



November 5, 2015

Mr. Han Kim  
 P.O. Box 296  
 Littlerock, Washington 98556-0296

RE: **October 2015 Holt's Quik Chek Quarterly Groundwater Sampling Results Report**  
 Holt's Quik Chek  
 400 North Pacific Avenue  
 Kelso, Washington 98626

Dear Mr. Kim:

Associated Environmental Group, LLC (AEG) has prepared the enclosed **Quarterly Groundwater Sampling Results Report** presenting results of groundwater sampling conducted on October 20, 2015, at the above-referenced Site in Kelso, Washington (Figure 1, *Vicinity Map*).

**WORK PERFORMED [October - 2015]:**

- Obtained depth to groundwater data from seven groundwater wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7) (Figure 2, *October 2015 Groundwater Contour Map*); and
- Purged and sampled six groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7).

**WORK PROPOSED FOR NEXT QUARTER [January - 2015]:**

- Obtain depth to groundwater data from seven groundwater wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7); and
- Purge and sample seven groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, and MW-7).

**SUMMARY:**

Frequency of Sampling Events:	Quarterly	Values
Approximate Depth to Groundwater:	12.97 to 26.22	Measured Feet Below Top of Well Casing (Table 1, <i>Summary of Groundwater Elevations</i> )
Groundwater Gradient: (Direction / Magnitude)	West / 0.047 and North / 0.122	ft/ft
Measureable NAPL Detected:	None	
Current Remedial Action:	None	

**DISCUSSION:**

The analytical data for the October 2015 sampling event showed that monitoring wells MW-1, MW-2, MW-3, MW-6, and MW-7 revealed detectable concentrations of constituents of concern. Monitoring well MW-6 was the only well with a detection above the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels. Monitoring well MW-5 was not sampled this quarter due to the well being dry at the time of sampling. The laboratory analytical results for monitoring wells with detectable concentrations are shown in the table below. The full analytical results for this sampling event, as well as the historical analytical results, are present in the attached Table 2, *Summary of Groundwater Analytical Results*.

October 2015					
Well ID	TPH-Gasoline (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
MW-1	740	<1.0	1.3	3.7	26
MW-2	720	<1.0	<1.0	<1.0	<3.0
MW-3	110	<1.0	<1.0	2.8	19
MW-6	430	42	2.6	1.1	8.0
MW-7	<100	<1.0	<1.0	<1.0	3.6
MTCA Method A Cleanup Levels	800	5.0	1,000	700	1,000

µg/L = Micrograms per liter

All four quarterly sampling events to date at the Site have not detected any of the constituents of concern above the Ecology MTCA Method A cleanup levels in the monitoring wells at the Site.

Monitoring well MW-6 is believed to be upgradient and off Site due to groundwater flow direction. Benzene was detected above the Ecology MTCA Method A cleanup level in monitoring well MW-6.

The monitoring wells were professionally surveyed for location and elevation in September 2015. The groundwater flow direction for the October 2015 sampling event at the Site is primarily towards the west. The approximate gradient is 0.047 feet per foot (Figure 2, *October 2015 Groundwater Contour Map*). Monitoring well MW-6's groundwater elevation is significantly higher than any other monitoring well's groundwater elevation at the Site.

**CLOSING**

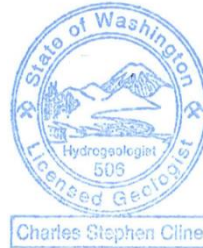
Thank you for the opportunity to provide you with environmental consulting services. Should you have questions or require additional information, please do not hesitate to contact our office at 360-352-9835.

Sincerely,

**Associated Environmental Group, LLC**



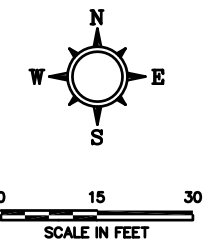
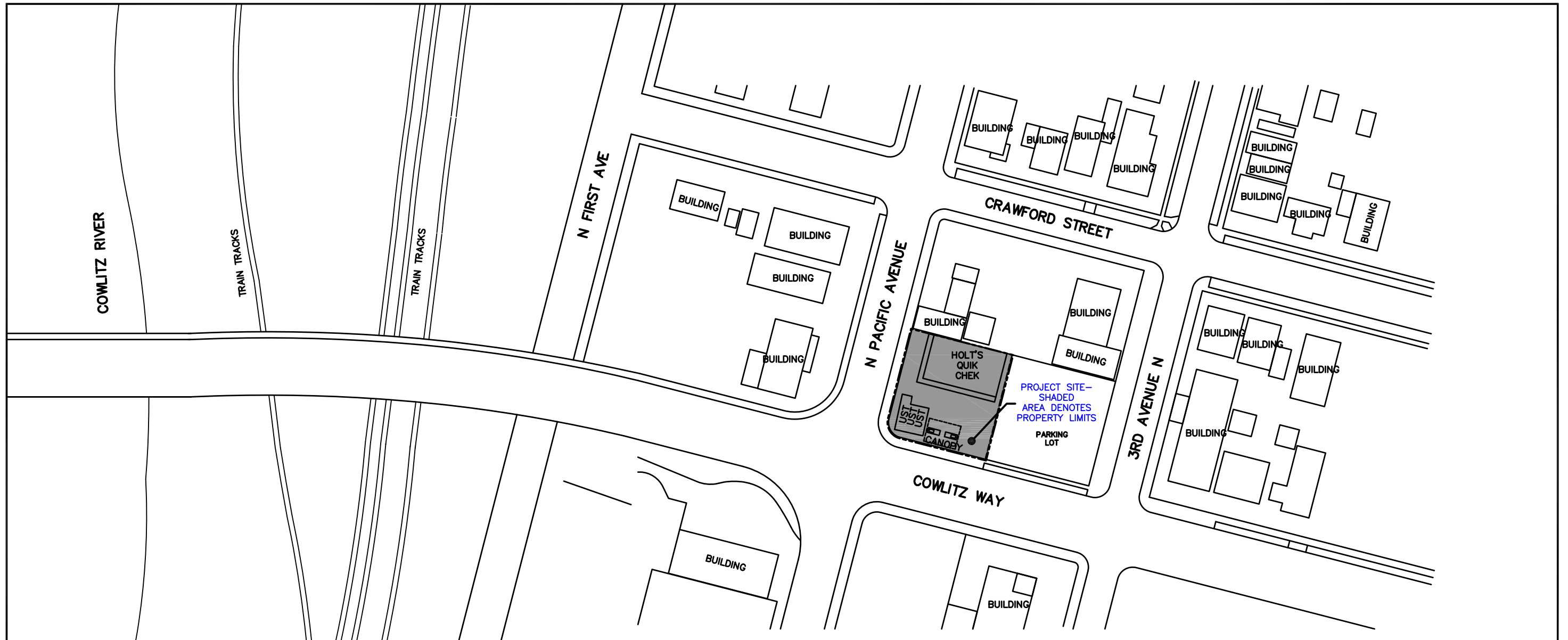
Nicolas Pushckor  
Staff Geologist



Charles S. Cline L.G./L.Hg.  
Senior Hydrogeologist

- Attachments: Figure 1 – *Vicinity Map*  
Figure 2 – *October 2015 Groundwater Contour Map*
- Table 1 – *Summary of Groundwater Elevations*  
Table 2 – *Summary of Groundwater Analytical Results*
- Appendix A – *Laboratory Datasheets*

## **FIGURES**



**NOTES**

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

**REFERENCE**

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.  
 VICINITY IMAGE SOURCE: U.S. GEOLOGICAL SURVEY-2013, 7.5 MINUTE QUADRANGLE MAP KELSO, WASHINGTON

PROJECT LOCATION

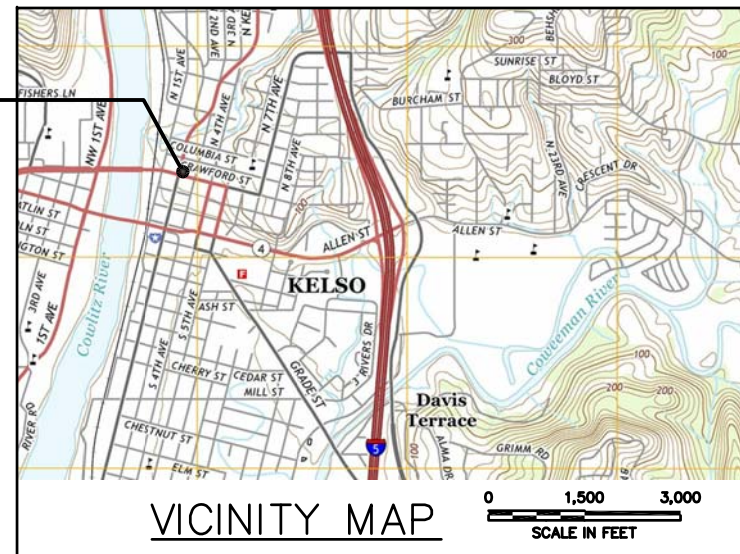
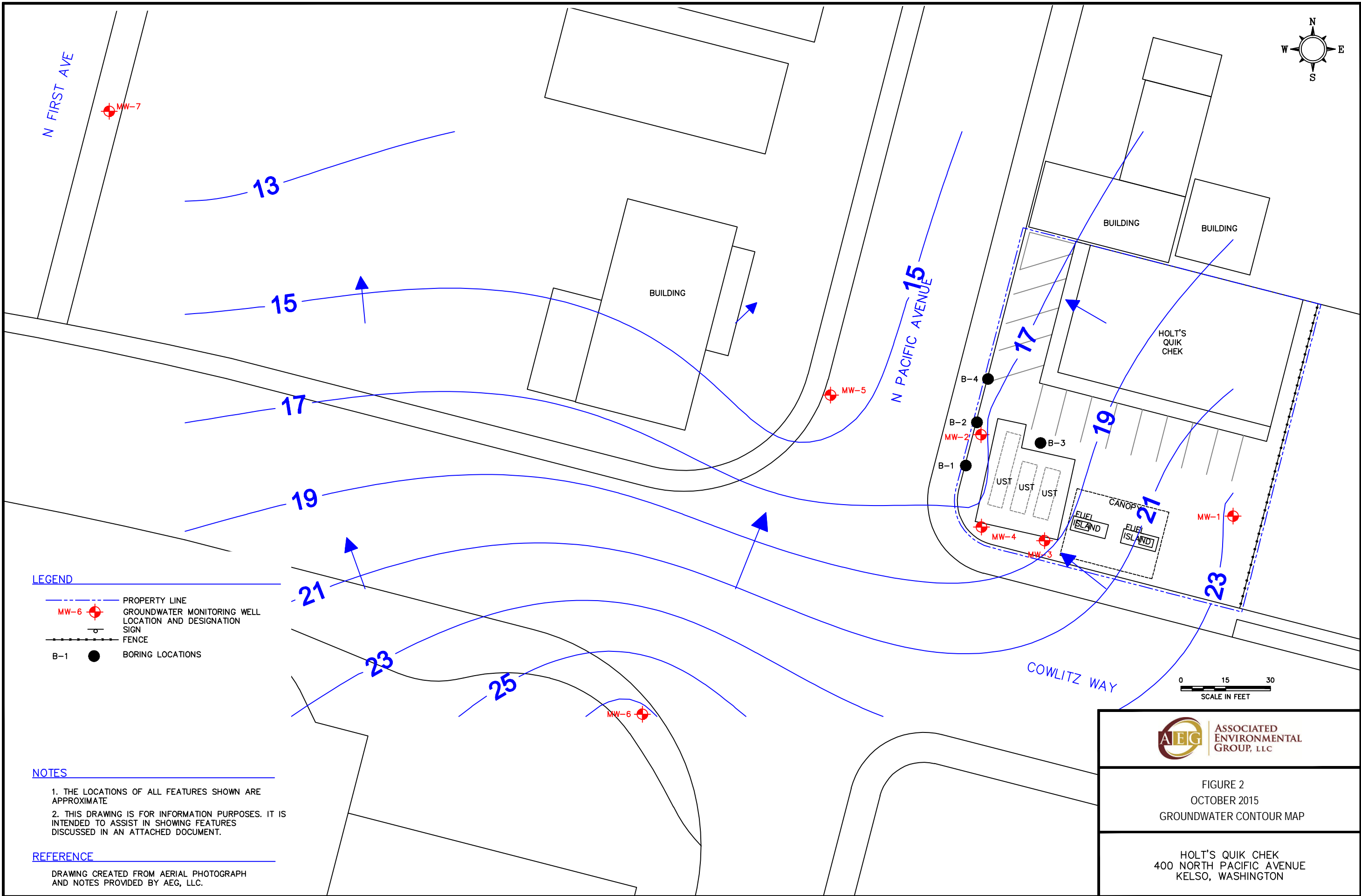
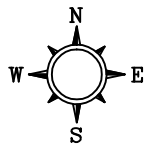


FIGURE 1  
VICINITY MAP

HOLT'S QUIK CHEK  
 400 NORTH PACIFIC AVENUE  
 KELSO, WASHINGTON



**LEGEND**

- PROPERTY LINE
- MW-6** GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION SIGN
- FENCE
- B-1** BORING LOCATIONS

**NOTES**

1. THE LOCATIONS OF ALL FEATURES SHOWN ARE APPROXIMATE
2. THIS DRAWING IS FOR INFORMATION PURPOSES. IT IS INTENDED TO ASSIST IN SHOWING FEATURES DISCUSSED IN AN ATTACHED DOCUMENT.

**REFERENCE**

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.

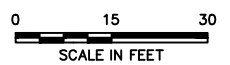


FIGURE 2  
OCTOBER 2015  
GROUNDWATER CONTOUR MAP

HOLT'S QUIK CHEK  
400 NORTH PACIFIC AVENUE  
KELSO, WASHINGTON

## **TABLES**

**Table 1 - Summary of Groundwater Elevations**

Holt's Quik Chek  
Kelso, Washington

Well No./ TOC Elevation (feet)	Date	Depth to Water (feet)	Depth to Free Product (feet)	Free Product Thickness (feet)	Actual Groundwater Elevation (feet)	Change in Elevation (feet)
MW-1	10/7/2014	17.67	--	--	23.51	--
41.18	1/20/2015	14.75	--	--	26.43	2.92
	4/22/2015	16.09	--	--	25.09	-1.34
	7/16/2015	17.30	--	--	23.88	-1.21
	10/20/2015	17.98	--	--	23.20	-0.68
MW-2	10/7/2014	23.36	--	--	17.33	--
40.69	1/20/2015	22.02	--	--	18.67	1.34
	4/22/2015	22.00	--	--	18.69	0.02
	7/16/2015	23.15	--	--	17.54	-1.15
	10/20/2015	23.89	--	--	16.80	-0.74
MW-3	10/7/2014	22.49	--	--	18.41	--
40.9	1/20/2015	21.28	--	--	19.62	1.21
	4/22/2015	21.31	--	--	19.59	-0.03
	7/16/2015	22.28	--	--	18.62	-0.97
	10/20/2015	22.98	--	--	17.92	-0.70
MW-4	10/7/2014	23.36	--	--	17.50	--
40.86	1/20/2015	22.02	--	--	18.84	1.34
	4/22/2015	21.98	--	--	18.88	0.04
	7/16/2015	23.17	--	--	17.69	-1.19
	10/20/2015	23.94	--	--	16.92	-0.77
MW-5	10/7/2014	25.75	--	--	14.50	--
40.25	1/20/2015	24.31	--	--	15.94	1.44
	4/22/2015	24.08	--	--	16.17	0.23
	7/16/2015	25.46	--	--	14.79	-1.38
	10/20/2015	26.22	--	--	14.03	-0.76
MW-6	7/16/2015	11.37	--	--	29.37	--
40.74	10/20/2015	12.97	--	--	27.77	-1.60
MW-7	7/16/2015	17.83	--	--	12.46	--
30.29	10/20/2015	18.46	--	--	11.83	-0.63

## Notes:

TOC = Top of casing elevation relative to assigned benchmark.

-- = Not measured, not available, or not applicable



**Table 2 - Summary of Groundwater Analytical Results**

Holt's Quik Chek  
Kelso, Washington

Sample Number	Date Collected	Volatile Organic Compounds (µg/l)				Total Petroleum Hydrocarbons (TPH) (µg/l)		
		Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Heavy Oil
MW-1	10/7/2014	<1.0	<1.0	<1.0	<3.0	<100	--	--
	1/20/2015	<1.0	<1.0	<1.0	<3.0	<b>160</b>	--	--
	4/22/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	7/16/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	10/20/2015	<1.0	<b>1.3</b>	<b>3.7</b>	<b>26</b>	<b>740</b>	<250	<500
MW-2	10/7/2014	<1.0	<1.0	<1.0	<3.0	<100	--	--
	1/20/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	4/22/2015	<1.0	<1.0	<1.0	<3.0	<b>140</b>	--	--
	7/16/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	10/20/2015	<1.0	<1.0	<1.0	<3.0	<b>720</b>	<250	<500
MW-3	10/7/2014	<1.0	<1.0	<1.0	<3.0	<100	--	--
	1/20/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	4/22/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	7/16/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	10/20/2015	<1.0	<1.0	<b>2.8</b>	<b>19</b>	<b>110</b>	<250	<500
MW-4	10/7/2014	<1.0	<1.0	<1.0	<3.0	<100	--	--
	1/20/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	4/22/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	7/16/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	10/20/2015	<1.0	<1.0	<1.0	<1.0	<100	<250	<500
MW-5	10/7/2014	<1.0	<1.0	<1.0	<3.0	<100	--	--
	1/20/2015	<1.0	<1.0	<1.0	<3.0	<b>180</b>	--	--
	4/22/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	7/16/2015	<1.0	<1.0	<1.0	<3.0	<100	--	--
	10/20/2015	--	--	--	--	--	--	--
MW-6	7/16/2015	<b>45</b>	<b>3.1</b>	<1.0	<3.0	<b>180</b>	--	--
	10/20/2015	<b>42</b>	<b>2.6</b>	<b>1.1</b>	<b>8.0</b>	<b>430</b>	<250	<500
MW-7	6/17/2015	<1.0	<1.0	<1.0	<1.0	<100	<250	<500
	7/16/2015	<1.0	<1.0	<1.0	<1.0	<100	--	--
	10/20/2015	<1.0	<1.0	<1.0	<b>3.6</b>	<100	<250	<500
B-1	6/17/2015	<1.0	<b>2.5</b>	<b>36</b>	<b>160</b>	<b>1,400</b>	<250	<500
B-2	6/17/2015	<1.0	<1.0	<1.0	<3.0	<100	<b>540</b>	<500
B-3	6/17/2015	<1.0	<1.0	<1.0	<3.0	<100	<b>1,100</b>	<500
B-4	6/17/2015	<1.0	<1.0	<b>2.6</b>	<3.0	<100	<250	<500
PQL (µg/l)		1.0	1.0	1.0	3.0	100	250	500
MTCA Method A Cleanup Levels (µg/l)		5.0	1,000	700	1,000	1,000*	500	500

Notes:

ug/L= micrograms per liter

-- Not analyzed for constituent

< Not detected at the listed laboratory detection limits

PQL = Practical Quantification Limit (laboratory detection limit)

**Red Bold** indicates the detected concentration exceeds Ecology MTCA Method A cleanup level

**Bold** indicates the detected concentration is below Ecology MTCA Method A cleanup levels

\* TPH-Gasoline Cleanup Level with no presence of Benzene anywhere at the Site

# **APPENDIX A**

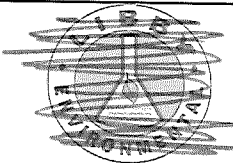
## **LABORATORY DATASHEETS**

4130 Libby Road NE  
Olympia, WA 98506  
Ph: 360-352-2140  
Fax: 360-352-4164

Date: 10/20/15 Page: 1 of 1

Client: AEQ  
Address: 605 11th Ave SE, Suite 201  
City: Olympia State: WA Zip: 98501  
Phone: 360 352 9835 Fax: 360 352 8164  
Client Project # 14-174

Project Manager: Nicolas Pushckor  
Project Name: Holt's Quik Check  
Location: 400 N Pacific Ave City, State: Kelso, WA  
Collector: Nicolas Pushckor Date of Collection: 10/20/15  
Email: npushckor@aegua.com



Sample Number	Depth	Time	Sample Type	Container Type	Analytes										Field Notes									
					VOC 8260	NWTPH-GX	BTEX 8021	NWTPH-HCID	NWTPH-DX	c PAH 8270	PAH 8270	Semi Vol 8270	PCB 8082	MTCA 5 Metals		RCRA 8 Metals								
1	MW-7	-	941	Water	VOA 1/2 Amber	X	X	X																
2	MW-1	-	1031																					
3	MW-2	-	1125																					
4	MW-6	-	1455																					
5	MW-3	-	1225																					
6	MW-4	-	1325																					
7	<del>MW-5</del>																							
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								

Relinquished by: Ann Pam Date / Time: 10/20/15 1029  
 Relinquished by: \_\_\_\_\_ Date / Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date / Time: \_\_\_\_\_

Received by: [Signature] Date / Time: 10.20.15 1625  
 Received by: \_\_\_\_\_ Date / Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date / Time: \_\_\_\_\_

Sample Receipt		Remarks:
Good Condition?	Y N	
Temp.	°C	
Seals Intact?	Y N N/A	
Total Number of Containers		

TAT: 24HR 48HR **5-DAY**

**ESN NORTHWEST CHEMISTRY LABORATORY**

Associated Environmental Group  
PROJECT HOLT'S QUIK CHECK  
PROJECT #14-174  
Kelso, Washington

ESN Northwest  
1210 Eastside Street SE Suite 200  
Olympia, WA 98501  
(360) 459-4670 (360) 459-3432 Fax  
lab@esnsw.com

**Analysis of Diesel Range Organics & Lube Oil Range Organics in Water  
by Method NWTPH-Dx Extended**

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (ug/L)	Lube Oil Range Organics (ug/L)
Method Blank	10/21/2015	10/21/2015	98	nd	nd
LCS	10/21/2015	10/21/2015	66	96%	---
MW-7	10/21/2015	10/21/2015	114	nd	nd
MW-1	10/21/2015	10/21/2015	98	nd	nd
MW-2	10/21/2015	10/21/2015	98	nd	nd
MW-6	10/21/2015	10/21/2015	104	nd	nd
MW-3	10/21/2015	10/21/2015	103	nd	nd
MW-4	10/21/2015	10/21/2015	123	nd	nd
Reporting Limits				250	500

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

**ESN NORTHWEST CHEMISTRY LABORATORY**

Associated Environmental Group  
PROJECT HOLT'S QUIK CHECK  
PROJECT #14-174  
Kelso, Washington

ESN Northwest  
1210 Eastside Street SE Suite 200  
Olympia, WA 98501  
(360) 459-4670 (360) 459-3432 Fax  
lab@esnnw.com

**Analysis of Gasoline Range Organics & BTEX in Water by Method NWTPH-Gx/8260**

Sample Number	Date Analyzed	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Gasoline Range Organics (ug/L)	Surrogate Recovery (%)
Method Blank	10/22/2015	nd	nd	nd	nd	nd	115
LCS	10/22/2015	95%	88%	87%	88%	96%	103
LCSD	10/22/2015	92%	85%	87%	88%	--	106
MW-7	10/22/2015	nd	nd	nd	3.6	nd	110
MW-1	10/22/2015	nd	1.3	3.7	26	740	112
MW-2	10/22/2015	nd	nd	nd	nd	720	111
MW-6	10/22/2015	42	2.6	1.1	8.0	430	115
MW-6 Duplicate	10/22/2015	38	2.4	1.0	7.2	390	116
MW-3	10/22/2015	nd	nd	2.8	19	110	114
MW-4	10/22/2015	nd	nd	nd	nd	nd	110
Reporting Limits		1.0	1.0	1.0	3.0	100	

"nd" Indicates not detected at the listed detection limits.

"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (Bromofluorobenzene) & LCS: 65% TO 135%