Third Quarter 2018
Groundwater Monitoring Report

JH Kelly
821 3rd Avenue
Longview, Washington 98632
VCP Project Number SW1529

Prepared for:
Mr. Mark Fleischauer
JH Kelly Holdings, LLC
Seattle, Washington

August 30, 2018

Prepared by:

HydroCon, LLC
314 W 15th Street, Suite 300, Vancouver, Washington 98660
Phone: (360) 703-6079 Fax: (360) 703-6086
www.hydroconllc.net

Table of Contents

List of Figures

List of Tables

Appendices

1.0 INTRODUCTION

HydroCon Environmental, LLC (HydroCon) is pleased to present this summary of activities performed at the JH Kelly Inc. facility, located in Longview, Washington, shown on Figure 1. This report documents the quarterly groundwater monitoring event conducted at the site in August 2018.

1.1 Description of Property

The J.H. Kelly, Inc. (J.H. Kelly) site is located at 821 3rd Avenue in Longview, Washington. The site is located in a mixed use area and is surrounded by industrial, commercial, residential, and recreational properties (Figure 1). The Cowlitz River is located approximately 1,060 feet east of the site and Cowlitz County Diking District Drainage Ditch Number Five is located along the western property boundary of the site. The site is made up of several large buildings and is mostly paved with asphalt. The site is used for fabrication of pipe and storage of finished and stock materials.

A fueling system for J.H. Kelly vehicles was formerly located near the center of the site. The fueling system consisted of two underground storage tanks (USTs), one 10,000 gallon gasoline UST, and one 4,000 gallon diesel UST. The fuel dispensers were located on the western edge of the UST nest. The UST system was removed in 1989 and is discussed in more detail in the following sections. Figure 2 shows the current site layout and approximate location of the former UST system.

1.2 Site History

Pre-Tank Removal (July & September 1989)

On July 15, 1989, JH Kelly had a pressure test conducted on the USTs and both tanks passed the tightness test. A subsurface investigation was conducted by SRH Environmental Management on August 23, 1989. The test pit was located north of the fuel dispenser island and excavated to a depth of 18 feet below ground surface (bgs). Two soil samples were taken from the test pit and were composited by the lab into one sample for analysis. Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbons (TPH) were analyzed by EPA Method 418.1. BTEX constituents were not detected above the laboratory method reporting limits (MRLs). A total TPH of 58 milligrams per kilogram (mg/kg) was reported. However, benzene had a MRL greater than the current State of Washington Department of Ecology (Ecology) cleanup level (CUL). The detection limit for benzene was 0.04 mg/kg, compared to the current CUL of 0.03 mg/kg. Reportedly, the excavation location was chosen based on a soil gas survey; however the soil gas survey was not provided to HydroCon for review.

UST Removal (November 1991)

The USTs were decommissioned in November of 1991 by Pacific Northern Environmental (PNE). Fuel dispensers, USTs, and ancillary equipment were removed. Field screening with a photoionization

detector (PID) indicated petroleum contaminated soil (PCS) below the dispensers. PCS was also noted around each of the USTs as they were removed. A water sample was taken from the excavation pit and had MTCA Method A CUL exceedances for TPH in the diesel range (DRPH), TPH in the gasoline range (GRPH), and BTEX with concentrations detected at 24,000 micrograms per liter (µg/L), 130,000 µg/L, 4,100 µg/L, 18,000 µg/L, 5,300 µg/L, and 32,000 µg/L, respectively.

Four soil samples (one sample from each end of each UST) were collected from the soil/groundwater interface and analyzed for TPH by EPA Method 3550/8015 Modified. One of the samples (JHK-SS3-12.5') detected TPH in the oil range (ORPH) at a concentration of 480 mg/kg which exceeded the CUL at the time of 200 mg/kg. Two of the four samples were analyzed for BTEX. One of the samples (JHK-SS5-12.5') had a detected concentration of benzene of 1.10 mg/kg which exceeded the CUL. A remedial excavation was performed in the areas where ORPH (west end of the UST) and benzene (east end of the USTs) had exceeded their respective CULs. Following remedial excavation activities confirmation samples were collected from the area with the ORPH exceedance (JHK-SS5-12.5'). The confirmation sample had a DRPH concentration of 120 mg/kg and an ORPH concentration of 120 mg/kg. The confirmation sample taken from the area with the benzene exceedance was below the laboratory detection limit for all BTEX constituents. It should be noted that the laboratory MRL for the benzene analysis was 0.1 mg/kg, which is greater than the current CUL of 0.03 mg/kg. Therefore, it is unknown whether the remedial excavation was successful at reducing benzene concentrations below the MTCA Method A CUL.

Groundwater Monitoring (December 1991 to 2006)

Prior to backfilling the remedial excavation, a monitoring well (JHK-MW) was installed in the UST excavation during the week of November 22, 1991. The monitoring well was constructed using a 30-inch diameter steel pipe to a depth of 10 feet bgs with a 24-inch slotted PVC casing inserted inside the steel casing from 9 to 12 feet bgs. The monitoring well location is shown on Figure 2. It should be noted that this well construction does not comply with current Ecology specifications.

The initial sampling results from December 1991 showed exceedances of GRPH (1,010 µg/L), ORPH (3,340 µg/L), and benzene (30 µg/L) above their respective CULs. Follow up sampling in May 1992 showed no detectible TPH in the well, but showed an exceedance for benzene (11.1 µg/L). The next sampling event was completed in June of 1993 and detected an exceedance of DRPH (270,000 µg/L) and a quantity of TPH designated as "Other" at 6,000 µg/L. The DRPH concentration was reported to be flagged as not matching the typical diesel fingerprint chromatogram. "Other" is not defined in the laboratory report. There was also no oil range results reported for TPH. It is not clear from the report if ORPH was not detected or not analyzed. None of the BTEX constituents exceeded the respective CULs.

The sampling event in April 1996 indicated that TPH was below laboratory their respective detection limits except for something designated as "Other." The "Other" result (279 µg/L) is flagged as not being

in the diesel range and also not matching the typical diesel fingerprint chromatogram. All BTEX constituents were below the laboratory detection limits.

The sampling event in April 2006 included samples collected from JHK-MW and the ditch behind the site. Analytical results indicated that both samples were below their respective laboratory MRLs.

The well was sampled twice in 2016 (April and July). Analytical results indicated that all samples were below their respective laboratory MRLs.

2017 Phase II ESA

A Phase II Environmental Site Assessment (ESA) was completed based on correspondence from Ecology dated October 31, 2016, in response to a request by the property owner for a determination of No Further Action (NFA) for the site. On September 26, 2017, the Ecology Project Manager for the site, Mr. Aaren Fiedler, was contacted to discuss a proposed scope of work for the site that could result in a NFA determination. The scope of work for the Phase II ESA was approved by Ecology and would be sufficient to justify a NFA determination if all conditions were achieved.

On October 11, 2017, HydroCon conducted a subsurface investigation which included a total of five direct push borings (HC01 through HC05) advanced to a maximum depth of 15 feet bgs to evaluate soil and groundwater conditions in the vicinity of the former UST excavation. Analytical results indicated that only a low concentration of ORPH was detected in the soil samples collected at 10 feet bgs at HC01 and HC02. The location of these samples were centrally located and along the eastern boundary of the former UST excavation. It is assumed that the likely source of the ORPH in the HC01-10 and HC02-10 samples was from the imported fill material used at the site and not from the release of the former UST system. Boring locations are shown on Figure 2.

DRPH was detected above the MTCA Method A CUL in the groundwater samples collected from HC01, HC02, and HC04. In addition, methyl tert butyl ether (MTBE) was detected above the MTCA Method A CUL in HC04. Groundwater results are summarized on Table 1.

It should be noted that water samples collected from temporary borings are screening level quality only and should not be solely relied upon for site characterization purposes. The drilling and sampling method used (direct push) produces disturbed (turbid) samples and may not represent actual groundwater conditions. Groundwater samples collected from properly constructed and developed monitoring wells produce relatively non-turbid samples.

Based on historic data and data collected during the Phase II ESA, HydroCon concluded the remaining groundwater contamination has decreased significantly over time and would likely naturally attenuate to concentrations below the MTCA Method A CUL.

December 2017 Monitoring Well Installation

On December 12 and 13, 2017, HydroCon supervised the installation on monitoring wells MW01 through MW04. Soil samples were collected at the soil/groundwater interface and analyzed for TPH and related constituents. The results indicated that none of the samples had detections above the MTCA Method A CULs. The monitoring wells were constructed using 2-inch diameter PVC casing and a 15-foot length of 0.010-inch slotted well screen placed from approximately 5 to 20 feet bgs. Well construction details are documented on the boring logs[1].

The monitoring wells were sampled on December 18, 2017 with the following results:

- MW01 - DRPH (851 µg/L) was detected in the sample.
- MW02 - DRPH (375 µg/L), GRPH (117 µg/L) and MTBE (3.21 µg/L) were detected in the sample.
- MW03 - DRPH (416 µg/L) was detected in the sample.
- MW04 - ORPH (179 µg/L) was detected in the sample.

The results indicated that the sample collected from MW01 had a detection of DRPH above the MTCA Method A CUL (500 µg/L). Groundwater sampling result are presented in Table 1.

Groundwater Monitoring (March & May 2018)

Monitoring wells MW01 through MW04 were sampled by HydroCon personnel in March 2018, and again in May 2018 as part of a quarterly sampling plan. During the March 2018 sampling event, every groundwater sample was below the respective laboratory detection limits (MRLs). In May 2018, small amounts of DRPH were detected in MW01 through MW04 ranging from 75.9 µg/L to 239 µg/L. However, each detected concentration was below the MTCA Method A CUL (500 µg/L). In addition, MTBE was detected in the sample collected from MW02 at a concentration of 3.34 µg/L. This detected concentration is also below the MTCA Method A CUL (20 µg/L).

Analytical results of the previous 2018 sampling events are detailed in Table 1, and also presented on Figure 3.

1.3 Regional Geology and Hydrogeology

The geology of southwestern Cowlitz County is characterized by sedimentary and volcanic deposits laid down or extruded during the Tertiary and Quaternary periods (Livingston, 1966). The oldest formations (Cowlitz Formation and Goble Volcanics) include Eocene basaltic andesite and volcanoclastic deposits which were deposited 45 to 32 million years ago (Phillips, 1987). Lava flows of the Columbia River Basalt Group overlie the older formations. The next youngest rocks exposed in the area are the Upper

[1]HydroCon, *Monitoring Well Installation and Sampling Report* (February 14, 2018)

Miocene to Lower Pleistocene sand, silt, gravel, and conglomerate of the Troutdale Formation. The valley fill material represents deposits of the ancestral Columbia River. The dissected upland that bound the Columbia River valley is composed of these older Formations. The youngest material exposed in the region is the outburst deposits of glacial Lake Missoula, landslide deposits, and recent alluvium.

Regional hydrogeology in the vicinity of the site is characterized by recharge to bedrock in the upland areas and discharge into the Columbia River. Groundwater flows from the regional bedrock through the thick alluvial sequence in the river valley before discharging into the rivers (Meyers, 1970). Precipitation also infiltrates the surface of the alluvium, recharging local flow systems in the river's floodplain.

1.4 Local Geology and Hydrogeology

Locally the geology consists of fill material down to approximately 9 to 10 feet bgs. The fill consisted of chunks of wood, asphalt, concrete, rebar, and bricks in a matrix of silt, sand, and gravel[2]. Below the fill material is native sands and silts. A layer of grass and reeds was observed at the top of the native soils indicating the area had once been ground surface. Groundwater flow direction calculated during the October 2017 Phase II ESA was to the southwest towards Ditch Number Five. Flow direction was estimated using water levels collected on October 11, 2017 from temporary borings in relation to a ground surface elevation survey conducted upon completion of drilling activities. The well lid of the existing monitoring well (JHK-MW) was used as the site datum. The datum was assigned an elevation of 100 feet.

2.0 QUARTERLY GROUNDWATER MONITORING

On August 9, 2018 HydroCon collected groundwater samples from monitoring wells MW01 through MW04. The locations of the monitoring wells are shown on Figure 2. A discussion of the sampling methodology, groundwater conditions, and laboratory analytical results is provided below.

2.1 Groundwater Conditions

Prior to sampling, the well caps of the monitoring wells were removed and the water level was allowed to equilibrate prior to measuring the depth to water (DTW). The DTW 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. The static water levels in the monitoring wells varied between 8.26 feet and 9.46 feet below the top of the well casing (BTOC) during the August 9, 2018 sampling event. An apparent groundwater mound is present near MW04. The groundwater elevation calculated for MW04 was approximately 0.3 to 0.4 feet higher than monitoring wells MW01 through MW03. This is consistent with past sampling events, although the mounding is not as pronounced as previous sampling events.

[2] SRH Environmental Management, *Report on Soil Sampling and Analysis* (September 1, 1989)

A groundwater elevation contour map was generated from depth to water data collected on August 9, 2018. The groundwater flow direction south of the former UST excavation is towards the north and northwest. The groundwater gradient calculated in the southern portion of the site between MW04 and MW03 is approximately 0.013 feet/foot. The groundwater flow between MW01 and MW03, which ignores the mounding observed at MW04, is towards the south west at a calculated gradient of 0.00115 feet/foot. The groundwater elevations and groundwater contours are shown on Figure 3. Depth to groundwater measurements and groundwater elevations are summarized on Table 1.

2.2 Groundwater Sampling

Each monitoring well was purged, prior to sampling, with a low flow peristaltic pump equipped with new length of LDPE tubing attached to a new length of silicon tubing. Groundwater quality parameters (pH, temperature, specific conductivity, dissolved oxygen, ORP, & turbidity) were measured and recorded on a Groundwater Sample Collection field form along with the DTW measurements (Appendix A). Purging was completed when the field parameters had stabilized within the prescribed limits.

Upon stabilization of the groundwater quality parameters, the groundwater samples were collected and placed in laboratory-prepared sampling containers. The samples were placed in an iced cooler along with the chain-of-custody documentation and transported APEX Laboratory, in Tigard, Oregon for analysis.

Groundwater generated during this monitoring event was placed in a labeled 55-gallon drum. The drum is being temporarily stored at the northwest corner of the building south of the investigation area.

2.3 Laboratory Analysis

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

- GPRH by Northwest Method NWTPH-Gx.
- DPRH and ORPH by Northwest Method NWTPH-Dx.
- BTEX, MTBE, and EDB/EDC by EPA Method 8260C.
- Total Lead (Pb) by EPA 200.8 (ICPMS)

2.4 Analytical Results

The groundwater analytical results are reported in micrograms per liter (µg/L) (parts per billion) and are summarized below and on Table 1 and Figure 3. Copies of the laboratory reports and chain-of-custody documents are included in Appendix B.

Groundwater analytical results indicate that DRPH was only detected in MW02 at a concentration of 83.3 µg/L, which is below the MTCA Method A CUL of 500µg/L. DRPH was not detected in any of the remaining wells at the site. ORPH was not detected in any of the wells.

GRPH, BTEX, EDB and EDC were not detected in any of the wells above the respective laboratory Method Reporting Limits (MRLs).

MTBE was only detected in monitoring well MW02. The detected concentration was 22.0 µg/L, which is above the MTCA Method A CUL of 20 µg/L. MTBE results have historically have been either below the MRL or an order of magnitude lower than the CUL. HydroCon resampled monitoring well MW02 on August 21, 2018 for MTBE using low flow sampling methods. The MTBE result from the August 21, 2018 sampling event was 2.4 µg/L and is consistent with past results from this well.

Lead was detected in monitoring well MW02 at a concentration of 0.745 µg/L and in MW04 at a concentration of 3.54 µg/L. These detections are below the MTCA Method A CUL of 15 µg/L. Lead was not detected at or above the MRL for wells MW01 and MW03.

3.0 RECOMMENDATIONS

Based on the results of the groundwater sampling, HydroCon makes the following recommendations:

- Perform the final (fourth consecutive) quarterly groundwater monitoring event in the 4th quarter of 2018.
- Since monitoring wells MW03 and MW04 have had four consecutive quarters below the Method A CUL, groundwater samples will only be collected from monitoring wells MW01 and MW02.
- In the event that all contaminants of concern at all site monitoring wells remain below their respective MTCA Method A CULs, HydroCon recommends submitting a formal request to Ecology to review site reports and issue an NFA determination for the site.

4.0 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 expressed 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 **JH Kelly**. 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.

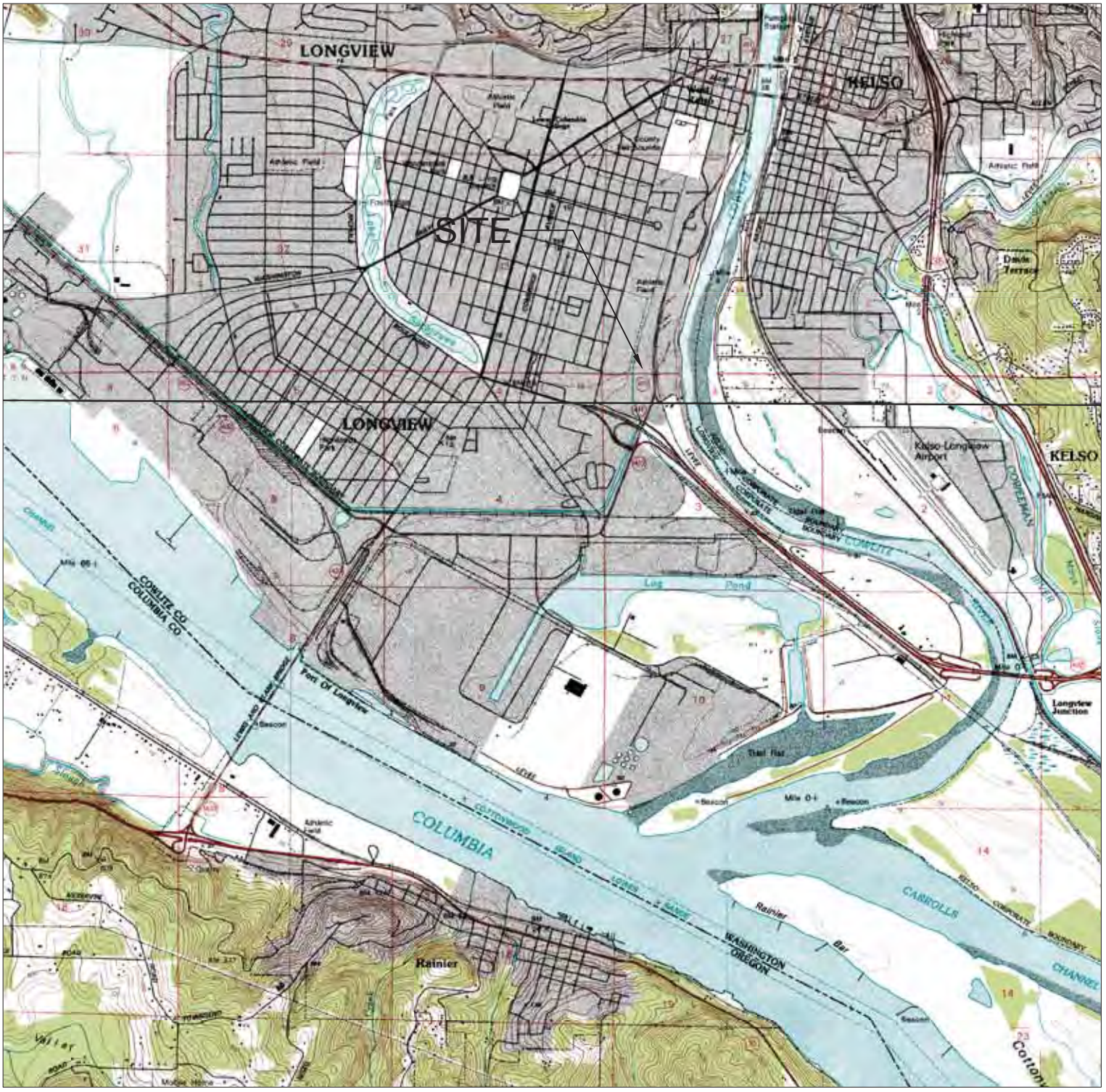
Signature:

Report Prepared By:

Chris Daschel, GIT
Staff Geologist

Report Reviewed By:

Jonathan Horowitz, PE
Project Engineer



NOTE(S):

1. USGS, RAINIER, OREGON AND KELSO, WASHINGTON QUADRANGLES 7.5 MINUTE SERIES (TOPOGRAPHIC)

N W E S

0 2000 4000

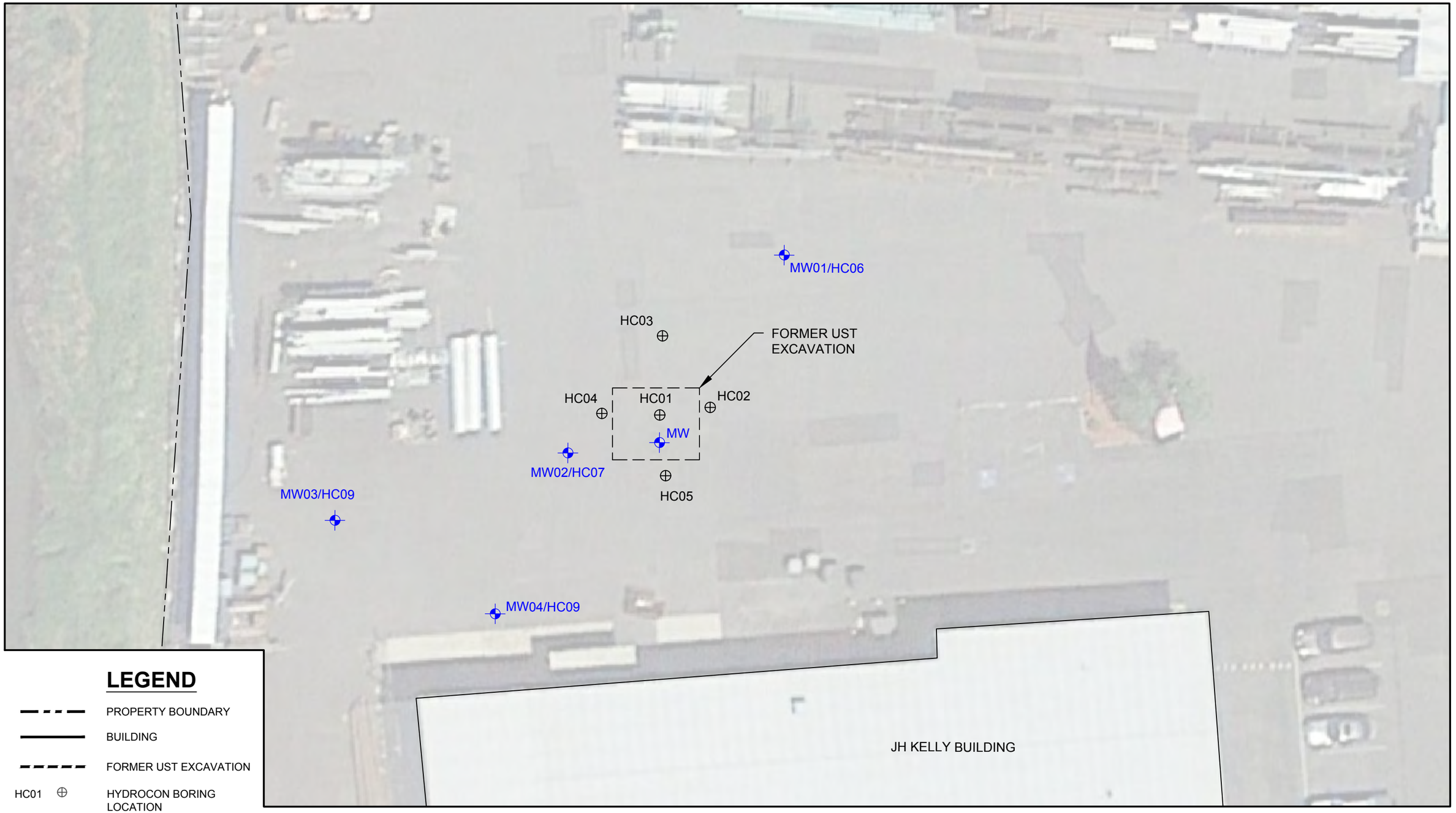
SCALE IN FEET
1" = 2000'

HydroCon
314 W 15th St Suite 300, Vancouver, WA
Ph: (360) 706-6079

DATE: 08-28-18
DWN: JH
CHK: BP
APPROVED: BP
PRJ. MGR: DB
PROJECT NO: 2017-055

FIGURE 1
SITE LOCATION MAP

JH KELLY
821 THIRD AVENUE
LONGVIEW, WASHINGTON



LEGEND

- PROPERTY BOUNDARY
- BUILDING
- FORMER UST EXCAVATION
- HC01 — HYDROCON BORING LOCATION
- MW01 — MONITORING WELL

N W E S

0 20 40

SCALE IN FEET
1" = 20'

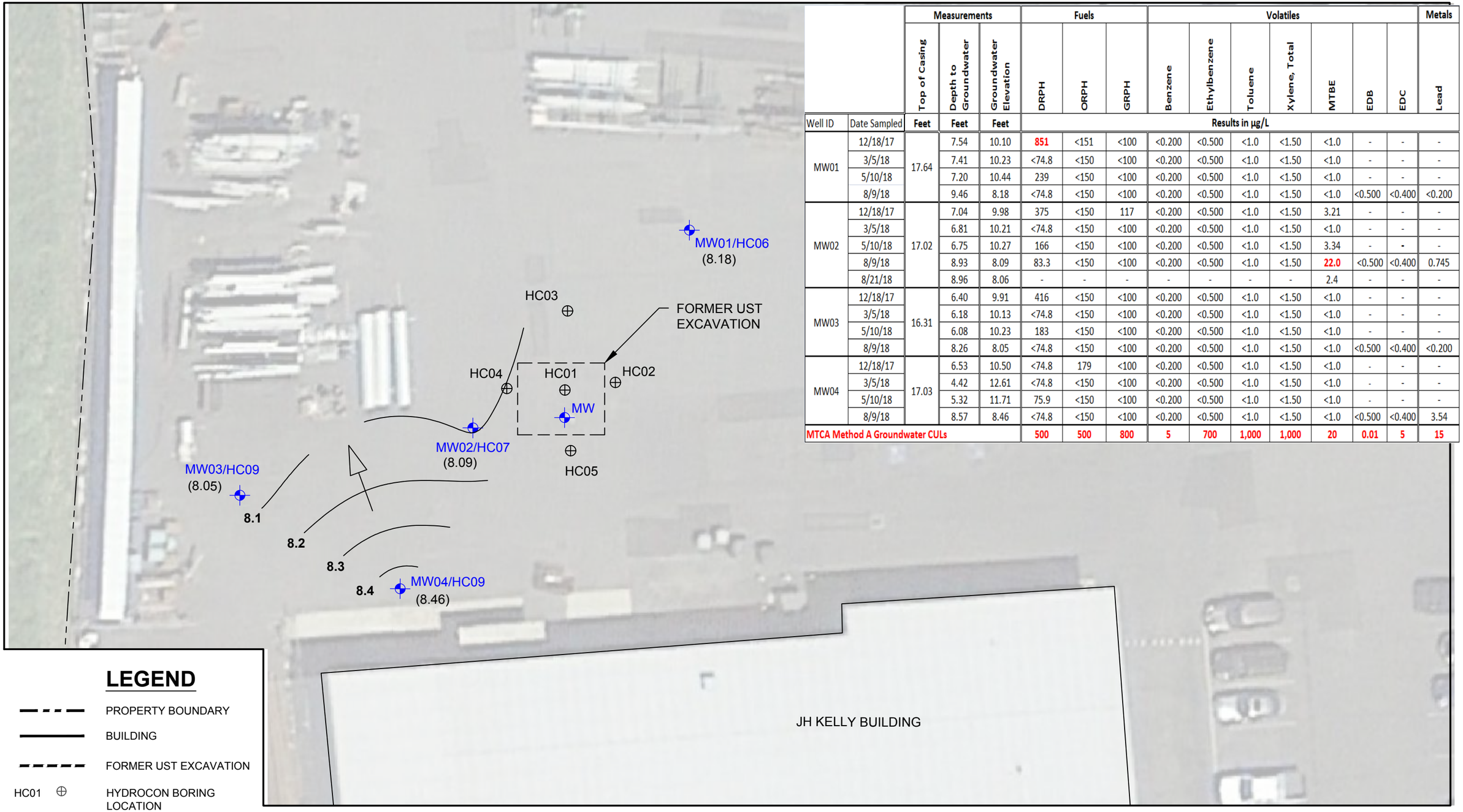
HydroCon
314 W 15th St. Suite 300, Vancouver, WA 98660
Ph(360) 703-6079

DATE: 08-28-18
DWN: JH
CHK: BP
APPROVED: DB
PRJ. MGR: DB
PROJECT NO: 2017-055

FIGURE 2
SITE FEATURES

JH KELLY
821 THIRD AVENUE
LONGVIEW, WASHINGTON

S:\2017 Projects\2017-055 JH Kelly Phase II ESA\CAD\2017-055.dwg



		Measurements			Fuels			Volatiles							Metals
		Top of Casing	Depth to Groundwater	Groundwater Elevation	DRPH	ORPH	GRPH	Benzene	Ethylbenzene	Toluene	Xylene, Total	MTBE	EDB	EDC	Lead
Well ID	Date Sampled	Feet	Feet	Feet	Results in µg/L										
MW01	12/18/17	17.64	7.54	10.10	851	<151	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		7.41	10.23	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		7.20	10.44	239	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		9.46	8.18	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	<0.200
MW02	12/18/17	17.02	7.04	9.98	375	<150	117	<0.200	<0.500	<1.0	<1.50	3.21	-	-	-
	3/5/18		6.81	10.21	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		6.75	10.27	166	<150	<100	<0.200	<0.500	<1.0	<1.50	3.34	-	-	-
	8/9/18		8.93	8.09	83.3	<150	<100	<0.200	<0.500	<1.0	<1.50	22.0	<0.500	<0.400	0.745
	8/21/18		8.96	8.06	-	-	-	-	-	-	-	2.4	-	-	-
MW03	12/18/17	16.31	6.40	9.91	416	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		6.18	10.13	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		6.08	10.23	183	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		8.26	8.05	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	<0.200
MW04	12/18/17	17.03	6.53	10.50	<74.8	179	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		4.42	12.61	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		5.32	11.71	75.9	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		8.57	8.46	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	3.54
MTCA Method A Groundwater CULs					500	500	800	5	700	1,000	1,000	20	0.01	5	15

LEGEND

- PROPERTY BOUNDARY
- BUILDING
- FORMER UST EXCAVATION
- HC01 — HYDROCON BORING LOCATION
- MW01 (XX.XX) — MONITORING WELL (GROUNDWATER ELEVATION)
- APPROXIMATE DIRECTION OF GROUNDWATER FLOW

N W E S

0 20 40

SCALE IN FEET
1" = 20'

HydroCon
314 W 15th St. Suite 300, Vancouver, WA 98660
Ph(360) 703-6079

DATE: 08-15-18
DWN: JH
CHK: BP
APPROVED: DB
PRJ. MGR: DB
PROJECT NO: 2017-055

FIGURE 3
GROUNDWATER CONTOUR MAP AND ANALYTICAL RESULTS
3RD QUARTER 2018
JH KELLY
821 THIRD AVENUE
LONGVIEW, WASHINGTON

S:\2017 Projects\2017-055 JH Kelly Phase II ESA\CAD\2017-055.dwg

Table 1
JH Kelly Groundwater Analytical Results
821 3rd Aveneue, Longview, WA

		Measurements			Fuels			Volatiles							Metals
Well ID	Date Sampled	Top of Casing	Depth to Groundwater	Groundwater Elevation	DRPH	ORPH	GRPH	Benzene	Ethylbenzene	Toluene	Xylene, Total	MTBE	EDB	EDC	Lead
		Feet	Feet	Feet	Results in µg/L										
MW01	12/18/17	17.64	7.54	10.10	**851**	<151	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		7.41	10.23	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		7.20	10.44	239	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		9.46	8.18	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	<0.200
MW02	12/18/17	17.02	7.04	9.98	375	<150	117	<0.200	<0.500	<1.0	<1.50	3.21	-	-	-
	3/5/18		6.81	10.21	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		6.75	10.27	166	<150	<100	<0.200	<0.500	<1.0	<1.50	3.34	-	-	-
	8/9/18		8.93	8.09	83.3	<150	<100	<0.200	<0.500	<1.0	<1.50	**22.0**	<0.500	<0.400	0.745
	8/21/18		8.96	8.06	-	-	-	-	-	-	-	2.4	-	-	-
MW03	12/18/17	16.31	6.40	9.91	416	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		6.18	10.13	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		6.08	10.23	183	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		8.26	8.05	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	<0.200
MW04	12/18/17	17.03	6.53	10.50	<74.8	179	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	3/5/18		4.42	12.61	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	5/10/18		5.32	11.71	75.9	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	-	-	-
	8/9/18		8.57	8.46	<74.8	<150	<100	<0.200	<0.500	<1.0	<1.50	<1.0	<0.500	<0.400	3.54
MTCA Method A Groundwater CULs					**500**	**500**	**800**	**5**	**700**	**1,000**	**1,000**	**20**	**0.01**	**5**	**15**

Notes

Red denotes concentration exceeds MTCA Method A cleanup level.

MTCA Method A Cleanup Levels, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

GRPH analyzed by Method NWTPH-Gx.

DRPH and ORPH analyzed by Method NWTPH-Dx.

Volatiles analyzed by EPA 8260B, 8260C or 8021B.

Lead Analysis by EPA Method 6020

- = not measured/not analyzed

< = not detected at a concentration exceeding the laboratory reporting limit

µg/L = micrograms per liter

DRPH = Diesel Range Petroleum Hydrocarbons

ORPH = Oil Range Petroleum Hydrocarbons

GRPH = Gasoline Range Petroleum Hydrocarbons

MTBE = methyl tertiary-butyl ether

EDB= 1,2-Dibromoethane

EDC= 1,2-Dichloroethane

APPENDIX A
FIELD FORMS

Hydro Con	DAILY FIELD REPORT	Hydrocon Job Number: 2017-055
	Project Name: JH Kelly Longview	Date: 8/9/18
360.703.6079/Fax 360.703.6086	Client: JH Kelly	Page: 1 Of 1
510 Allen Street, Suite B; Kelso, WA 98626		
Prepared By: Chris Dashel	Location: Morning clouds; afternoon sun, 60-85°F	Arrival: 0800
		Departure: 1200
Purpose: GW Monitoring	Weather:	Permit: -

0800 ON-SITE after stopping for supplies @ Vancover office.

0810 All four well caps opened; old poly tubing removed. Black film on tubing near water level; New tubing placed in wells.

0820 Calibrate YSI Pro plus

0840 Collect DTW measurements

Well ID	DTP	DTW
MW01	-	9.46
MW02	-	8.93
MW03	-	8.26
MW04	-	8.57

0850 Finish YSI calibration

0903 Begin purging MW02

1150 Finish sampling MW04

1200 OFF SITE; Deliver samples to Apex this afternoon.

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW01

Project Name: 311 Kelly
Hydrocon Project #: 2017-055
Date: 3/9/18

Sample I.D.: MW01-W Time: 1020
Field Duplicate I.D.: - Time: -
Personnel: CD

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair _____ ☒ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☒ Not measured _____ ppm ☐ Odor _____
Well diameter: ☒ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 19.71 ft Bottom: ☐ Hard ☐ Soft ☒ Not measured Screen Interval(s): 5-20'
Depth to product - ft
Depth to water 9.46 ft Intake Depth (BTOC) 12' Begin Purging Well: 0947
Casing volume 10.25 ft (H_2O) X 0.16 gal/ft = 1.64 gal. X 3 = 4.92 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: None

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)
0949	9.46		16.6	.560	1.08	6.85	23.7	4.21
0952	9.46		16.0	.541	0.56	6.77	-8.9	2.52
0955	9.46		15.7	.531	0.42	6.72	-15.9	2.32
0958	9.46		15.5	.505	0.36	6.69	-20.2	1.89
1001	9.47	0.145	15.5	.482	0.31	6.70	-23.8	1.49
1004	9.47		15.2	.467	0.28	6.71	-25.6	1.98
1007	9.46		15.3	.459	0.26	6.71	-26.1	1.37
1010	9.46		15.3	.445	0.24	6.71	-27.0	1.40
1013	9.46		15.3	.438	0.28	6.71	-27.6	1.27
1016	9.46		15.2	.437	0.23	6.71	-27.9	1.56
			Sample @			1020		

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: Purge additional 12 minutes to allow specific cond. stabilization

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40 ml VOA	3	HCl	(No) 0.45 0.10	Gx, BTEX, MTBE, EDB/EDC
1 L amber	1	HCl	(No) 0.45 0.10	DX
250 ml poly	1	HNO_3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW02

Project Name: JH Kelly
Hydrocon Project #: 2017-055
Date: 8/9/18

Sample I.D.: MW02-W Time: 0930
Field Duplicate I.D.: - Time: -
Personnel: CD

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☒ Not measured _____ ppm ☐ Odor _____
Well diameter: ☒ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 19.63 ft Bottom: ☐ Hard ☐ Soft ☒ Not measured Screen Interval(s): 5-20'
Depth to product - ft
Depth to water 8.93 ft Intake Depth (BTOC) 12' Begin Purging Well: 0903
Casing volume 10.70 ft (H_2O) X 0.16 gal/ft = 1.71 gal. X 3 = 5.13 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: punchy organic 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)
0905	8.99		18.1	1.14	0.98	5.48	65.5	7.80
0908	8.99		17.1	1.11	0.32	5.23	31.6	5.32
0911	8.99	0.11	16.6	1.10	0.28	4.96	36.0	3.14
0914	8.91		16.5	1.10	0.31	4.71	44.2	2.81
0917	8.99		16.1	1.04	0.31	4.50	53.2	1.69
0920	8.99		15.9	0.99	0.28	4.33	61.5	3.03
0923	8.99		15.9	0.95	0.27	4.24	65.2	1.56
0926	8.99		15.8	0.93	0.31	4.27	68.1	2.03

Sample @ 0930

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective stabilization criteria. A minimum of six measurements should be recorded.
Purging Comments: Slight yellowish hue to purge water

YSI; restart; ph = 7.03

SAMPLE INFORMATION

Container Type	Bottle Count	Preservative	Field Filtered?	Analysis
40ml VOA	3	HCl	(No) 0.45 0.10	Gx, BTEX, MTBE, EDB/EDC
1L amber	1	HCl	(No) 0.45 0.10	DX
250ml poly	1	HNO_3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW03

Project Name: JH Kelly
Hydrocon Project #: 2017-055
Date: 8/9/18

Sample I.D.: MW03-W Time: 1100
Field Duplicate I.D.: - Time: -
Personnel: CD

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☒ Not measured _____ ppm ☐ Odor _____
Well diameter: ☒ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 19.62 ft Bottom: ☐ Hard ☐ Soft ☒ Not measured Screen Interval(s): 5-20'
Depth to product - ft
Depth to water 8.26 ft Intake Depth (BTOC) 12' Begin Purging Well: 1039
Casing volume 11.36 ft (H_2O) X 0.16 gal/ft = 1.82 gal. X 3 = 5.46 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: None

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)
1041	8.26		20.4	1.04	2.37	7.31	-35.3	3.22
1044	8.26		19.0	1.04	0.60	7.40	-69.9	2.11
1047	8.26	0.12	18.8	1.04	0.42	7.42	-80.5	1.71
1050	8.26		18.6	1.04	0.33	7.43	-85.6	1.58
1053	8.26		18.2	1.04	0.29	7.45	-88.3	1.62
1056	8.26		18.2	1.04	0.29	7.45	-89.6	1.41
			Sample @ 1100					

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective 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	Gx, BTEX, MTBE, EDB/EDC
1L amber	1	HCl	(No) 0.45 0.10	Dx
250 ml poly	1	HNO_3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW04

Project Name: TH Kelly
Hydrocon Project #: 2017-053
Date: 8/9/18

Sample I.D.: MW04-W Time: 1140
Field Duplicate I.D.: - Time: -
Personnel: CD

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☒ Not measured _____ ppm ☐ Odor _____
Well diameter: ☒ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments _____

PURGING INFORMATION

Total well depth 19.60 ft Bottom: ☐ Hard ☐ Soft ☒ Not measured Screen Interval(s): 5-20'
Depth to product - ft
Depth to water 8.57 ft Intake Depth (BTOC) 12' Begin Purging Well: 1117
Casing volume 11.03 ft (H_2O) X 0.16 gal/ft = 1.76 gal. X 3 = 5.28 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: faint organic 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)
1119	9.01		20.5	.529	1.93	7.24	64.2	9.44
1122	9.13		19.8	.508	0.48	7.00	8.4	10.9
1125	9.15	0.120	19.5	.505	0.38	6.95	-3.3	9.90
1128	9.14		19.2	.503	0.32	6.93	-9.5	8.77
1131	9.14		18.9	.502	0.29	6.92	-13.7	7.72
1134	9.14		18.9	.500	0.30	6.92	-16.7	7.94
			Sample @ 1140					

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective 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, MTBE, EDB/EDC
1 L amber	1	HCl	(No) 0.45 0.10	DX
250 ml poly	1	HNO_3	(No) 0.45 0.10	Total Pb
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

WATER QUALITY METER

CALIBRATION

Site Name and (Number): Jct Kelly Calibration Date: 8/9/18

Hydrocon Site Number: 2017-055 Calibration Time: 0820

Weather: Morning Clouds Temperature: 62°F Barometric Pressure: 767.5 mm Hg

Personnel: Chris Dorchol Water Quality Meter: YSI Professional Plus

Calibration Location: (Site) Office Other: _____

Parameter	1st Standard	Initial Reading	Final Reading	2nd Standard	Initial Reading	Final Reading
Temperature (°C)	-----	22.9		-----	-	-
Sp. Conductivity (mS/cm)	1.41	1.41	1.411	4.49	-	-
Dissolved Oxygen [(mg/L)/%]	-----	-----	-----	-----	9.70 / 107.7 %	9.10 / 101.1 %
pH (SU)	7.00	6.38	6.99	4.00	4.25	4.00
ORP (mV)	-----	-----	-----	220	221.2	219.9
Turbidity (NTU)	40.0	-	-	0.0	-	-

Notes: 1. Quanta meters are calibrated beginning with a Level Two solution followed by the Auto-Cal solution.

2. Be sure to check the dissolved oxygen probe calibration procedure (each meter is different).

3. Temperature extremes will alter the calibration standards chemistry and the meter's results.

Calibration Comments: Turbidity calibrated on seperate meter (Hach). Passed cal
plt calibrated w/ 10.0 solution
Initial: 9.69 Final: 10.00

Hydro Con

GROUNDWATER SAMPLE COLLECTION FORM

Well I.D. Number: MW02

Project Name: JH Kelly
Hydrocon Project #: 2017-055
Date 8/21/18

Sample I.D. MW02-W Time: 0850
Field Duplicate I.D. - Time: -
Personnel: CD

WELL INFORMATION

Monument condition: ☒ Good ☐ Needs repair _____ ☐ Water in Monument
Well cap condition: ☒ Good ☐ Replaced ☐ Needs replacement ☐ Surface Water in Well
Headspace reading: ☒ Not measured _____ ppm ☐ Odor _____
Well diameter: ☒ 2-inch ☐ 4-inch ☐ 6-inch ☐ Other _____
Comments New tubing placed in well

PURGING INFORMATION

Total well depth _____ ft Bottom: ☐ Hard ☐ Soft ☒ Not measured Screen Interval(s): 5-20
Depth to product - ft
Depth to water 8.96 ft Intake Depth (BTOC) _____ Begin Purging Well: 0826
Casing volume _____ ft (H_2O) X 0.16 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: faint organic 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)
0828	8.97		17.7	.295	0.90	6.70	388.7	19.9
0831	8.97		17.2	.287	0.53	6.69	331.1	16.4
0834	8.97	0.130	16.7	.283	0.41	6.67	283.7	13.8
0837	8.97		16.4	.282	0.36	6.64	250.4	12.1
0840	8.98		16.2	.281	0.32	6.74	219.0	11.6
0843	8.98		16.0	.281	0.28	6.80	191.6	11.2
0846	8.98		15.8	.280	0.26	6.86	171.4	11.2
0849	8.98		15.8	.270	0.24	6.86	154.2	9.33
		Sample @ 0850						

Stabilization achieved if three successive measurements for pH, Conductivity and Turbidity or Dissolved Oxygen are recorded within their perspective 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	MTBE
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	
			No 0.45 0.10	

Sampling Comments: _____

APPENDIX B
LABORATORY REPORT AND CHAIN-OF-CUSTODY DOCUMENTATION

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Thursday, August 16, 2018

Brian Pletcher
HydroCon LLC
314 W 15th Street Suite 300
Vancouver, WA 98660

RE: A8H0329 - JH Kelly - 2017-055

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

Enclosed are the results of analyses for work order A8H0329, which was received by the laboratory on 8/11/2018 at 10:25:00AM.

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.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01-W	A8H0329-01	Water	08/09/18 10:20	08/11/18 10:25
MW02-W	A8H0329-02	Water	08/09/18 09:30	08/11/18 10:25
MW03-W	A8H0329-03	Water	08/09/18 11:00	08/11/18 10:25
MW04-W	A8H0329-04	Water	08/09/18 11:40	08/11/18 10:25

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW01-W (A8H0329-01)				**Matrix: Water**		**Batch: 8080724**		
Diesel	ND	---	74.8	ug/L	1	08/15/18	NWTPH-Dx	
Oil	ND	---	150	ug/L	1	08/15/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 75 %*		*Limits: 50-150 %*	*1*	*08/15/18*	*NWTPH-Dx*	
MW02-W (A8H0329-02)				**Matrix: Water**		**Batch: 8080724**		
Diesel	**83.3**	---	74.8	ug/L	1	08/14/18	NWTPH-Dx	**F-20**
Oil	ND	---	150	ug/L	1	08/14/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 72 %*		*Limits: 50-150 %*	*1*	*08/14/18*	*NWTPH-Dx*	
MW03-W (A8H0329-03)				**Matrix: Water**		**Batch: 8080724**		
Diesel	ND	---	74.8	ug/L	1	08/14/18	NWTPH-Dx	
Oil	ND	---	150	ug/L	1	08/14/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 73 %*		*Limits: 50-150 %*	*1*	*08/14/18*	*NWTPH-Dx*	
MW04-W (A8H0329-04)				**Matrix: Water**		**Batch: 8080724**		
Diesel	ND	---	74.8	ug/L	1	08/14/18	NWTPH-Dx	
Oil	ND	---	150	ug/L	1	08/14/18	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 79 %*		*Limits: 50-150 %*	*1*	*08/14/18*	*NWTPH-Dx*	

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL SAMPLE RESULTS

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

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW01-W (A8H0329-01)				**Matrix: Water**		**Batch: 8080684**		
Gasoline Range Organics	ND	---	100	ug/L	1	08/13/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*103 %*	*Limits: 50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*101 %*	*50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
MW02-W (A8H0329-02)				**Matrix: Water**		**Batch: 8080684**		
Gasoline Range Organics	ND	---	100	ug/L	1	08/13/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*105 %*	*Limits: 50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*100 %*	*50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
MW03-W (A8H0329-03)				**Matrix: Water**		**Batch: 8080684**		
Gasoline Range Organics	ND	---	100	ug/L	1	08/13/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*104 %*	*Limits: 50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*101 %*	*50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
MW04-W (A8H0329-04)				**Matrix: Water**		**Batch: 8080684**		
Gasoline Range Organics	ND	---	100	ug/L	1	08/13/18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*106 %*	*Limits: 50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*101 %*	*50-150 %*	*1*	*08/13/18*	*NWTPH-Gx (MS)*	

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL SAMPLE RESULTS

BTEX Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW01-W (A8H0329-01)				**Matrix: Water**			**Batch: 8080684**	
Benzene	ND	---	0.200	ug/L	1	08/13/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW02-W (A8H0329-02)				**Matrix: Water**			**Batch: 8080684**	
Benzene	ND	---	0.200	ug/L	1	08/13/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW03-W (A8H0329-03)				**Matrix: Water**			**Batch: 8080684**	
Benzene	ND	---	0.200	ug/L	1	08/13/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*104 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW04-W (A8H0329-04)				**Matrix: Water**			**Batch: 8080684**	
Benzene	ND	---	0.200	ug/L	1	08/13/18	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
Xylenes, total	ND	---	1.50	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW01-W (A8H0329-01)				**Matrix: Water**			**Batch: 8080684**	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	08/13/18	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW02-W (A8H0329-02)				**Matrix: Water**			**Batch: 8080684**	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	08/13/18	EPA 8260C	
Methyl tert-butyl ether (MTBE)	**22.0**	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW03-W (A8H0329-03)				**Matrix: Water**			**Batch: 8080684**	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	08/13/18	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*104 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
MW04-W (A8H0329-04)				**Matrix: Water**			**Batch: 8080684**	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	08/13/18	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	08/13/18	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	08/13/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits: 80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*08/13/18*	*EPA 8260C*	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW01-W (A8H0329-01)				**Matrix: Water**				
Batch: 8080738								
Lead	ND	---	0.200	ug/L	1	08/15/18	EPA 6020A	
MW02-W (A8H0329-02)				**Matrix: Water**				
Batch: 8080738								
Lead	**0.745**	---	0.200	ug/L	1	08/15/18	EPA 6020A	
MW03-W (A8H0329-03)				**Matrix: Water**				
Batch: 8080738								
Lead	ND	---	0.200	ug/L	1	08/15/18	EPA 6020A	
MW04-W (A8H0329-04)				**Matrix: Water**				
Batch: 8080738								
Lead	**3.54**	---	0.200	ug/L	1	08/15/18	EPA 6020A	

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080724 - EPA 3510C (Fuels/Acid Ext.)												**Water**
Blank (8080724-BLK1)		Prepared: 08/14/18 07:08		Analyzed: 08/14/18 20:40								
NWTPH-Dx												
Diesel	ND	---	72.7	ug/L	1	---	---	---	---	---	---	
Oil	ND	---	145	ug/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (8080724-BS1)		Prepared: 08/14/18 07:08		Analyzed: 08/14/18 21:00								
NWTPH-Dx												
Diesel	378	---	80.0	ug/L	1	500	---	76	52-120%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 78 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (8080724-BSD1)		Prepared: 08/14/18 07:08		Analyzed: 08/14/18 21:21								**Q-19**
NWTPH-Dx												
Diesel	443	---	80.0	ug/L	1	500	---	89	52-120%	16	20%	
Surr: o-Terphenyl (Surr)		*Recovery: 85 %*		*Limits: 50-150 %*			*Dilution: 1x*					

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080684 - EPA 5030B									Water			
Blank (8080684-BLK1)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 13:25								
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)		*99 %*		*50-150 %*			*"*					
LCS (8080684-BS6)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 12:57								
NWTPH-Gx (MS)												
Gasoline Range Organics	456	---	100	ug/L	1	500	---	91	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 103 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*98 %*		*50-150 %*			*"*					
Duplicate (8080684-DUP1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 16:45								
QC Source Sample: MW02-W (A8H0329-02)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	100	ug/L	1	---	70.0	---	---	***	30%	
Surr: 4-Bromofluorobenzene (Sur)		*Recovery: 103 %*		*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)		*102 %*		*50-150 %*			*"*					

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080684 - EPA 5030B												**Water**
Blank (8080684-BLK1)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 13:25								
EPA 8260C												
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	---	1.50	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*103 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*104 %*		*80-120 %*			*"*				
LCS (8080684-BS5)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 12:29								
EPA 8260C												
Benzene	19.7	---	0.200	ug/L	1	20.0	---	98	80-120%	---	---	
Toluene	18.5	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
Ethylbenzene	19.7	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Xylenes, total	57.3	---	1.50	ug/L	1	60.0	---	96	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*103 %*		*80-120 %*			*"*				
Duplicate (8080684-DUP1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 16:45								
QC Source Sample: MW02-W (A8H0329-02)												
EPA 8260C												
Benzene	ND	---	0.200	ug/L	1	---	0.176	---	---	***	30%	
Toluene	ND	---	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	---	1.50	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*102 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*101 %*		*80-120 %*			*"*				
Matrix Spike (8080684-MS1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 18:10								
QC Source Sample: MW04-W (A8H0329-04)												
EPA 8260C												

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

BTEX Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080684 - EPA 5030B							**Water**					
Matrix Spike (8080684-MS1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 18:10								
QC Source Sample: MW04-W (A8H0329-04)												
Benzene	20.9	---	0.200	ug/L	1	20.0	ND	105	79-120%	---	---	
Toluene	19.7	---	1.00	ug/L	1	20.0	ND	98	80-121%	---	---	
Ethylbenzene	21.1	---	0.500	ug/L	1	20.0	ND	106	79-121%	---	---	
Xylenes, total	61.0	---	1.50	ug/L	1	60.0	ND	102	79-121%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*101 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*			*"*				

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080684 - EPA 5030B												**Water**
Blank (8080684-BLK1)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 13:25								
EPA 8260C												
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 103 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*103 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*104 %*		*80-120 %*			*"*					
LCS (8080684-BS5)		Prepared: 08/13/18 08:30		Analyzed: 08/13/18 12:29								
EPA 8260C												
1,2-Dibromoethane (EDB)	20.6	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
1,2-Dichloroethane (EDC)	18.6	---	0.400	ug/L	1	20.0	---	93	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	22.3	---	1.00	ug/L	1	20.0	---	111	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 100 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*101 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*			*"*					
Duplicate (8080684-DUP1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 16:45								
QC Source Sample: MW02-W (A8H0329-02)												
EPA 8260C												
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	**22.9**	---	1.00	ug/L	1	---	22.0	---	---	4	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 105 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*102 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*101 %*		*80-120 %*			*"*					
Matrix Spike (8080684-MS1)		Prepared: 08/13/18 14:18		Analyzed: 08/13/18 18:10								
QC Source Sample: MW04-W (A8H0329-04)												
EPA 8260C												
1,2-Dibromoethane (EDB)	21.0	---	0.500	ug/L	1	20.0	ND	105	77-121%	---	---	

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080684 - EPA 5030B												**Water**
Matrix Spike (8080684-MS1)		Prepared: 08/13/18 14:18			Analyzed: 08/13/18 18:10							
QC Source Sample: MW04-W (A8H0329-04)												
1,2-Dichloroethane (EDC)	19.4	---	0.400	ug/L	1	20.0	ND	97	73-128%	---	---	
Methyl tert-butyl ether (MTBE)	22.5	---	1.00	ug/L	1	20.0	ND	112	71-124%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 101 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*100 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*99 %*		*80-120 %*			*"*					

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8080738 - EPA 3015A							**Water**					
Blank (8080738-BLK1)		Prepared: 08/14/18 09:58		Analyzed: 08/15/18 11:02								
EPA 6020A												
Lead	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
LCS (8080738-BS1)		Prepared: 08/14/18 09:58		Analyzed: 08/15/18 11:04								
EPA 6020A												
Lead	59.5	---	0.200	ug/L	1	55.6	---	107	80-120%	---	---	
Duplicate (8080738-DUP1)		Prepared: 08/14/18 09:58		Analyzed: 08/15/18 11:13								
QC Source Sample: MW04-W (A8H0329-04)												
EPA 6020A												
Lead	**3.93**	---	0.200	ug/L	1	---	3.54	---	---	11	20%	
Matrix Spike (8080738-MS1)		Prepared: 08/14/18 09:58		Analyzed: 08/15/18 11:15								
QC Source Sample: MW04-W (A8H0329-04)												
EPA 6020A												
Lead	60.4	---	0.200	ug/L	1	55.6	3.54	102	75-125%	---	---	

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 Laboratories, LLC
12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8080724							
A8H0329-01	Water	NWTPH-Dx	08/09/18 10:20	08/14/18 07:08	1070mL/2mL	1000mL/2mL	0.94
A8H0329-02	Water	NWTPH-Dx	08/09/18 09:30	08/14/18 07:08	1070mL/2mL	1000mL/2mL	0.94
A8H0329-03	Water	NWTPH-Dx	08/09/18 11:00	08/14/18 07:08	1070mL/2mL	1000mL/2mL	0.94
A8H0329-04	Water	NWTPH-Dx	08/09/18 11:40	08/14/18 09:49	1070mL/2mL	1000mL/2mL	0.94

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: 8080684							
A8H0329-01	Water	NWTPH-Gx (MS)	08/09/18 10:20	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-02	Water	NWTPH-Gx (MS)	08/09/18 09:30	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-03	Water	NWTPH-Gx (MS)	08/09/18 11:00	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-04	Water	NWTPH-Gx (MS)	08/09/18 11:40	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00

BTEX Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8080684							
A8H0329-01	Water	EPA 8260C	08/09/18 10:20	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-02	Water	EPA 8260C	08/09/18 09:30	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-03	Water	EPA 8260C	08/09/18 11:00	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-04	Water	EPA 8260C	08/09/18 11:40	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8080684							
A8H0329-01	Water	EPA 8260C	08/09/18 10:20	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-02	Water	EPA 8260C	08/09/18 09:30	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-03	Water	EPA 8260C	08/09/18 11:00	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00
A8H0329-04	Water	EPA 8260C	08/09/18 11:40	08/13/18 14:18	5mL/5mL	5mL/5mL	1.00

Apex Laboratories

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8080738							
A8H0329-01	Water	EPA 6020A	08/09/18 10:20	08/14/18 09:58	45mL/50mL	45mL/50mL	1.00
A8H0329-02	Water	EPA 6020A	08/09/18 09:30	08/14/18 09:58	45mL/50mL	45mL/50mL	1.00
A8H0329-03	Water	EPA 6020A	08/09/18 11:00	08/14/18 09:58	45mL/50mL	45mL/50mL	1.00
A8H0329-04	Water	EPA 6020A	08/09/18 11:40	08/14/18 09:58	45mL/50mL	45mL/50mL	1.00

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

F-20	Result for Diesel is Estimated due to overlap from Gasoline Range Organics or other VOCs.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Apex Laboratories

Lisa A Domenighini

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " 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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results 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.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project:	JH Kelly	
314 W 15th Street Suite 300	Project Number:	2017-055	Report ID:
Vancouver, WA 98660	Project Manager:	Brian Pletcher	A8H0329 - 08 16 18 1439

APEX LABS — CHAIN OF CUSTODY

Lab # A8H0329 COC 1 of 1

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

PO#

Company: HydroCon Project Mgr: Brian Pletcher Project Name: JH Kelly Project # 2017-055

Address: 314 W 15th Street Suite 300 Vancouver, WA 98660 Phone: (360) 703-6079 Fax: - Email: bpletcher@hydroconllc.net cdaschel@ "

Sampled by: Chris Daschel

Site Location: OR (WA) Other:

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOCs Full List	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs	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	MTBE	EDB / EDC				
1	MW01-W		8/9/18	1020	H2O	5		X	X				X							Total Pb			X	X				
2	MW02-W			0930																								
3	MW03-W			1100																								
4	MW04-W			1140																								
5																												
6																												
7																												
8																												
9																												
10																												

Normal Turn Around Time (TAT) = 10 Business Days (YES) NO

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

SPECIAL INSTRUCTIONS:

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 8/11/18	Signature: [signature] Date: 8/11/18	Signature: Date:	Signature: Date:
Printed Name: Chris Daschel Time: 1025	Printed Name: Chance Hoffman Time: 1025	Printed Name: Time:	Printed Name: Time:
Company: HydroCon	Company: Apex Labs	Company:	Company:

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0329 - 08 16 18 1439**

APEX LABS COOLER RECEIPT FORM

Client: HydroCon Element WO#: A8 H0329

Project/Project #: JH Kelly ~~2017~~ CP 8/14/18 2017-055

Delivery info:

Date/Time Received: 8/11/18 @ 1025 By: CFH

Delivered by: Apex (8/13/18) Client ~~X~~ ESS____FedEx____UPS____Swift____Servoy____SDS____Other____

Cooler Inspection Inspected by: CFH : 8/11/18 @ 1027

Chain of Custody Included? Yes X No ___ Custody Seals? Yes____ No X

Signed/Dated by Client? Yes X No ___

Signed/Dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	1.6						
Received on Ice? (Y/N)							
Temp. Blanks? (Y/N)							
Ice Type: (Gel/Real/Other)							
Condition:	Good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: MM : 8/13/18 @ 12:06

All Samples Intact? Yes X No ___ Comments:

Bottle Labels/COCs agree? Yes X No ___ Comments:

Containers/Volumes Received Appropriate for Analysis? Yes X No ___ Comments:

Do VOA Vials have Visible Headspace? Yes ___ No X NA ___

Comments

Water Samples: pH Checked and Appropriate (except VOAs): Yes X No___NA_____

Comments:

Additional Information:

Labeled by: (W) Witness: (S) Cooler Inspected by: CFH See Project Contact Form: Y

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Thursday, August 23, 2018

Brian Pletcher
HydroCon LLC
314 W 15th Street Suite 300
Vancouver, WA 98660

RE: A8H0623 - JH Kelly - 2017-055

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

Enclosed are the results of analyses for work order A8H0623, which was received by the laboratory on 8/22/2018 at 10:30:00AM.

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.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW02-W	A8H0623-01	Water	08/21/18 08:50	08/22/18 10:30

Apex Laboratories

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
MW02-W (A8H0623-01)				**Matrix: Water**			**Batch: 8081003**	
Methyl tert-butyl ether (MTBE)	**2.40**	---	1.00	ug/L	1	08/22/18	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits: 80-120 %*	*1*	*08/22/18*	*EPA 8260C*	
Toluene-d8 (Surr)			*98 %*	*80-120 %*	*1*	*08/22/18*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*08/22/18*	*EPA 8260C*	

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 8081003 - EPA 5030B												**Water**
Blank (8081003-BLK1)		Prepared: 08/22/18 12:09		Analyzed: 08/22/18 14:23								
EPA 8260C												
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 101 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*100 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*			*"*					
LCS (8081003-BS3)		Prepared: 08/22/18 12:09		Analyzed: 08/22/18 13:29								
EPA 8260C												
Methyl tert-butyl ether (MTBE)	21.1	---	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 102 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*99 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*99 %*		*80-120 %*			*"*					
Matrix Spike (8081003-MS1)		Prepared: 08/22/18 13:45		Analyzed: 08/22/18 16:11								
QC Source Sample: MW02-W (A8H0623-01)												
EPA 8260C												
Methyl tert-butyl ether (MTBE)	23.4	---	1.00	ug/L	1	20.0	2.40	105	71-124%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 100 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*99 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*			*"*					

Apex Laboratories

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.

Lisa Domenighini, Client Services Manager

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

SAMPLE PREPARATION INFORMATION

Selected Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8081003							
A8H0623-01	Water	EPA 8260C	08/21/18 08:50	08/22/18 13:45	5mL/5mL	5mL/5mL	1.00

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

There are No Qualifiers on Sample or QC Data for this report

Apex Laboratories

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " 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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results 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.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
All reported analytes are included in Apex Laboratories' current ORELAP scope.					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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 Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	A8H0623 - 08 23 18 1550

APEX LABS

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

CHAIN OF CUSTODY

Lab # A8H0623 COC 1 of 1

Company: HydroCon Project Mgr: Brian Pletcher Project Name: JH Kelly Project # 2017-055

Address: Phone: (360) 703-6079 Fax: - Email: bpletcher@hydroconllc.net & chrisd@... PO#

Sampled by: Chris Daschel

Site Location: OR (WA) Other: ______

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOCs Full List	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs	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	MTBE
1 MW02-W		8/21/18	0850	H_2O	3																	X
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Normal Turn Around Time (TAT) = 10 Business Days (YES) NO

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

SPECIAL INSTRUCTIONS:

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature] Date: 8/22/18	Signature: [signature] Date: 8/22/18	Signature: Date:	Signature: Date:
Printed Name: Chris Daschel Time: 1030	Printed Name: [signature] Time: 1030	Printed Name: Time:	Printed Name: Time:
Company: HydroCon	Company: Apex	Company:	Company:

Apex Laboratories, LLC

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

HydroCon LLC	Project: **JH Kelly**	
314 W 15th Street Suite 300	Project Number: **2017-055**	**Report ID:**
Vancouver, WA 98660	Project Manager: **Brian Pletcher**	**A8H0623 - 08 23 18 1550**

APEX LABS COOLER RECEIPT FORM

Client: HydroCon Element WO#: A8 H0623

Project/Project #: JH Kelly

Delivery info:

Date/Time Received: 10:30 @ 8/22/18 By: MS

Delivered by: Apex____Client X ESS____FedEx____UPS____Swift___Senvoy ___SDS___Other_____

Cooler Inspection Inspected by: MS : 10:30 @ 8/22/18

Chain of Custody Included? Yes Y No ___ Custody Seals? Yes_____ No X

Signed/Dated by Client? Yes Y No ___

Signed/Dated by Apex? Yes Y No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (deg. C)	2-8						
Received on Ice? (Y/N)	Y						
Temp. Blanks? (Y/N)	N						
Ice Type: (Gel/Real/Other)	Gel						
Condition:	Good						

Cooler out of temp? (Y/N) Possible reason why:

If some coolers are in temp and some out, were green dot applied to out of temperature samples? Yes/No/NA

Samples Inspection: Inspected by: : 8/22/18 @ 1155

All Samples Intact? Yes X No ___ Comments:

Bottle Labels/COCs agree? Yes X No ___ Comments:

Containers/Volumes Received Appropriate for Analysis? Yes X No ___ Comments:

Do VOA Vials have Visible Headspace? Yes ___ No X NA ___

Comments

Water Samples: pH Checked and Appropriate (except VOAs): Yes___No___NA X

Comments:

Additional Information:

Labeled by: Witness: Cooler Inspected by: See Project Contact Form: Y

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.