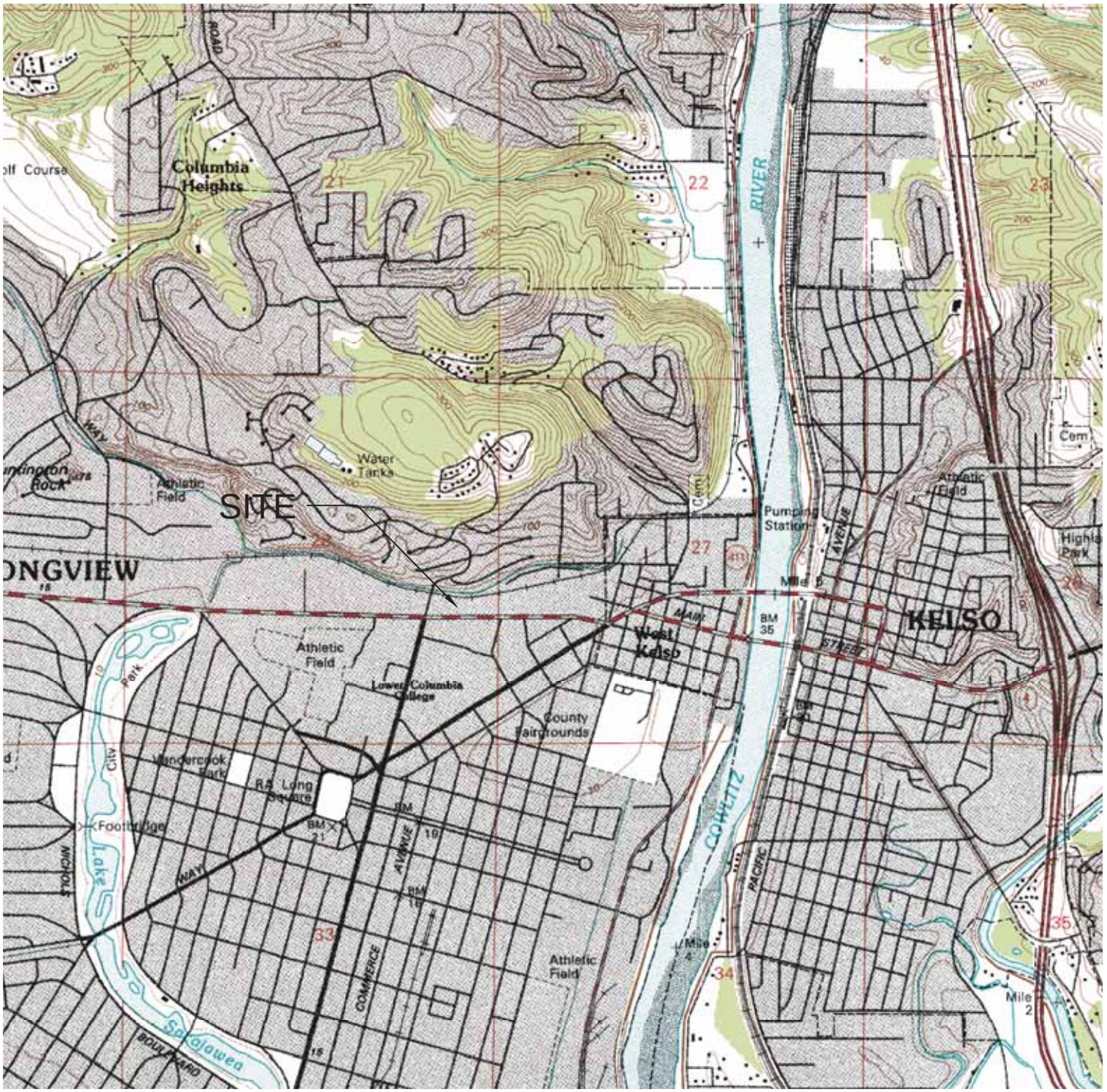
Table 2 – Summary of Groundwater Analytical Results
Attachments
Attachment A - Groundwater Sample Collection Field Forms
Attachment B - Laboratory Report and Chain-of-Custody Documentation



NOTE(S):

1. USGS, KELSO QUADRANGLE
   WASHINGTON
   7.5 MINUTE SERIES (TOPOGRAPHIC)

N
W E
S

0 2000 4000
SCALE IN FEET
1" = 2000'

HydroCon
501 Allen St Suite B, Kelso WA Ph: (360) 706-6079

DATE: 04-25-16
DWN: JH
CHK: JH
APPROVED:
PRJ. MGR: DB
PROJECT NO: 2015-007-01

FIGURE 1
SITE LOCATION
HANDY MART
WILCOX & FLEGEL
1410 OCEAN BEACH HWY
LONGVIEW, WA

LEGEND

- PROPERTY BOUNDARY
- BUILDING
- MW-01 MONITORING WELL

N W E S

0 30 60

SCALE IN FEET
1" = 30'

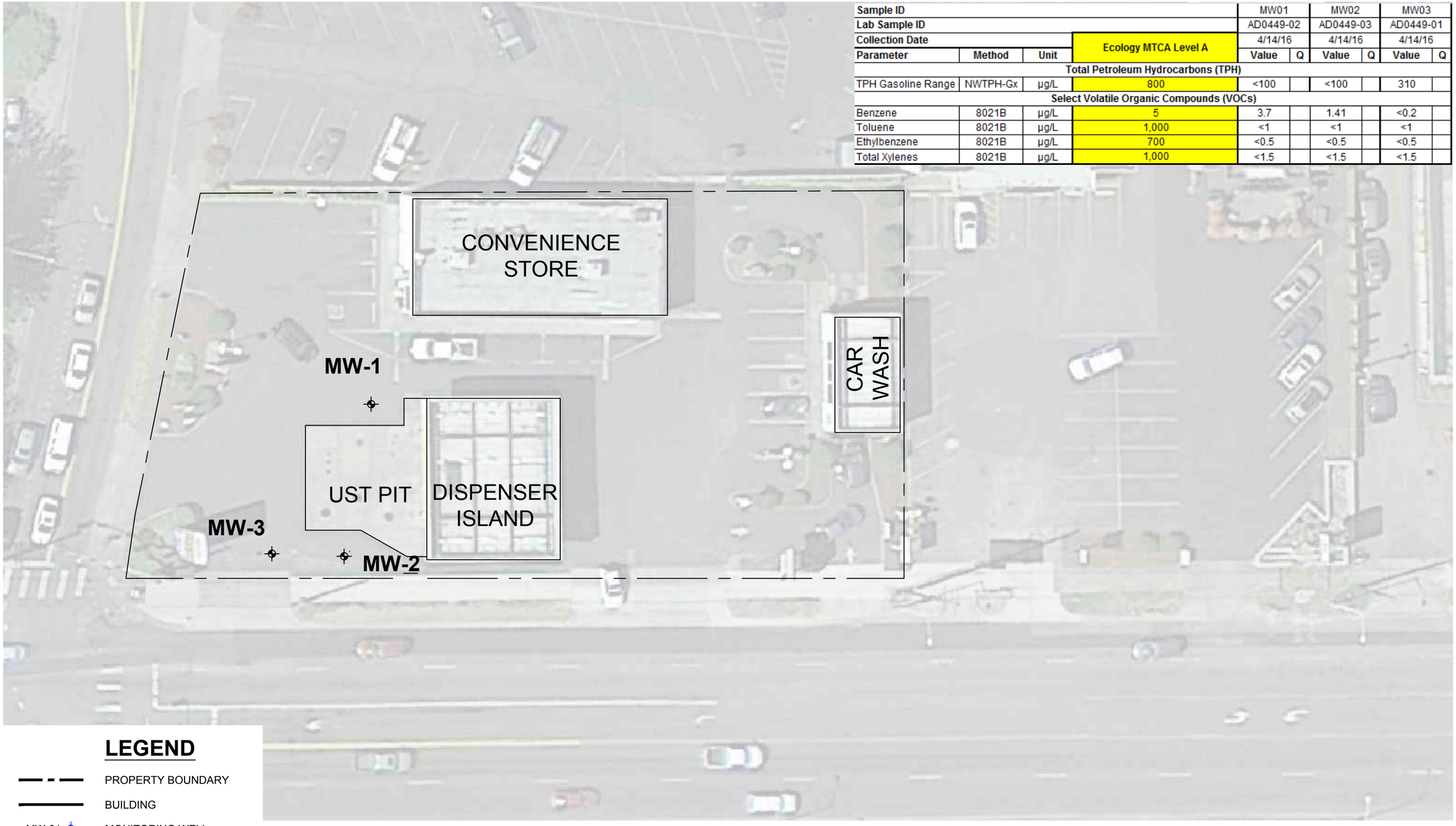
HydroCon
510 Allen St. Suite B Kelso, WA 98626, Ph (360) 703-6079

DATE: 04-25-16
DWN: JH
CHK: JH
APPROVED:
PRJ. MGR: DB
PROJECT NO: 2015-007-01

FIGURE 2
SITE FEATURES
HANDY MART
WILCOX & FLEGEL
1410 OCEAN BEACH HWY
LONGVIEW, WA

C:\Users\jonathanh\Drafting Temp\2015-007.01\2015-007.1.dwg 2.17.2014

Sample ID				MW01		MW02		MW03	
Lab Sample ID				AD0449-02		AD0449-03		AD0449-01	
Collection Date			Ecology MTCA Level A	4/14/16		4/14/16		4/14/16	
Parameter	Method	Unit		Value	Q	Value	Q	Value	Q
Total Petroleum Hydrocarbons (TPH)									
TPH Gasoline Range	NWTPH-Gx	µg/L	800	<100		<100		310	
Select Volatile Organic Compounds (VOCs)									
Benzene	8021B	µg/L	5	3.7		1.41		<0.2	
Toluene	8021B	µg/L	1,000	<1		<1		<1	
Ethylbenzene	8021B	µg/L	700	<0.5		<0.5		<0.5	
Total Xylenes	8021B	µg/L	1,000	<1.5		<1.5		<1.5	



LEGEND

- PROPERTY BOUNDARY
- BUILDING
- MW-01 MONITORING WELL

N W E S

0 30 60

SCALE IN FEET
1" = 30'

HydroCon

510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 04-25-16
DWN: JH
CHK: JH
APPROVED:
PRJ. MGR: DB
PROJECT NO: 2015-007-01

FIGURE 3
GROUNDWATER ANALYTICAL RESULTS
APRIL 2016
WILCOX & FLEGEL
1410 OCEAN BEACH HWY
LONGVIEW, WA

C:\Users\jonathanh\Drafting Temp\2015-007.01\2015-007.1.dwg 2.17.2014

CONVENIENCE STORE

CAR WASH

MW-1
(13.09)

13.15

13.10

DISPENSER ISLAND

MW-3
(13.22)

MW-2
(13.19)

13.2

© 2015 Google

LEGEND

- PROPERTY BOUNDARY
- BUILDING
- MW-01 (XX.XX) — MONITORING WELL (GROUNDWATER ELEV.)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW
- GROUNDWATER ELEVATION CONTOUR

N
W E
S

0 30 60
SCALE IN FEET
1" = 30'

HydroCon
510 Allen St. Suite B Kelso, WA 98626, Ph(360) 703-6079

DATE: 05-21-17
DWN: JH
CHK: CD
APPROVED: BP
PRJ. MGR: DB
PROJECT NO: 2015-007-01

FIGURE **4.0**
GROUNDWATER ELEVATION & CONTOUR MAP (APRIL 2016)
HANDY MART
WILCOX & FLEGEL
1410 OCEAN BEACH HWY
LONGVIEW, WA

C:\Users\jonathanh\Drafting Temp\2015-007.01\2015-007.1.dwg 2.17.2014

Table 1
Summary of Historical Groundwater Elevations
Handy Mart
Longview, Washington
HydroCon Project Number 2015-007.1

Monitoring Well ID	Date	TOC Elevation	Depth to Water	Groundwater Elevation
MW-01	9/24/2015	21.12	10.98	10.14
	2/2/2016	21.12	7.52	13.6
	4/14/16	21.12	8.03	13.09
MW-02	9/24/2015	19.98	9.85	10.13
	2/2/2016	19.98	6.4	13.58
	4/14/16	19.98	6.79	13.19
MW-03	9/24/2015	19.63	9.54	10.09
	2/2/2016	19.63	6.12	13.51
	4/14/16	19.63	6.41	13.22

Notes:
TOC = Top of well casing

Table 2
Summary of Groundwater Analytical Results
Handy Mart, Longview, Washington
HydroCon Project Number 2014-007.01

Sample ID				MW01		MW02		MW03	
Lab Sample ID				AD0449-02		AD0449-03		AD0449-01	
Collection Date			**Ecology MTCA Level A**	4/14/16		4/14/16		4/14/16	
Parameter	**Method**	**Unit**		**Value**	**Q**	**Value**	**Q**	**Value**	**Q**
Total Petroleum Hydrocarbons (TPH)									
TPH Gasoline Range (G	NWTPH-Gx	µg/L	800	<100		<100		310	
Select Volatile Organic Compounds (VOCs)									
Benzene	8021B	µg/L	5	3.7		1.41		<0.2	
Toluene	8021B	µg/L	1,000	<1		<1		<1	
Ethylbenzene	8021B	µg/L	700	<0.5		<0.5		<0.5	
Total Xylenes	8021B	µg/L	1,000	<1.5		<1.5		<1.5	

Notes and Qualifiers: (Q; only shown in Table if reported by laboratory)

* = Washington State Model Toxics Control Act (MTCA) Method A Cleanup Level for Groundwater (rev. October 12, 2007)

[1] = Gasoline Range Petroleum Hydrocarbons (GRPH) by Northwest Method NWTPH-Gx

[2] = Volatile Organic Compounds (VOCs) by EPA Methods 8021B

< = Indicates compound not detected above the laboratory Method Reporting Limit (MRL) shown.

All values shown are in micrograms per liter (µg/L) (parts per billion).

Highlighted cell indicates compound detected above cited MTCA Method A Cleanup Level.

Table 3
Summary of Groundwater Analytical Results
Handy Mart, Longview, Washington
HydroCon Project Number 2014-007.01

Parameter		GRPH [1]	Benzene [2]	Toluene [2]	Ethylbenzene [2]	Total Xylenes [2]
Cleanup Level*		**800**	**5**	**1,000**	**700**	**1,000**
Monitoring Well ID	Date Sampled					
MW-1	9/24/15	<100	6.1	<1	<1	<3
	2/2/16	<100	6.6	<1	<1	<3
	4/14/16	<100	3.7	<1	<0.5	<1.5
MW-2	9/24/15	460	<1	4.4	<1	3.5
	2/2/16	<100	2.7	<1	<1	<3
	4/14/16	<100	1.41	<1	<0.5	<1.5
MW-3	9/24/15	<100	<1	<1	<1	<3
	2/2/16	210	<1	3.7	<1	<3
	4/14/16	310	<0.2	<1	<0.5	<1.5

Notes:
* = Washington State Model Toxics Control Act (MTCA) Method A Cleanup Level for Groundwater (rev. October 12, 2007)
[1] = Gasoline Range Petroleum Hydrocarbons (GRPH) by Northwest Method NWTPH-Gx
[2] = Volatile Organic Compounds (VOCs) by EPA Methods 8021B
< = Indicates compound not detected above the laboratory Method Reporting Limit (MRL) shown.
All values shown are in micrograms per liter (µg/L) (parts per billion).
Highlighted cell indicates compound detected above cited MTCA Method A Cleanup Level.

ATTACHMENT A
GROUNDWATER SAMPLE COLLECTION FIELD FORMS

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW-1

Project Name (Number): Handy Mart
Hydrocon Project Number: 2015-007-01
Date: 4/14/2016
Sample I.D.: MW-1 Time: 1035
Field Duplicate I.D.: - Time: -
Personnel: C. Dardel

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair: ☒ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☒ Not measured PID Reading _____ ppm ☐ Odor:
Well diameter: ☐ 2-inch ☐ 4-inch ☐ 6-inch ☒ Other: 3/4"
Comments

PURGING INFORMATION

Total well depth: 18.83 ft Bottom: ☐ Hard ☒ Soft ☐ Not measured Screen Interval(s):
Depth to product: - ft
Depth to water: 6.79 ft Intake Depth (BTOC): Begin Purging Well: 10:10
Casing volume: ft (H_2O) X gal/ft = gal. X 3 = gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☒ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other
Bailer type: Water Disposal: ☐ Drummed ☐ Remediation System ☐ Other

FIELD PARAMETERS

Odor and/or Sheen: light - moderate

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1015			13.9	.483		6.21	41	
1018			14.1	.480		6.23	31	
1021			14.1	.479		6.25	20	
1024			14.2	.477		6.28	8	
1027			14.3	.477		6.30	-6	
1030			14.3	.475		6.30	-14	
	6.61							
		Sample @			1035			

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments:

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 ml VOA	3	HCl	(No) 0.45 0.10	6x, BTEX
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments:

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW-2

Project Name (Number): Handy Mart
Hydrocon Project Number: 2015-007-01
Date: 4/14/2015
Sample I.D.: MW-2 Time: 1120
Field Duplicate I.D.: - Time: -
Personnel: C. Daschel

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair: ☒ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☒ Not measured PID Reading _____ ppm ☐ Odor: _____
Well diameter: ☐ 2-inch ☐ 4-inch ☐ 6-inch ☒ Other: 3/4"
Comments _____

PURGING INFORMATION

Total well depth: 19.27 ft Bottom: ☒ Hard ☐ Soft ☐ Not measured Screen Interval(s): _____
Depth to product: - ft
Depth to water: 6.41 ft Intake Depth (BTOC): _____ Begin Purging Well: 1056
Casing volume: _____ ft (H_2O) X _____ gal/ft = _____ gal. X 3 = _____ gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☒ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☐ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: light odor

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1101			13.2	.126		6.23	28	
1104			13.2	.129		6.25	28	
1107			13.3	.137		6.26	28	
1110			13.3	.142		6.26	28	
1113			13.4	.144		6.29	4	
1116			13.4	.144		6.29	-3	
			Sample @ 1120					

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40ml VOA	3	HCl	(No) 0.45 0.10	GX, BTEX
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER PURGE AND SAMPLE COLLECTION

Well I.D. Number: MW-3

Project Name (Number): Handy Mart
Hydrocon Project Number: 2015-007-01
Date: 7/14/2016
Sample I.D.: MW-3 Time: 1200
Field Duplicate I.D.: - Time: -
Personnel: C. Daniel

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair: ☒ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs Replacement ☐ Surface Water Well Infiltration
Headspace reading: ☒ Not measured PID Reading _____ ppm ☐ Odor: _____
Well diameter: ☐ 2-inch ☐ 4-inch ☐ 6-inch ☒ Other: 3/4"
Comments _____

PURGING INFORMATION

Total well depth: 19.25 ft Bottom: ☒ Hard ☐ Soft ☐ Not measured Screen Interval(s): _____
Depth to product: - ft
Depth to water: 2.03 ft Intake Depth (BTOC): _____ Begin Purging Well: 1140
Casing volume: _____ ft (H_2O) X _____ gal/ft = _____ gal. X 3 = _____ gal.
Volume Conversion Factors: 3/4"=0.02 gal/ft 1"=0.04 gal/ft 2"=0.16 gal/ft 4"=0.65 gal/ft 6"= 1.47 gal/ft

PURGING/DISPOSAL METHOD

Pump type ☒ Peristaltic ☐ Centrifugal ☐ Dedicated Bladder ☐ Non-Dedicated Bladder Other _____
Bailer type: _____ Water Disposal: ☐ Drummed ☐ Remediation System ☐ Other _____

FIELD PARAMETERS

Odor and/or Sheen: _____

Time	Water Level (BTOC)	Purge Rate (L/min)	Temp. (°C)	Sp. Cond. (mS/cm) (±3%)	Dissolved Oxygen (±10% or ≤1.00 ±0.2)	pH (SU) (±0.1)	ORP (mV)	Turbidity (NTU) (± 10% or ≤10)
1143			14.6	.498		6.34	35	
1146			14.8	.519		6.15	48	
1149			14.9	.526		6.12	38	
1152			15.0	.539		6.13	25	
1155			15.1	.547		6.16	8	
1158			15.2	.554		6.17	-5	
			Sample @ 1200					

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity and/or Dissolved Oxygen are recorded within their respective stabilization criteria. A minimum of six measurements should be recorded.

Purging Comments: _____

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40ml VOA	3	HCl	No 0.45 0.10	6x, BTEX
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

ATTACHMENT B
LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Monday, April 18, 2016

Dave Borys
HydroCon LLC
510 Allen St. Suite B
Kelso, WA 98626

RE: Handy Mart / 2015-007-01

Enclosed are the results of analyses for work order A6D0449, which was received by the laboratory on 4/14/2016 at 3:32:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: ldomenighini@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	PDF Amended	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	= MW2	A6D0449-01	Water	04/14/16 10:35	04/14/16 15:32
MW-2	= MW3	A6D0449-02	Water	04/14/16 11:20	04/14/16 15:32
MW-3	= MW1	A6D0449-03	Water	04/14/16 12:00	04/14/16 15:32

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6D0449-01)			**Matrix: Water**		**Batch: 6040410**			
Gasoline Range Organics	ND	---	100	ug/L	1	04/15/16 00:25	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 106 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*107 %*	*Limits: 50-150 %*	"	"	"	
MW-2 (A6D0449-02)			**Matrix: Water**		**Batch: 6040410**			
Gasoline Range Organics	**310**	---	100	ug/L	1	04/15/16 01:15	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*104 %*	*Limits: 50-150 %*	"	"	"	
MW-3 (A6D0449-03)			**Matrix: Water**		**Batch: 6040410**			
Gasoline Range Organics	ND	---	100	ug/L	1	04/15/16 01:40	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*109 %*	*Limits: 50-150 %*	"	"	"	

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

ANALYTICAL SAMPLE RESULTS

BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A6D0449-01)			**Matrix: Water**		**Batch: 6040410**			
Benzene	**1.41**	---	0.200	ug/L	1	04/15/16 00:25	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	
MW-2 (A6D0449-02)			**Matrix: Water**		**Batch: 6040410**			
Benzene	ND	---	0.200	ug/L	1	04/15/16 01:15	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 92 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*93 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
MW-3 (A6D0449-03)			**Matrix: Water**		**Batch: 6040410**			
Benzene	**3.74**	---	0.200	ug/L	1	04/15/16 01:40	EPA 8260B	
Toluene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Xylenes, total	ND	---	1.50	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 100 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*104 %*	*Limits: 80-120 %*	"	"	"	

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Lisa Domenighini, Client Services Manager

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12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040410 - EPA 5030B									Water			
Blank (6040410-BLK1)					Prepared: 04/14/16 21:02		Analyzed: 04/14/16 23:10					
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	100	ug/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 104 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*111 %*		*50-150 %*			*"*					
LCS (6040410-BS2)					Prepared: 04/14/16 21:02		Analyzed: 04/14/16 22:45					
NWTPH-Gx (MS)												
Gasoline Range Organics	498	---	100	ug/L	1	500	---	100	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*102 %*		*50-150 %*			*"*					
Duplicate (6040410-DUP1)					Prepared: 04/14/16 22:14		Analyzed: 04/15/16 00:50					
QC Source Sample: MW-1 (A6D0449-01)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	100	ug/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 105 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*107 %*		*50-150 %*			*"*					

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HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040410 - EPA 5030B									**Water**			
Blank (6040410-BLK1)					Prepared: 04/14/16 21:02 Analyzed: 04/14/16 23:10							
EPA 8260B												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 102 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*104 %*		*80-120 %*			*"*				
LCS (6040410-BS1)					Prepared: 04/14/16 21:02 Analyzed: 04/14/16 22:19							
EPA 8260B												
Benzene	18.4	---	0.200	ug/L	1	20.0	---	92	70-130%	---	---	
Toluene	20.0	---	1.00	"	"	"	---	100	"	---	---	
Ethylbenzene	21.0	---	0.500	"	"	"	---	105	"	---	---	
Xylenes, total	65.6	---	1.50	"	"	60.0	---	109	"	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 90 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*92 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*94 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*102 %*		*80-120 %*			*"*				
Duplicate (6040410-DUP1)					Prepared: 04/14/16 22:14 Analyzed: 04/15/16 00:50							
QC Source Sample: MW-1 (A6D0449-01)												
EPA 8260B												
Benzene	**1.49**	---	0.200	ug/L	1	---	1.41	---	---	6	30%	
Toluene	ND	---	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	"	"	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	"	"	---	ND	---	---	---	30%	
Surr: Dibromofluoromethane (Surr)			*Recovery: 98 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*98 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*105 %*		*80-120 %*			*"*				

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HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

SAMPLE PREPARATION INFORMATION

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040410							
A6D0449-01	Water	NWTPH-Gx (MS)	04/14/16 10:35	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00
A6D0449-02	Water	NWTPH-Gx (MS)	04/14/16 11:20	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00
A6D0449-03	Water	NWTPH-Gx (MS)	04/14/16 12:00	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00

BTEX Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040410							
A6D0449-01	Water	EPA 8260B	04/14/16 10:35	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00
A6D0449-02	Water	EPA 8260B	04/14/16 11:20	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00
A6D0449-03	Water	EPA 8260B	04/14/16 12:00	04/14/16 22:14	5mL/5mL	5mL/5mL	1.00

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Lisa A Domenighini

Lisa Domenighini, Client Services Manager

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HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

Notes and Definitions

Qualifiers:

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
---	QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
***	Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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HydroCon LLC	Project: **Handy Mart**	
510 Allen St. Suite B	Project Number: 2015-007-01	**Reported:**
Kelso, WA 98626	Project Manager: Dave Borys	04/18/16 09:19

APEX LABS **CHAIN OF CUSTODY** Lab # A6D0449 COC 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: HydroCon Project Mgr: David Borys Project Name: Handy Mart Project # 2015-007-01

Address: 510 Allen St Ste B Kelso, WA 98626 Phone: (360) 703-6079 Fax: (360) 703-6086 Email: davidb@hydroconllc.net

Sampled by: Chris Daschel

Site Location: OR (WA, circled) Other:

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC	8260 RBDM VOCs	8260 BTEX	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200-COLS	1200-Z
1	MW-1		4/14/16	1035	H2O	3			X			X									
2	MW-2		↓	1120	↓	↓			X			X									
3	MW-3		↓	1200	↓	↓			X			X									
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Normal Turn Around Time (TAT) = 7-10 Business Days (YES, circled) NO

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: ________

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 4/14/16	Signature: [signature] Date: 4/14/16	Signature: Date:	Signature: Date:
Printed Name: Chris Daschel Time:	Printed Name: Susan Creat Time: 1532	Printed Name: Time:	Printed Name: Time:
Company: HydroCon Env LLC	Company: Apex	Company:	Company:

Apex Laboratories

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