Annual Operation and Maintenance Report - 2018

Coleman Oil Company Facility
3 East Chehalis Street
Wenatchee, Washington

Prepared for:

Coleman Oil Company
335 Mill Road
Lewiston, Idaho 83501

April 26, 2019

Prepared by:

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HydroCon

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HydroCon Project No: 2017-074

Prepared by:

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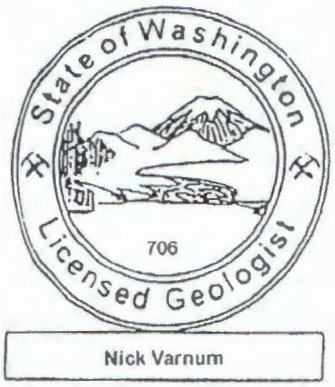
Senior Geologist



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EEC Environmental Engineering & Consulting Inc

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Acronyms

AIA	Additional Interim Action
AST	aboveground storage tank
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Coleman Oil	Coleman Oil Company
CUL	cleanup level
DRPH	diesel range petroleum hydrocarbons
Ecology	Washington Department of Ecology
EEC	Environmental Engineering & Consulting, Inc.
EPA	Environmental Protection Agency
gpm	gallons per minute
GRPH	gasoline range petroleum hydrocarbons
HydroCon	HydroCon Environmental LLC
mg/Kg	milligrams per Kilogram
LNAPL	light nonaqueous-phase liquid
MTCA	Model Toxics Control Act
O&M	Operations and Maintenance
ORPH	oil range petroleum hydrocarbons
OWS	oil water separator
ROW	Right of way
SRI	Supplemental Remedial Investigation
UST	underground storage tank

1.0 INTRODUCTION

HydroCon Environmental, LLC (HydroCon) and has prepared this Annual Operations and Maintenance (O&M) Report on behalf of Coleman Oil Company (Coleman Oil) to document product monitoring and recovery, construction of remediation systems, O&M monitoring of the remediation system, and disposal of treated water. The time period covered by this report includes the inception of product recovery efforts after the discovery of a release of R99 diesel at the site in 2017 through 2018.

Several product recovery tasks have been performed along the Columbia River and the uplands area (near the point of release on the Coleman Oil property) since the release occurred. This work has been performed by several different contractors including Able (March 26 through June 6, 2017), Anchor QEA (June 6 through April 21, 2018), and Environmental Engineering & Consulting, Inc. (EEC) (April 21, 2018 through the present). Mr. Pat Wicks (PE and President of EEC) has reviewed this report.

HydroCon has prepared this report to provide a description of the remedial actions and methodology taken at the site in response to the release of R99 and to provide an accounting of the volume of recovered product at specific locations (Columbia River, monitoring wells, product recovery sumps), and the volume of petroleum contaminated water that has been pumped and treated at the site.

This report has been prepared to supplement the requirements of Exhibit B – Scope of Work and Schedule of Agreed Order No. DE 15389 entered into by Coleman Oil Company, LLC; Coleman, Services IV, LLC; and the Washington State Department of Ecology (Ecology) with an effective date of September 18, 2017 (Agreed Order). The Agreed Order is a continuation of previous and ongoing significant oil spill response activities and removal actions conducted under the Administrative Order on Consent for Removal Activities issued by the U. S. Environmental Protection Agency (EPA) on May 5, 2017 (EPA Docket No. CWA-10-2017-0114).

The site, as defined under the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), Chapter 173-340 of the Washington Administrative Code (WAC §173-340-200), comprises the portion of the Coleman Oil Property and adjacent properties where hazardous substances have come to be located in soil, groundwater, and surface water at concentrations exceeding applicable cleanup levels (herein referred to as the Site) as a result of releases at the Coleman Oil Property.

The following section provides a summary of the Site location and description, geologic setting, historical land use, environmental history, and contaminants and media of concern at the Site. Most of the information provided below is summarized from the SRI Work Plan (HydroCon 2018a) and the Draft SRI Report (HydroCon 2018b).

2.0 BACKGROUND

2.1 *Site Description*

The Site is located at 3 Chehalis Street in Wenatchee, Washington. The eastern boundary of the Site is located nearly adjacent to the west side of the Columbia River. Land use near the Site is primarily industrial (Figure 1). The Site has been in operation as a bulk fuel facility since 1921. Coleman Services IV, LLC purchased the property in January 2007 and Coleman Oil has operated the facility since that time.

2.2 *Property Ownership and Operational History*

The Property was previously owned and occupied by Standard Oil Company and has been a bulk fuel facility since 1921. Based on information obtained from Sanborn maps, two vertical gasoline aboveground storage tanks (ASTs), four oil ASTs, one kerosene AST, and four other structures were present on the Property in the 1920s. The number and configurations of ASTs have changed over time. A 4,000-square-foot, wood-framed building used for offices and warehouse storage was constructed on the northwestern corner of the Property in 1935. By the 1950s, a tank farm was present on the south-central portion of the Property and included 10 approximately 20,000-gallon vertical ASTs.

The Chelan County Assessor (2017) online records indicated that North Central Petroleum, Inc. purchased the Property in 1980. In the early 1990s, a tank farm was present south of the warehouse and office building and contained eleven 19,000-gallon horizontal ASTs and one 1,000-gallon horizontal waste oil AST. An underground storage tank (UST) and cardlock system were installed in 1997, which included inventory control and tank monitoring features and two pump islands (Blue Mountain Environmental Consulting, 2007). This UST has four compartments.

Coleman Services IV, LLC purchased the Property in January 2007 from North Central Petroleum, Inc. (Chelan County Assessor 2017). Some features of the Property were modified over the next 10 years. The eleven 19,000-gallon ASTs were replaced by eight 2,100-gallon ASTs (Tank Farm B) (Figure 2), and one of the two pump islands was dismantled. From 2010 to 2017, the Property included a 4,000-square-foot wood-framed building used for offices and warehouse storage; a 1,591-square-foot, wood-framed storage building on the northeastern corner of the Property; a truck fuel loading rack east of the warehouse and office building; a four-compartment UST and associated card lock pump island on the eastern and south-central portions of the Property; and two tank farms (Figure 2). Tank Farm B, south of the warehouse and office building, included eight 2,100-gallon petroleum ASTs and

associated pumps (Figure 2). Tank Farm A, located on the south-central portion of the Property included two 25,000-gallon ASTs, two 20,000-gallon ASTs, one 19,500-gallon AST, five 19,400-gallon ASTs, and associated pumps and piping (Figure 2). The northern portion of the Property was fenced, including the buildings, bulk fuel tank farms, and truck fuel loading rack. The card lock pump island was present south of and outside of the fence (Blue Mountain Environmental Consulting, 2007).

In March and April 2017, the truck fuel loading rack, associated piping, and the eight 2,100-gallon ASTs in Tank Farm B were dismantled and removed from the Property. In June and July 2017, the 4,000-square-foot, wood-framed warehouse and office building and the 1,591-square-foot storage building were demolished and removed, and the remaining ASTs were emptied of petroleum and cleaned.

Currently, only the USTs, card lock pump island, and a fenced truck parking area to the south of the card lock are used in fueling operations conducted at the Property.

2.3 *Geologic & Hydrogeologic Setting*

The Site is located in the Wenatchee Valley approximately 150 feet west south-west of the Columbia River at an elevation of approximately 660 feet above mean sea level (Figure 1). The topography of the Site slopes very gently to the north north-west parallel to the Columbia River.

The soils beneath the Site are consistent with ice-age alluvial deposits underlain by the Chumstick Formation bedrock. The alluvium consists primarily of silt and silty sand, with layers of clay, sand, gravel and cobbles. The thickness of the alluvial deposits ranges from 6 to 31.5 feet. Boring logs and drilling observations indicate that a more massive, well cemented sandstone layer is beneath thin layers of mudstone, shale and sandstone and the sandstone appears to be acting as an aquitard in this area. The groundwater level is within a few feet of the top of the Chumstick Formation and always above the sandstone layer. An exception is at MW22 where the groundwater is approximately 15 feet above the top of the Chumstick formation. This area has been disturbed by previous excavation and has been backfilled with construction and other debris.

Groundwater flow is generally parallel with the top of the Chumstick formation. The groundwater flow direction and the dip of the sandstone surface are both to the north, northeast except in the region between the Site and the Columbia River where both are more to the east.

3.0 RELEASE OF R99 RENEWABLE DIESEL

On March 17, 2017, the Wenatchee Fire Department reported the presence of a sheen and petroleum odor on the Columbia River between Thurston and Chehalis Streets in Wenatchee, Washington. On March 18, 2017, the U.S. Environmental Protection Agency (EPA), Ecology, and Chelan County Emergency Management formed a Unified Command to respond to the occurrence of the sheen. The initial spill response activities included deployment of booms and sorbent pads in the area of the observed sheen on the Columbia River. The R99 Renewable Diesel is a red-dyed product very similar in color to traditional diesel fuels dyed for identification for off-road use.

On behalf of Coleman Oil, a subcontractor conducted a line tightness test on March 24, 2017 on underground pipe lines used to transfer fuel from ASTs at Tank Farm A to the truck loading rack on the Property. Two of the fuel lines would not hold pressure: the R99 Renewable Diesel fuel line and the B75 biodiesel fuel line. Coleman Oil closed and locked the B75 biodiesel fuel AST, and closed and locked the isolation valves from the pumps to each of the fuel lines. Review of Coleman Oil inventory records indicated that the release was most likely from the R99 Renewable Diesel fuel line.

3.1 *Initial Product Recovery – Columbia River*

Able Cleanup Technologies, on Coleman Oil's behalf, assumed management of the booms and curtains placed to contain the sheen on the Columbia River on March 26, 2017. Able conducted hourly inspections of the sorbent pads, curtains, and booms placed where a sheen is observed on the Columbia River until the week of June 6, 2017, at which point Anchor QEA of Wenatchee, Washington took over the boom and curtain management on Coleman Oil's behalf. Additional details on the timeline and spill response actions are provided in *Emergency Spill Response Plan, Coleman Oil Wenatchee [*sic*] Facility, 3 East Chehalis Street, Wenatchee, Washington* dated April 1, 2017, prepared by Farallon (2017) (ESRP). The scope of work presented in the ESRP was initiated immediately following approval from Ecology and EPA. The scope of work for the ESRP was expanded by Coleman Oil during implementation to expedite the Site characterization process and cleanup.

Pads and booms have been placed off the Columbia River in the observed sheen discharge area to recover product since discovery of the release. This practice continues today although with modifications.

3.2 *2017 Site Investigation – Uplands*

Following approval of the ESRP, Coleman Oil initiated additional investigative work at the Site. Several exploratory test pits were excavated in early April 2017. The dry well, located in the

east-central portion of the Site, was sampled on April 3, 2017. Five samples were collected from the dry well excavation at depths of 3-5 feet. The deepest sample collected at the bottom of the excavation had a concentration of 2,400 mg/Kg diesel range petroleum hydrocarbons (DRPH) and 2,000 mg/kg oil range petroleum hydrocarbons (ORPH). The Fuel Line area was also sampled on April 3 with four samples ranging in depth from 2 to 6 feet. All samples have concentrations above the cleanup level (CUL), up to 58,000 mg/kg DRPH. Eighteen samples were collected from the North-South and East-West trenches, (Figure 2) on April 4 and 5. Sample depths were at 5 and 10 feet and all exceedances of the DRPH CUL were at 10 feet below ground surface (bgs). The Filling Station area, immediately south of the Fuel Line was sampled on April 6 and the six samples were collected at 2 to 11 feet bgs. All samples exceeded the CUL for DRPH.

Farallon collected groundwater samples from monitoring wells MW-1, MW-2, MW-4, and MW-5 on March 23, 2017 to assess whether the release of R99 Renewable Diesel had impacted groundwater in the existing Site monitoring wells.

Monitoring wells BH-1 through BH-3 were installed by Ecology consultant Environmental Partners, Inc. of Issaquah, Washington on March 25 and 26, 2017 along South Worthen Street adjacent to the area where the sheen discharge was observed on the Columbia River.

On April 6 and 7, 2017, direct-push borings FB-3 through FB-10 were advanced along South Worthen Street, Chehalis Street, and the northern portion of the Property. Between April 10 and 14, 2017, monitoring wells MW-6 through MW-11, potential light nonaqueous-phase liquid (LNAPL) recovery well RW-1, and boring FB-11 were installed at various locations across the Site. The monitoring wells were constructed using either 3- or 4-inch-diameter well materials so that the wells could be used for LNAPL recovery, if necessary.

3.3 *2017 Remedial Actions*

3.3.1 Decommission Fuel Lines

On March 26, 2017, Coleman Oil decommissioned the fuel lines that would not hold pressure. All fuel associated with the ASTs in Tank Farm A was subsequently removed from the Property and transported to other Coleman Oil facilities.

3.3.2 Removal of Truck Loading Rack and Associated Piping

On April 6 and 7, 2017, concurrent with the monitoring well installation activities, the truck fuel loading rack and subsurface piping leading to the rack were removed. Following the discovery of red-colored

LNAPL on perched groundwater in the area of the truck fuel loading rack, a groundwater recovery sump was fabricated and installed in the excavation at this location.

3.3.3 Remedial Excavation

Between April 12, 2017 and June 19, 2017 a total of 741.43 tons of contaminated soil was excavated and removed from the Site. Coleman Oil also removed the former Storage Building (Sump #5 area) and former Maintenance and Warehouse Building as they performed the trenching and remedial excavations. The actual area of the excavations does not appear to have been documented. Based on information provided by Coleman Oil, the approximate excavation area is shown on Figure 2. Prior to backfilling the excavation, six product recovery sumps were installed in the excavation cavity. The sumps were constructed with 18-inch diameter ABS plastic pipe with saw-cut perforations on the bottom two feet of the piping.

3.4 *Initial Product Recovery – Uplands*

During the 2017 excavations, a substance that appeared to be red LNAPL was observed to flow into the excavations from beneath the warehouse and office building. Recovery sumps #1 through #3 were installed along the eastern side of the warehouse and office building, recovery sump #4 was installed in the excavation south of the warehouse and office building, and recovery sump #6 was installed north of the warehouse and office building. Recovery sump #5 was installed in the northeastern corner of the Property, where the former storage building was located (Figure 2).

Based on information and product recovery records (Appendix B) provided by Farallon (2017), water and LNAPL were pumped for several days in April 2017 from Sumps #1 through #4 into a 10,000-gallon baffle tank with an oil-water separator. Pumps were turned off on April 26, 2017 to facilitate an assessment of the rate of LNAPL recovery into the sumps. Following the assessment, the depth to groundwater began to drop in elevation to below some of the recovery sumps, and recovery of LNAPL diminished. Periodic pumping of groundwater from these recovery sumps and Sump #5 and #6 continued through April 12, 2018 in an attempt to draw LNAPL to the sumps, but LNAPL recovery continued to diminish. The total reported product recovery from the sumps was 70 gallons. The reported total volume of product collected by the OWS system servicing the sumps was approximately 11 gallons.

In addition to the product recovery in the recovery sumps, Farallon frequently monitored water and product levels at the site monitoring wells. Farallon recovered product from the monitoring wells using a peristaltic pump and new tubing. The wells included MW-06, MW-08, MW-09, MW-10, MW-11, BH-1 and BH-2. Total product recovery from these wells through mid-2018 was 102 gallons

3.5 *Supplemental Remedial Investigation*

HydroCon expanded the site investigation in March and April 2018 that included drilling two exploratory borings (HC01 and HC02), fourteen new 4-inch diameter monitoring wells (MW12 through MW23, MW01S, and MW03S) and constructing a product recovery and treatment system near Tank Farm A (HydroCon 2018c). Three wells with persistent measurable LNAPL measurements (MW-9, MW-10, and BH-1) had product recovery pumps installed. Effluent from these wells was routed through individual oil/water separators and then through filtration and GAC prior to permitted discharge in batches into the City of Wenatchee's sanitary sewer system.

Results of the Supplement Remedial Investigation (SRI) revealed that LNAPL migrates downgradient along the bedrock (Chumstick Formation) that underlies the site. The Chumstick Formation is locally fractured and channelized. LNAPL migrates through the fractures and channels and locally discharges into the river. The intent of this work is to find some of these preferential pathways by the drilling process and install wells that can serve as recovery points to intercept and remove as much of the remaining LNAPL as possible to stop or minimize discharge into the Columbia River.

3.6 *Additional Interim Actions*

An Additional Interim Action (AIA #2, HydroCon 2018c) was performed at the site in August 2018 to install additional monitoring wells to further evaluate remedial options in the area of the sheen discharge area on the Columbia River; the means to remove product, if present; and minimize product discharge (sheen) into the Columbia River.

An additional nine 4-inch diameter monitoring wells (MW24 through MW32) were installed and two of the pumping wells (MW-9 and MW-10) were deepened and completed as 4-inch diameter wells and renamed MW09R and MW10R. Hydraulic testing was performed to assess which wells had the potential for use as recovery wells.

Aquifer testing was performed to select wells for inclusion in the expansion of the site remediation system and to develop a better understanding of the aquifer characteristics. Aquifer testing included slug testing and step draw down testing in selected wells.

Finally, BH-01 was deepened and completed as a 4-inch diameter well as part of the Uplands Soil Characterization and renamed BH01R in January 2019 (HydroCon 2019).

4.0 2018 REMEDIATION SYSTEM DESIGN AND INSTALLATION

The groundwater remediation system associated with the R99 Renewable Diesel release has operated in several phases. Initially a groundwater extraction and treatment system was constructed following the installation of recovery sumps within the remedial excavation performed in 2017. Water and product extracted from the sumps was routed to an OWS and then treated with GAC prior to discharge into the City of Wentachee's sanitary sewer system. Additionally, product recovery from wells MW-6, MW-8, MW-9, MW-10, MW-11, BH-1 and BH-2 was done primarily through passive means utilizing hydrophobic socks placed at the groundwater interface in the wells.

In May 2018 HydroCon constructed a new groundwater extraction and treatment system. Active pumping began at wells MW-9, MW-10 and BH-1. The OWS servicing the sumps was taken out of service in late May 2018 and separate OWSs were installed for water being pumped from MW-9, MW-10 and BH-1.

On July 10, 2018, top loading pumps were installed in these wells and BH-1 to recover product and maintain water levels at summer time levels. In August 2018 monitoring wells MW-9 and MW-10 were deepened and enlarged to 4-inch diameter wells and renamed MW09R and MW10R, respectively. In October 2018, the remedial system was expanded to include monitoring wells MW24, MW28, MW29, and MW30. On January 10, 2019 monitoring well BH-1 was deepened, enlarged to 4-inch diameter, and renamed BH01R. On January 11, 2019 wells BH01R, MW17, and MW32 were added to the remediation system. This expansion constitutes the current configuration of the treatment system at Tank Farm A was installed. Additional details are provided in the following sections.

4.1 *Remediation System Design*

Results of the aquifer testing, boring logs, and the soil analytical data were submitted to HydroCon's engineer for design of the expansion of the remediation system currently in operation at the Site. HydroCon's primary design objective for upgrading the interim remediation at the Coleman Oil facility was to expand the product recovery capability of the system.

In October 2018, the new design package was implemented to expand the system to a total of nine wells. The design provides substantial additional operational flexibility for the project manager and those responsible for operating and maintaining the system to focus product recovery efforts where future site monitoring indicates that is necessary. The enhanced recovery system was designed to operate within the capacity of the existing mechanical equipment (air compressor, and piping) so that no additional major capital equipment was needed to operate the system, except for adding well pumps to the wells selected for additional recovery. The well pumps are powered by compressed air. If the compressor stops then the well pumping will also stop.

The interim remediation system design is included in Appendix A as a set of drawings. Major features of the design include the initial remediation system layout, the water treatment system at Tank Farm A,

the expanded remediation system piping layout, details of vaults and utility trenches, and equipment and instrumentation. Additional details are provided below.

4.2 *Expansion and Configuration of 2018 Remediation System*

The remediation system was expanded on October 22 through October 26, 2018. The current interim remediation system has been designed to recover free product from areas that have persistent NAPL measured in the wells, to control water levels, and to mitigate the presence of sheen (i.e., LNAPL) from discharging into the Columbia River. The remediation system was expanded to include six more recovery points (MW17, MW24, MW28, MW29, MW30, and MW32). The remediation system consists of three separate zones that pump into an associated OWSs. These zones include the MW09R zone, the MW10R zone, and the BH01R zone. Water and product levels for the wells for 2018 are provided in Appendix C-3

The MW09R zone is located along the north Right of way (ROW) of Chehalis street and includes wells MW09R, MW17 and MW32. All of these wells are operational, using dedicated AP-3 top loading pneumatic total fluids pumps. LNAPL has been persistently measured in MW-9, which prompted the placement of a recovery pump in the well. This well was deepened and reconstructed with a 4-inch diameter monitoring well (and renamed MW09R). Relatively high concentrations of DRPH and other related analytes have been observed in monitoring wells MW17 and MW32. The pump intake on all three wells has been set at 24 feet bgs. MW17 and MW32 were not pumped in 2018.

The MW10R zone includes MW10R, MW24, and MW28. This zone is located north of BH-1 along the east ROW of Worthen street. All of these wells are operational, using dedicated AP-3 top loading pneumatic total fluids pumps. Product has been measured in MW10R and MW24. The pumps in MW10R and MW24 are set with the intake set at 27 feet bgs. The pump intake in MW28 is set at 33 feet bgs. Monitoring wells MW10, MW24 and MW28 began pumping on November 3, 2018.

The BH01R zone includes monitoring wells MW29, MW30, and BH01R and is located in the eastern ROW of Worthen street beginning at BH-1 south to MW30. As noted above, BH-1 was deepened and enlarged in January 2019. Product has been observed in BH-1 and petroleum sheen was observed in the soil of MW29. All three of these wells are operational using dedicated AP-3 top loading pneumatic pumps. The pumps in MW29 and MW30 are set with the intake set at 34 feet bgs and the pump intake in BH-1 is set at 27 feet bgs. Monitoring wells MW29 and MW30 began pumping on November 3, 2018.

Beginning May 5, 2018, fluids pumped from the wells have been pumped into three OWSs, one for each zone before being treated and discharged to the City sewer (see below). As such, the total product recovery is now quantified for each zone instead of an individual well. However, water and product levels are collected for each of the wells on a daily basis to evaluate the effectiveness of the pumping configurations (see Appendix C-3).

4.3 *Recovery and Treatment of Petroleum Contaminated Water from Recovery Wells*

Petroleum contaminated groundwater and LNAPL has been removed from the ground via adsorbent socks and pumping from the recovery sumps and wells since remedial action began at the site in 2017. As explained above, since May 2018, water is treated at Tank Farm A prior to discharge into the City of Wenatchee's sanitary sewer system. The agreement for this discharge is provided in Appendix E and became effective on March 22, 2018.

Groundwater from the three well zones is pumped to the three OWSs, then temporality stored in a 19,500 gallon tank. This water is treated with bag filters and granulated activated carbon (GAC), then stored in three 19,500 to 25,000 gallon ASTs. Each treated water tank is sampled and analyzed by a laboratory. The analytical results are approved by the City before discharged to the City sewer. The agreement allows for discharges of up to 4,000 gallons per day. All laboratory and discharge volume data are provided to the City. A total of 205,092 gallons of water has been recovered, treated and discharged to the City system at the site between July 10 and December 31, 2018 (Appendix C-2).

Water quality samples are tested for the set of parameters listed in the permit (Appendix E and the table below).

Analytical Test	**Method Number**
Total Suspended Solids	SM2540-D
pH	SM4500-H+B
Chemical Oxygen Demand	SM5220-D
Total Organic Carbon	SM5310-B/C/D
Total Metals: As, Ba, Cd, Cr, Pb, Se, Ag, Cu,	EPA Method 200.8
Total Mercury	EPA Method 7470A
Pesticides/PCBs	EPA Method 608
Volatile Petroleum Products	NWTPH-Gx & BTEX
Semi-volatile Petroleum Products	NWTPH-Dx
Ignitability	1010A

5.0 SUMMARY OF O&M ACTIVITIES

This section describes the various O&M activities and their current operational status. O&M activities are primarily related to the recovery of light non-aqueous phase liquid (LNAPL) in groundwater and on the Columbia River. These efforts are documented by the daily or near daily observations of equipment performance, measurement of water and product levels in site monitoring wells, and observations of water levels and maintenance of LNAPL collection booms on the Columbia River.

Recovered product volumes from the river, monitoring wells and sumps are detailed in Appendix B. Daily observations of remediation equipment, treated water disposal, monitoring well water and product levels, and river sheen monitoring and product recovery from OWSs are provided in Appendix C.

The O&M Field Data Sheets are used as the basis for the data presented in Appendix D and include daily records equipment re and discharge.

5.1 *Columbia River Boom Management*

Sheen mitigation on the Columbia River is currently being conducted and will continue until no sheen is present on the Columbia River near the Site. Skirts, booms, adsorbent booms and pads[1] have been placed in the Columbia River and are monitored daily and adjusted and replaced as necessary since March 2017. Booms are being managed at three locations, Upriver, Downriver South and Downriver North (Figure 2).

Anchor QEA of Wenatchee, Washington assumed management of the booms curtains, adsorbent booms and sorbent pads for containing sheens on the Columbia River on June 1, 2017. Anchor continued that role until April 20, 2018 when EEC assumed this responsibility. EEC is currently conducting daily inspections of the sorbent pads, skirts, and booms and presence of sheen on the Columbia River. Due to the fluctuating river height throughout the year, EEC is required to adjust the height of the booms and locations of sorbent pads so that they are located on the surface of the river. Sorbent pads or booms that exhibit discoloration or staining are removed from the river and replaced with new sorbent pads and booms. Spent sorbent pads and booms are weighed to calculate the amount of recovered product before they are placed into labeled 55-gallon drums for disposal.

Documentation of product recovery from the Columbia River has been recorded since product recovery efforts began on March 27, 2017. This data is provided in Appendix B. No product has been recovered

[1] Note that the volume of product from adsorbent booms and pads is estimated by the difference in weight between new dry adsorbent material and used material from the river and wells using the specific gravity of R99. These estimates are likely somewhat high due to the adsorption of some water and organic materials.

from the river since August 29, 2018. The total amount of product that has been recovered from the Columbia River through December 31, 2018 is 214.1 gallons (Appendix B).

5.2 *River Level Monitoring*

River levels are measured relative to a mark on a staff gauge set in the river in the area of observed sheen. The elevation of the mark was surveyed relative to the staff gauge. The staff gauge location is shown on Figure 2 and marked at an elevation of 619.36 feet amsl and was installed to provide a local reference point for river level elevations. Daily observations have been collected since October 3, 2017. Daily river levels through December 31, 2018 are shown in Appendix C-4.

Figure 3 plots water levels in the river and in selected monitoring wells. The average river level for the period of record is 618.53 feet above mean sea level (AMSL). The maximum and minimum river levels were 627.36 and 615.44 feet, receptively.

5.3 *Sheen Observations*

The surface of the Columbia River adjacent to the Coleman Oil site is observed on a daily basis for the presence of petroleum hydrocarbon sheen. Booms have been placed along the River to capture any product emanating from the site. The area that is being monitored for sheen is within the boom area and is shown on Figure 2. The sheen is described in classifications as slight, moderate, and heavy. These are qualitative classes and refer the color (or lack thereof) and size of the area covered.

The sheen monitoring occurs at three locations on the river (Figure 2) and include Location 1, down river, this location is the most southern sheen observation area adjacent to recovery well BH1R, Location 2, up river south, this area is adjacent to monitoring well MW26 and the shoreline seeps, and Location 3, up river north, this area is the furthest north and is adjacent to recovery well MW10R. Daily sheen monitoring began July 10, 2018, resulting in 175 days of observation in 2018 Appendix C-4). Sheen has been observed at Location 1 on 46 days, Location 2 on 43 days, and 1 day at location 3. Of the 46 and 43 days of sheen observed at locations 1 and 2 it is important to note that a sheen was observed consecutively for 38 days following installation of the permanent pumps in the remediation wells on July 10, 2018. The sheen on other days at Location 1 and Location 2 have been slight and for the most part correspond to remediation system downtime. Sheen observations indicate the remediation system has been effective in limiting the migration of free product to the Columbia River.

5.4 *Groundwater and Product Level Monitoring*

Groundwater and product levels in three site well, MW-8, MW-09, and MW10, have been measured daily since December 8, 2017. Daily measurements for BH-1 began February 20, 2018 and for MW24,

MW28, MW29, and MW30 on November 3, 2018. Well MW17 and MW32 are also currently being monitored, but measurements began in January 2019. Daily water and product levels for 2018 are provided in Appendix C-3.

Water Level Hydrographs for MW-8, MW09R, MW10R and BH01R and the Columbia River are plotted on Figure 3. MW09R and MW10R were deepened and enlarged in August 2018 and BH01R was deepened and enlarged in January 2019. Well MW-8 is not pumped and is more or less representative of water levels not affected by pumping. Pumps were installed in early May 2018 in MW09R, MW10R and BH01R and MW09R and MW10R were deepened and enlarged in August 2018. Both the installation of the pumps and the deepening are reflected in the hydrographs and demonstrate that the goal of keep groundwater levels depressed by pumping has been successful. Spikes in the water levels after the pumps were installed reflect non-operation of the pumps.

Near shore monitoring wells MW24, MW28, MW29, and MW30 began pumping November 3, 2018 and MW17 and MW32 began pumping on January 10, 2019. Hydrographs for these wells are plotted on Figure 4. As shown, the water levels are successfully depressed when the wells are operating at an elevation near the river level.

5.5 *Product Thickness and Product Recovery*

Measurement of product thickness in selected monitoring wells is measured daily and data are presented in Appendices C-3. MW09R had the most occurrences of measurable product with product present 134 days with a maximum thickness of 0.95 feet. MW10R had 36 days of product present with a maximum thickness of 0.77 feet. BH01R had 16 days of product present with a maximum thickness of 0.95 feet. Product thickness is plotted for 2018 on Figure 5 for BH01R, MW09R, MW10R, MW17, MW24, MW28, MW29, MW30, and MW32.

Measureable product thickness was not observed in 2018 at wells MW-8, MW17, MW24, MW28, MW30 and MW32. Measureable product was last observed in September at BH01R and in December at MW09R, MW10R, and MW29 (Appendix C-3).

Product recovery data from individual wells is presented in Appendix B and incudes all historical data. As noted above, with the installation and operation of the new remediation system, product is no longer recovered from the individual wells. With the installation of the new system in May 2018, product is collected and measured at the three OWSs. Appendix C-5 provides daily records of product recovered from the three OWSs.

There has been no collectable product on the river since August 29, 2018. After August 29, 2018 sheen was recorded at Location 1 on five dates and at Location 2 on two dates.

The table below summarizes all product recovery from wells and the river and lists the last date the product was recovered from each location. Note that the Oil Water Separator listed below only served the six sumps. With the installation of the new remediation system, no additional data will be collected from the locations listed below, with the exception of the three OWS Systems and the Columbia River.

Summary of Product Recovery

Location	Last Date	Through 12/31/18
Columbia River	8/29/2018	214.1
Sump #1	1/16/2018	12.41
Sump #2	6/1/2018	18.66
Sump #3	5/3/2017	3.28
Sump #4	6/1/2018	0.36
Sump #5	4/17/2018	34.14
Sump #6	5/7/2018	13.57
Oil Water Separator	4/12/2018	11.37
MW-6	2/8/2018	0.93
MW-8	4/18/2018	14.12
MW-9/MW9R	7/23/2018	41.74
MW-10/MW10R	8/20/2018	49.88
MW-11	3/11/2018	1.49
BH-1/BH01R	4/20/2018	1.96
BH-2	2/26/2018	0.52
OWS-BH01 System	12/31/18	0.00
OWS-MW09R System	12/31/18	1.994
OWS-MW10R System	12/31/18	28.82
Total	**Through 12/31/18**	**449.34**

5.6 *System Performance*

Daily system performance data from July 10 to December 31, 2018 are provided in Appendix C-1. The table includes entries for compressor conditions (on/off status, compressor hours, and tank and regulator pressure), water filter pressures, GAC pressures, and the volume (gallons) of permitted water discharges to the City. The volume of treated groundwater discharged to the City sewer system for 2018 was 205,092 gallons. In 2017, 37,940 gallons were discharged. The volume of water discharged for each day is provided in Appendix C-2.

5.7 *2019 O&M Activities*

Operational activities at the Coleman Oil site will continue to focus on product recovery from groundwater monitoring wells and maintaining groundwater drawdown to elevations approximating summer levels. Planned activities include the following:

- Continue full time pumping and monitoring water and product levels at wells MW09R, MW10R, BH01R, MW17, MW24, MW28, MW29, MW30, and MW32.
- Maintain and operate the groundwater treatment system with discharge to the City sewer system.
- Conduct quarterly to semi-annual groundwater sampling at all site wells.
- Continue daily observations of the Columbia River and product recovery if present.
- Conduct a remedial excavation in MW13 area.

5.8 *Recommendations*

Based on the review of the product recovery data accumulated since the release, a significant reduction in the presence of product has been documented in the Columbia River. The last documented recovery of product was on August 28, 2018. The booms in the Columbia River were placed during the emergency response and cover a relatively large area along the shoreline. Based on current conditions (no product being recovered and intermittent sheen observations in localized areas), HydroCon proposes to reconfigure the booms to a smaller area of the River.

As discussed in Section 5.5, several of the remediation wells did not have measurable product in 2018 as demonstrated with daily measurements (Appendix C-3). Wells with measureable product in 2018 included MW09R, MW10R, BH01R, MW29 and measureable product was almost always present only when the system was down due freezing conditions or equipment failure. HydroCon recommends the daily water and product levels in the remediation system are not necessary at times when the system is operating.

6.0 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, non-detectable 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 **Coleman Oil Company** to meet the requirements of Exhibit B – Scope of Work and Schedule of the Agreed Order. 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.

7.0 REFERENCES

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HydroCon, LLC. 2018a. *Supplemental Remedial Investigation Work Plan. Coleman Oil R99 Renewable Diesel Spill, Wenatchee, Washington*. Prepared for Coleman Oil Company, LLC. March 15.

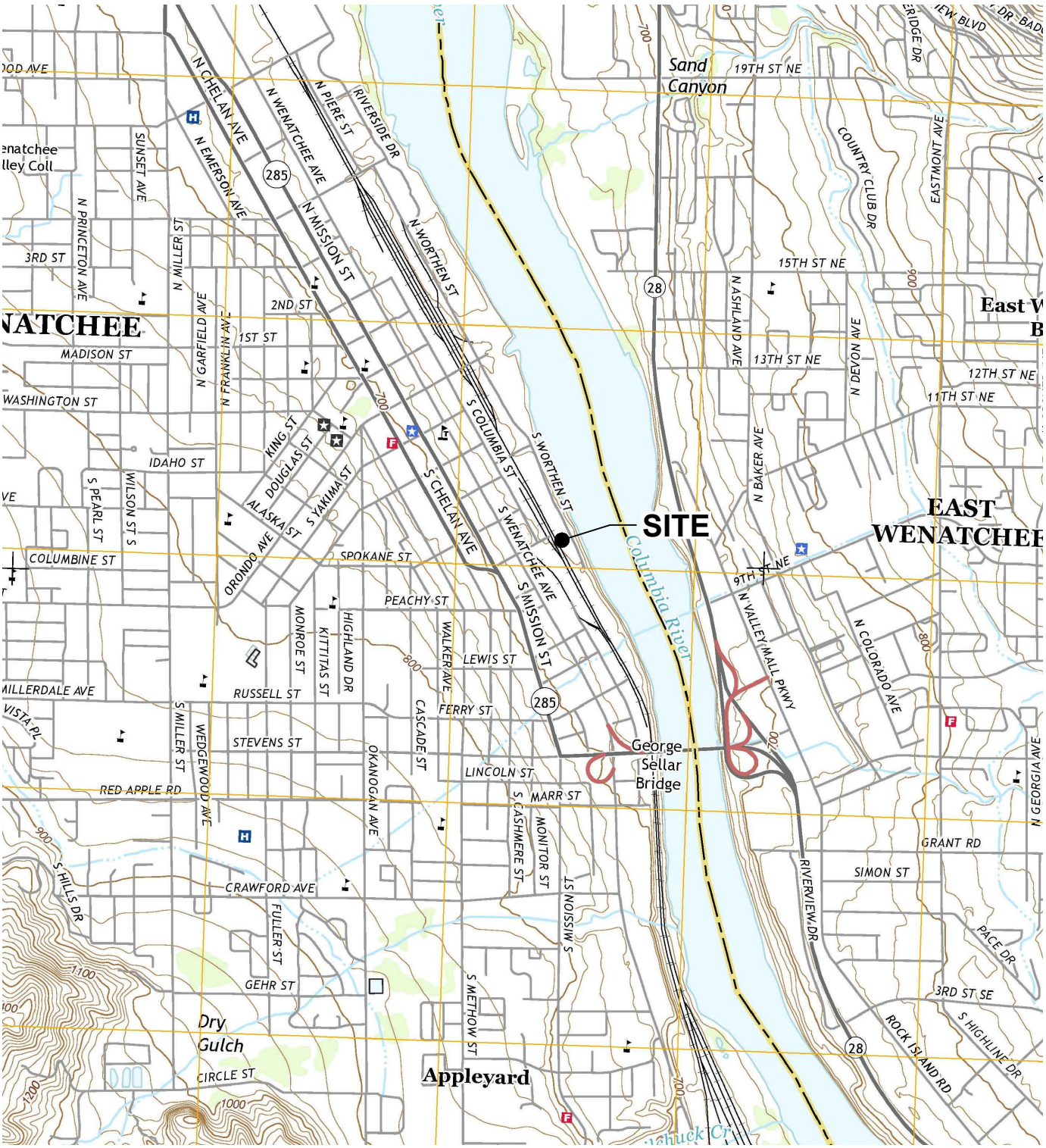
———. 2018b. *Supplemental Remedial Investigation Report. Coleman Oil R99 Renewable Diesel Spill, Wenatchee, Washington*. Prepared for Coleman Oil Company, LLC. August 8, Revised October 9.

———. 2018c. *Additional Interim Action Addendum #2. Coleman Oil R99 Renewable Diesel Spill, Wenatchee, Washington*. Prepared for Coleman Oil Company, LLC. July 26.

———. 2019. SRI Addendum - Uplands Soil Characterization Report. Coleman Oil R99 Renewable Diesel Spill, Wenatchee, Washington. Prepared for Coleman Oil Company, LLC. March 6.

Environmental Engineering & Consulting, Inc. 2018. Daily reports *O&M Field Data Sheet*, *Water Disposal, Sheen Observation, Product Recovery*. Prepared for Coleman Oil Company.

FIGURES



NOTE(S):
USGS, WENATCHEE QUADRANGLE
WASHINGTON
7.5 MINUTE SERIES (TOPOGRAPHIC)

0 2000 4000
SCALE IN FEET
1" = 2000'

N
W E
S

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

DATE: 3-20-19
DWN: JJT
CHK: RH
APPROVED: RH
PRJ. MGR: CH
PROJECT NO: 2017-074

FIGURE 1
SITE LOCATION MAP

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

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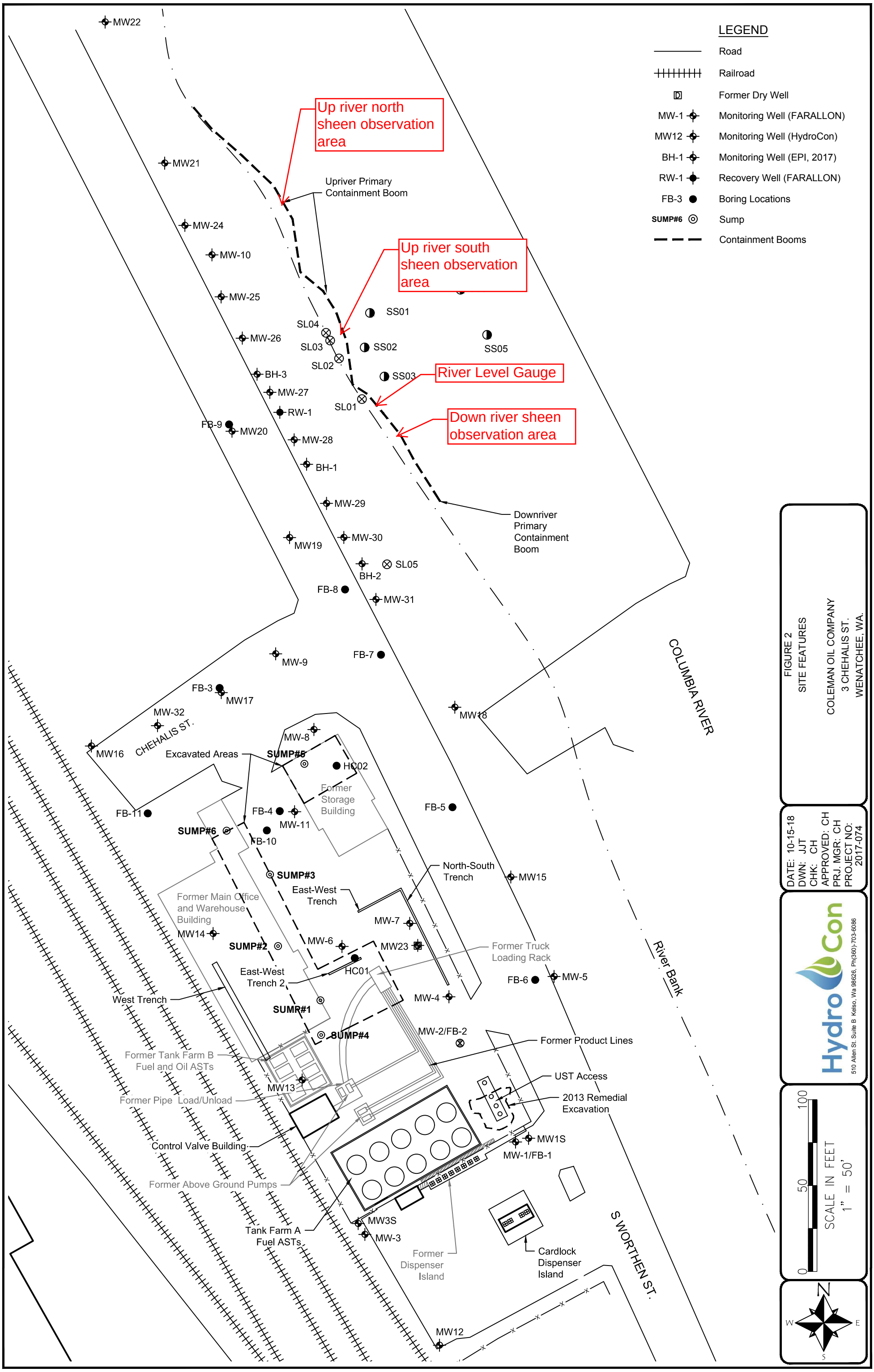


FIGURE 2
SITE FEATURES

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

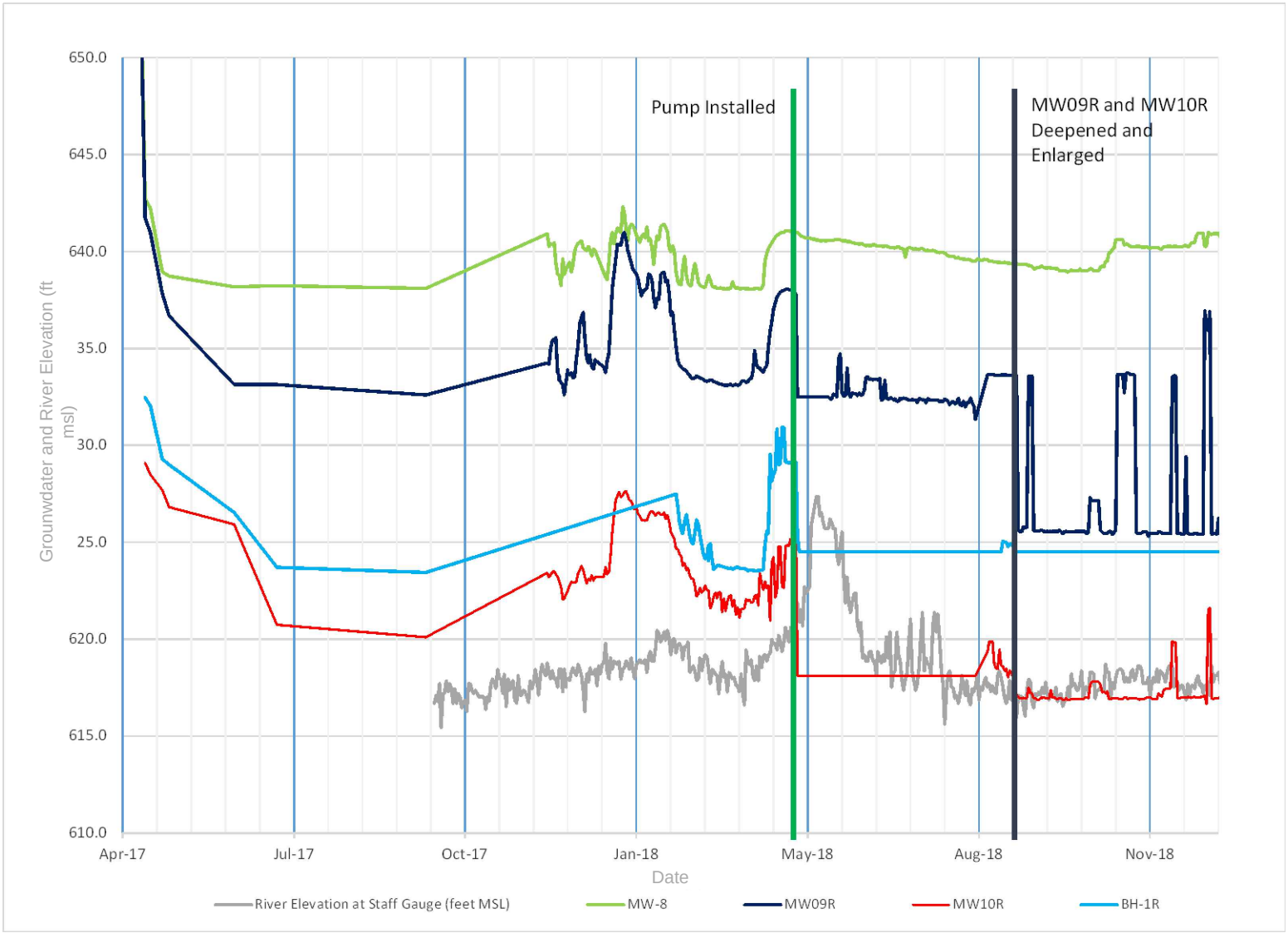
DATE: 10-15-18
DWN: JJT
CHK: CH
APPROVED: CH
PRJ. MGR: CH
PROJECT NO: 2017-074

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

SCALE IN FEET
1" = 50'
0 50 100

N
W E
S

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2018\Sept 2018\2017-074_BM-091718.dwg



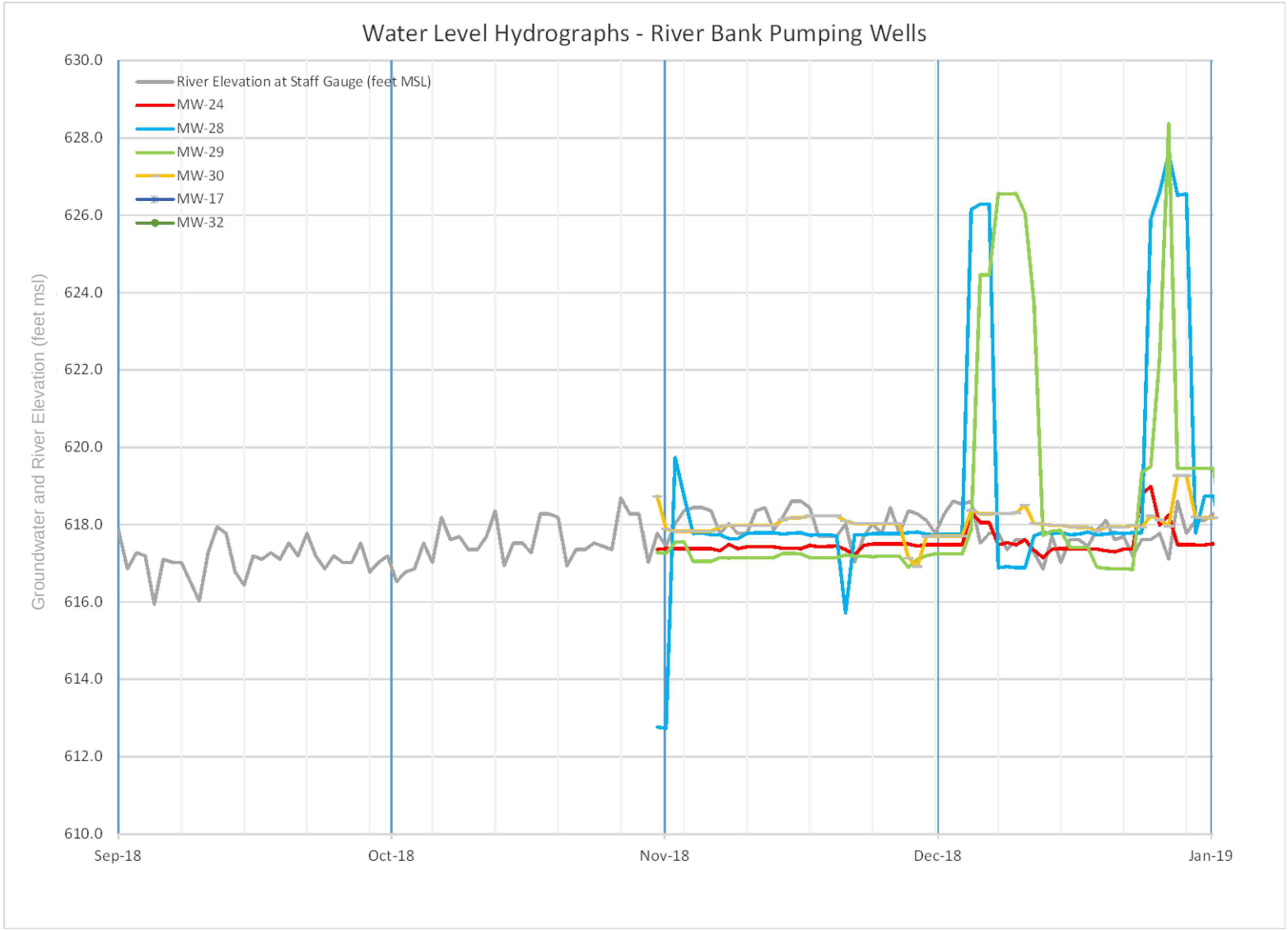
HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 3-20-19
DWN: JJT
CHK: NV
APPROVED: NV
PRJ. MGR: CH
PROJECT NO: 2017-074

FIGURE 3
PRODUCT RECOVERY WELLS

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2019\Mar 2019\2017-074_BM-030519.dwg

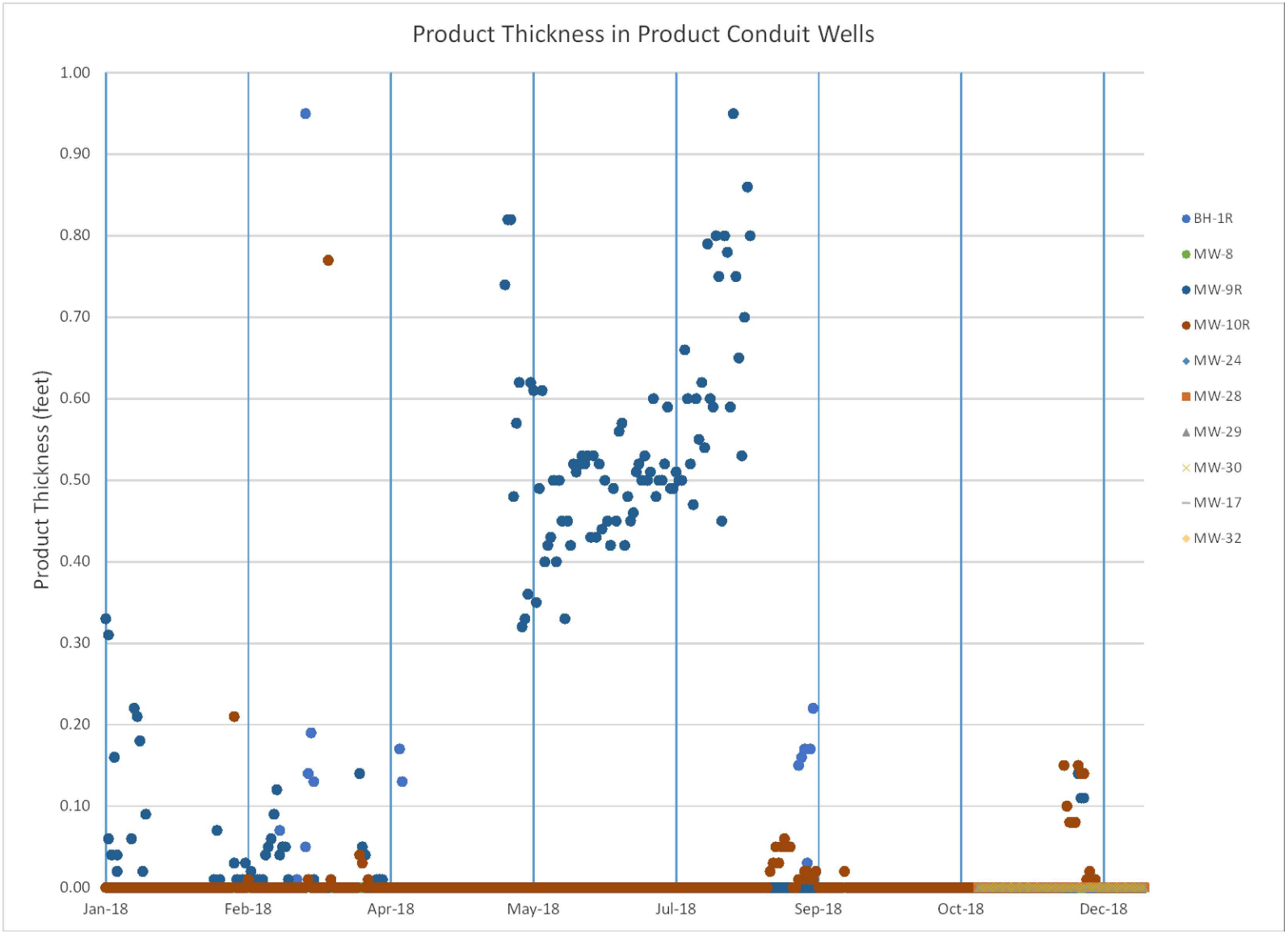


HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 3-20-19
DWN: JJT
CHK: NV
APPROVED: NV
PRJ. MGR: CH
PROJECT NO: 2017-074

FIGURE 4
RIVER BANK PUMPING WELLS

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.



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

DATE: 3-20-19
DWN: JJT
CHK: NV
APPROVED: NV
PRJ. MGR: CH
PROJECT NO: 2017-074

FIGURE 5
PRODUCT THICKNESS IN PRODUCT CONDUIT WELLS

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2019\Mar 2019\2017-074_BM-030519.dwg

Appendix A
Groundwater Remediation System – September 2018

UPGRADES TO GROUNDWATER REMEDIATION SYSTEM

COLEMAN OIL
3 CHEHALIS ST.
WENATCHEE, WASHINGTON

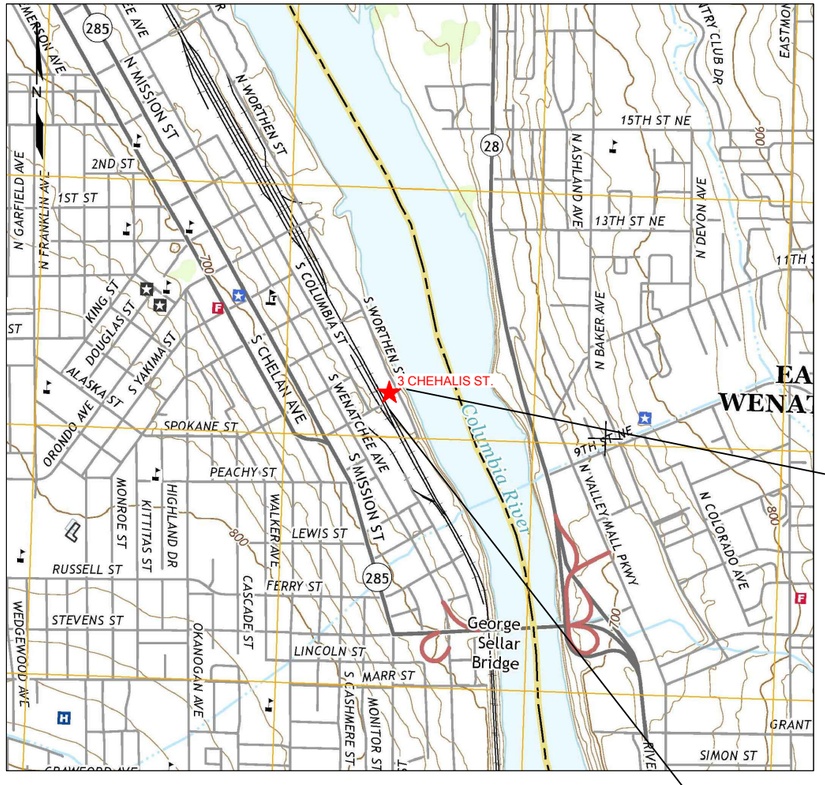


TABLE OF CONTENTS

MARK ERNEST SELMAN — STATE OF WASHINGTON — 47301 — REGISTERED PROFESSIONAL ENGINEER

PROJECT NAME: COLEMAN OIL
PROJECT NUMBER: 2017-074
STREET ADDRESS: 3 CHEHALIS ST.
CITY, STATE: WENATCHEE, WA.

DATE: 10-11-18
DRAWN BY: JJT
CHECKED BY: MES

#	DATE	REVISION	SHEET NO

SHEET G-100
COVER SHEET

NOT TO SCALE

SELMAN ENGINEERING LLC

HydroCon

10/11/2018

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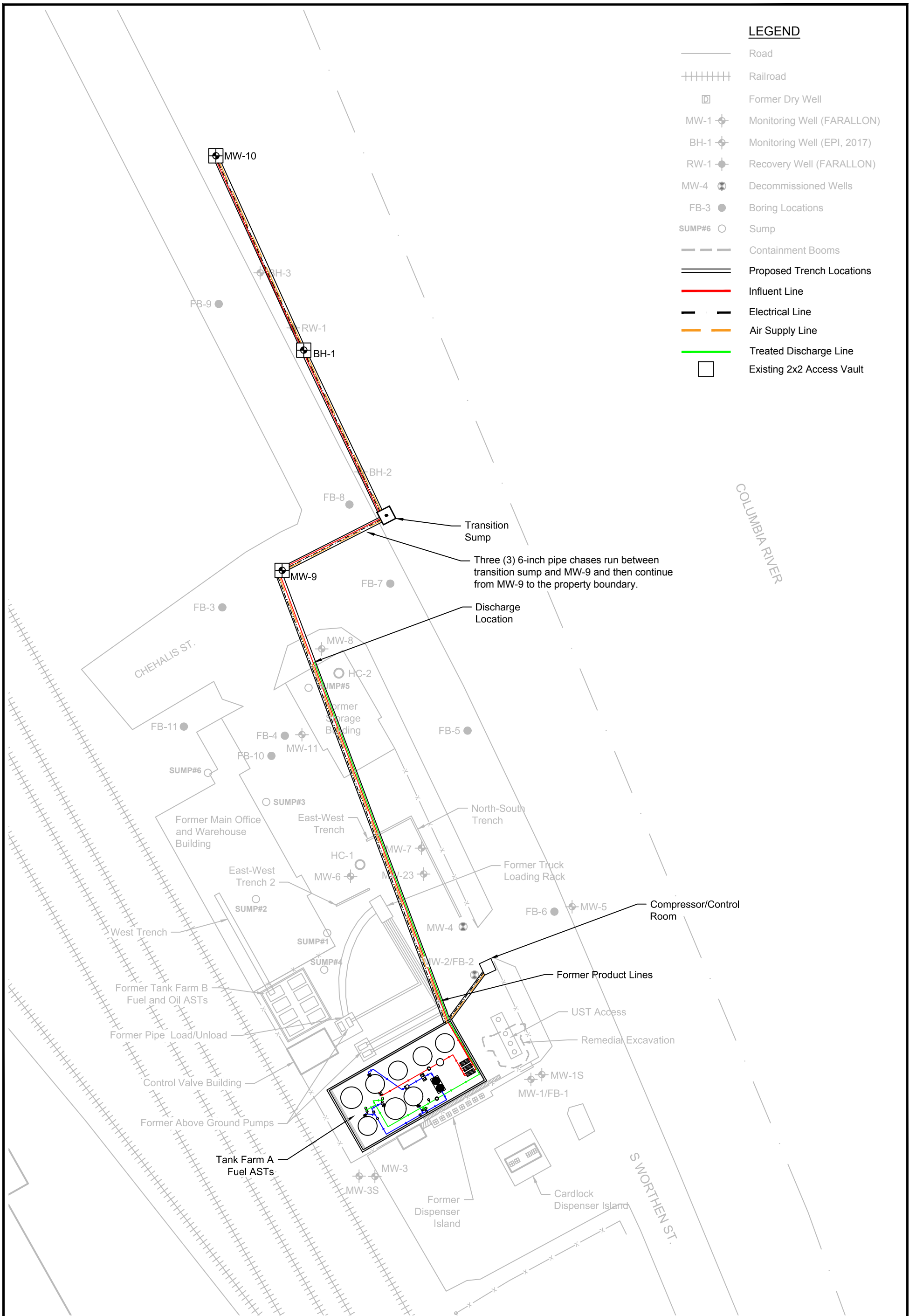


HydroCon

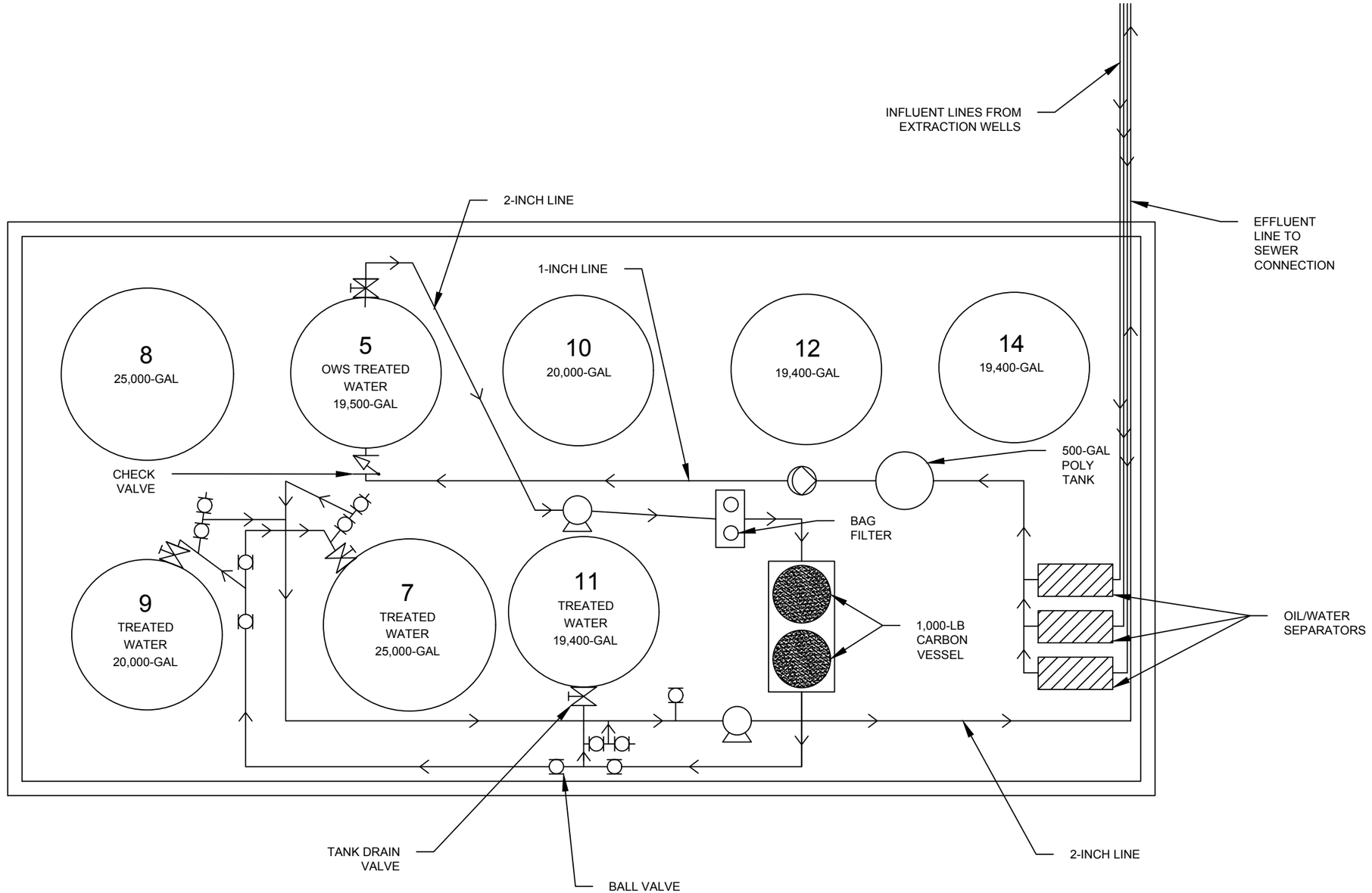
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

DATE: 10-16-18
DWN: JH/JJT
CHK: MS
APPROVED: MS
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET R-100
EXISTING REMEDIATION SYSTEM LAYOUT

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2018\Sept 2018\2017-074_2018_C-SHEETS-JH.dwg



LEGEND

- TANK CONTAINMENT AREA
- INFLUENT LINE (IMPACTED WATER)
- OWS-TREATED WATER
- SYSTEM-TREATED WATER
- TRASH PUMP
- DIAPHRAGM PUMP
- CHECK VALVE
- TANK DRAIN VALVE
- TANK DRAIN VALVE
- > FLOW DIRECTION ARROW

0 8 16

SCALE IN FEET
1" = 8'

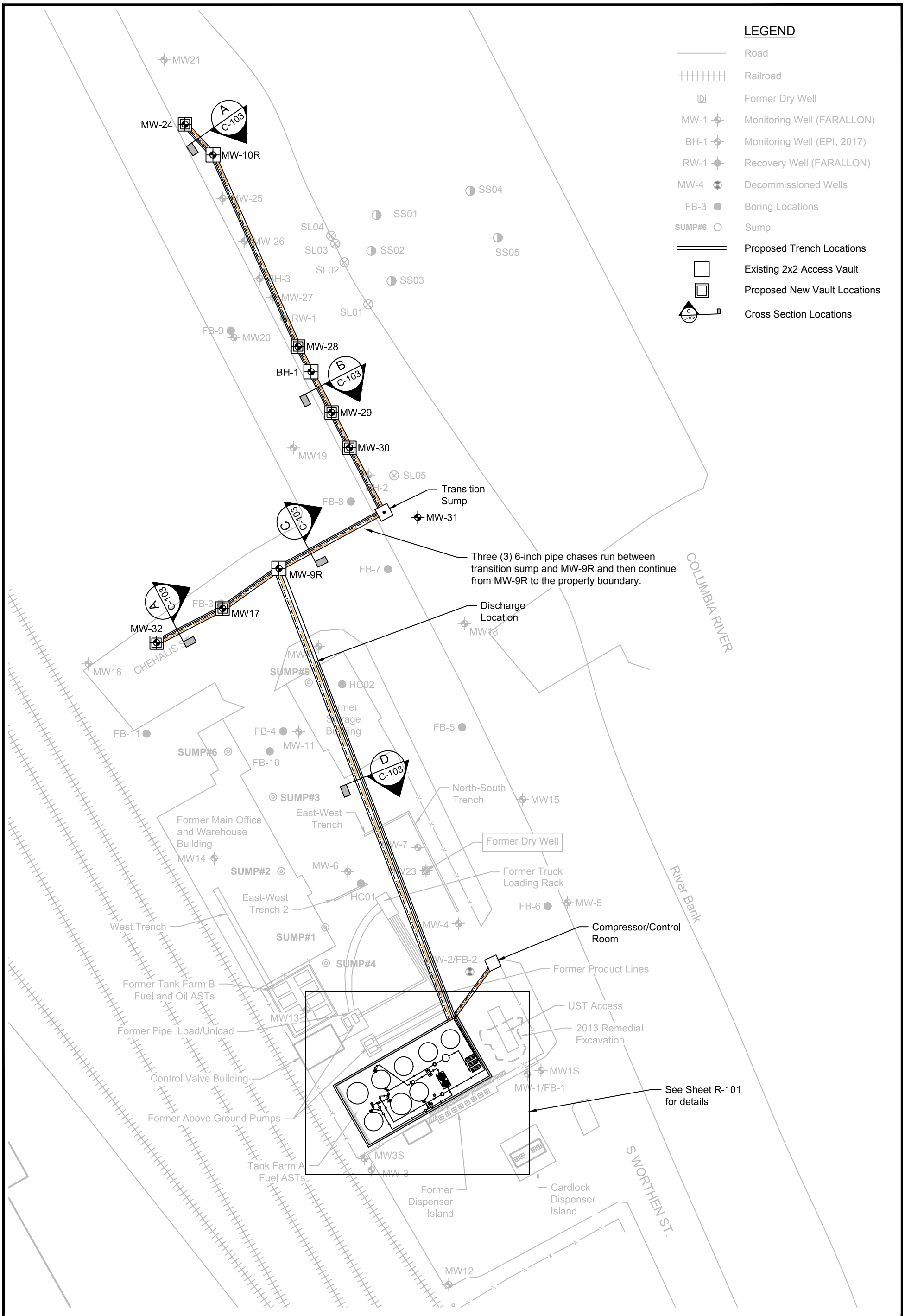
HydroCon
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

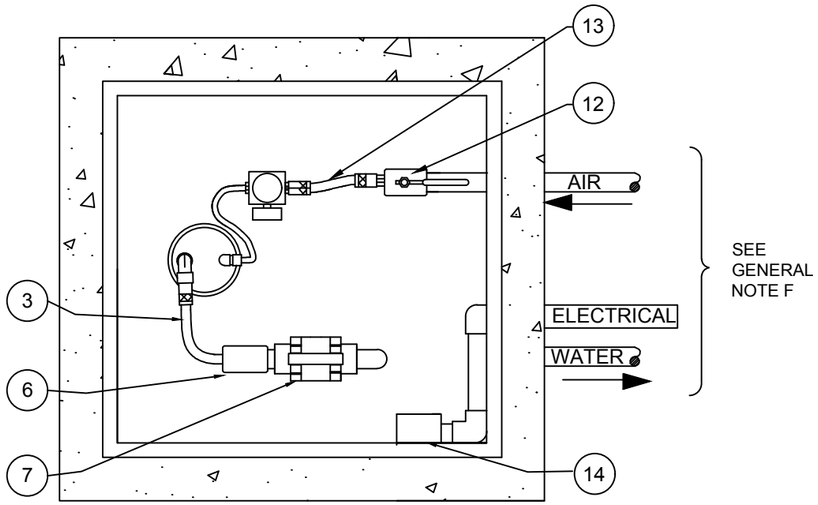
DATE: 10-11-18
DWN: JH/JJT
CHK: MS
APPROVED: MS
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET R-101
TANK FARM A LAYOUT

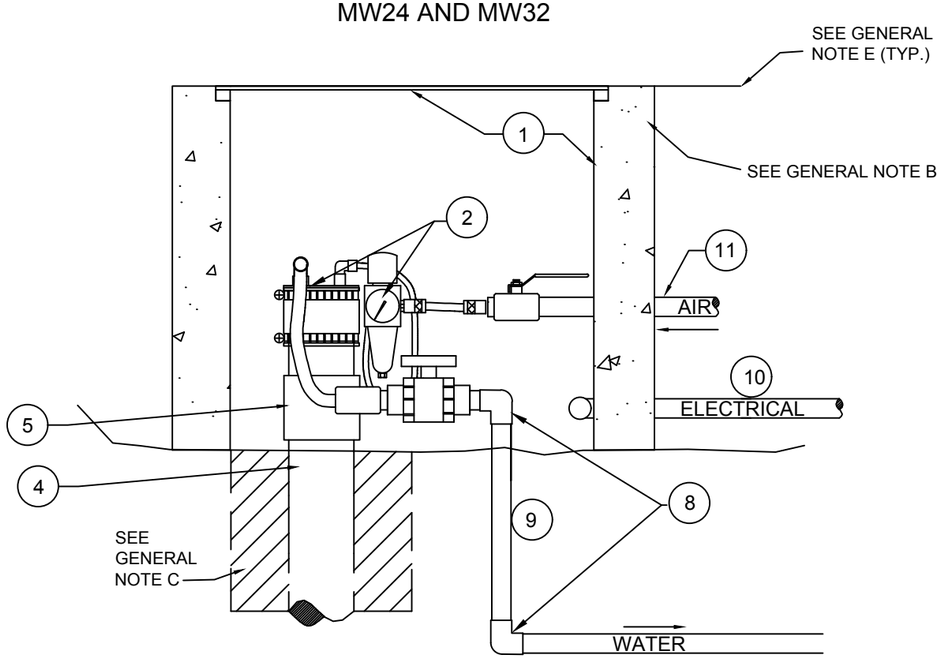
COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2018\Sept 2018\2017-074_2018_C-SHEETS-092718.dwg


LEGEND
Road
Railroad
Former Dry Well
MW-1 Monitoring Well (FARALLON)
BH-1 Monitoring Well (EPI, 2017)
RW-1 Recovery Well (FARALLON)
MW-4 Decommissioned Wells
FB-3 Boring Locations
SUMP#6 Sump
Proposed Trench Locations
Existing 2x2 Access Vault
Proposed New Vault Locations
Cross Section Locations
MW21
MW-24
A C-103
MW-10R
MW-25
SS04
SS01
SL04
MW-26
SL03
SS02
SS05
SL02
BH-3
SS03
MW-27
SL01
RW-1
FB-9
MW20
MW-28
BH-1
B C-103
MW-29
MW19
MW-30
SL05
H-2
Transition Sump
FB-8
MW-31
C C-103
Three (3) 6-inch pipe chases run between transition sump and MW-9R and then continue from MW-9R to the property boundary.
MW-9R
FB-7
COLUMBIA RIVER
A C-103
FB-3
MW17
MW-32
Discharge Location
MW18
MW16
CHEHALIS ST.
SUMP#5
HC02
FB-11
FB-4
MW-11
FB-5
SUMP#6
FB-10
D C-103
North-South Trench
SUMP#3
MW15
East-West Trench
Former Main Office and Warehouse Building
MW14
Former Dry Well
MW-7
SUMP#2
MW-6
MW23
Former Truck Loading Rack
East-West Trench 2
HC01
FB-6
MW-5
West Trench
MW-4
Compressor/Control Room
SUMP#1
SUMP#4
W-2/FB-2
Former Product Lines
Former Tank Farm B Fuel and Oil ASTs
MW13
UST Access
Former Pipe Load/Unload
2013 Remedial Excavation
MW1S
Control Valve Building
MW-1/FB-1
See Sheet R-101 for details
Former Above Ground Pumps
MW3S
Tank Farm A Fuel ASTs
MW-3
Former Dispenser Island
Cardlock Dispenser Island
S WORTHEN ST.
River Bank
MW12
N
W
E
S
0
50
100
SCALE IN FEET
1” = 50’
Hydro Con
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086
DATE: 10-11-18
DWN: JJT
CHK: MS
APPROVED: MS
PRJ. MGR: MS
PROJECT NO: 2017-074
SHEET R-102
PROPOSED REMEDIATION SITE LAYOUT
COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.
C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2018\Sept 2018\2017-074_2018_C-SHEETS-092718.dwg



TYPICAL PLAN VIEW FOR TERMINAL WELL VAULTS:
MW24 AND MW32



TYPICAL SECTIONAL VIEW FOR TERMINAL WELL VAULTS:
MW24 AND MW32

GENERAL NOTES:

A. CONTRACTOR SHALL REMOVE EXISTING WELL MONUMENTS PRIOR TO INSTALLING NEW WELL VAULTS.

B. CONTRACTOR SHALL INSTALL THE VAULTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES. AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL SHALL BE PROVIDED PRIOR TO PAVING. CONTRACTOR WILL REMEDY ANY SUBSIDENCE THAT OCCURS WITHIN 1 YEAR WITHOUT COST TO HYDROCON., OR PROPERTY OWNER.

C. THE CONTRACTOR SHALL AVOID DAMAGING THE EXISTING GROUTED WELL SEAL [I.E., THE SEAL BETWEEN THE WELL CASING AND THE BORE HOLE WALL (ANNULAR SEAL)] WHEN INSTALLING THE PRECAST VAULT AND WHEN DRILLING DRAIN HOLES IN THE BOTTOM OF THE VAULT. THE WELL SEAL TYPICALLY EXTENDS A MINIMUM OF FOUR INCHES HORIZONTALLY BEYOND THE SIDE OF THE WELL CASING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ANNULAR SEAL AT THE CONTRACTOR'S EXPENSE IF THE SEAL IS DAMAGED BY THE CONTRACTOR DURING THE INSTALLATION OF THE VAULT.

D. CONTRACTOR SHALL GROUT THE FLOOR OF THE VAULT TO MINIMIZE VACUUM SHORT CIRCUITING. PROVIDE A MINIMUM OF FOUR $\frac{1}{2}$-INCH DIAMETER WEEP HOLES FOR DRAINAGE. PROVIDE A MINIMUM THICKNESS OF 6 INCHES OF GROUT IN THE BASE OF THE VAULT.

E. CONTRACTOR SHALL SET THE TOP OF VAULT FLUSH WITH THE EXISTING GRADE.

F. THE 1-INCH SCHEDULE PEX TUBING FOR THE WATER SHOULD BE INSTALLED AT A MINIMUM DEPTH OF 36 INCHES IN THE PIPE TRENCH. TUBING FOR COMPRESSED AIR CAN BE INSTALLED AT A SHALLOWER DEPTH AND SHOULD BE INSTALLED THROUGH KNOCKOUTS IN THE WALL OF THE VAULT. ELECTRICAL CONDUIT SHALL BE BURIED A MINIMUM OF 18 INCHES BELOW GROUND SURFACE.

DESCRIPTION OF WELLHEAD ITEMS:

1. OLDCASTLE PRECAST "24 X 24 X VARIES VAULT". SPECIFY A DEPTH OF 24 INCHES, WITH OPEN BOTTOM; KNOCKOUTS ON ONE SIDE OF VAULT AND GALVANIZED LID.
2. QED ENVIRONMENTAL - STANDARD 4-INCH WELL CAP WITH FITTINGS FOR WELL PUMP AP3 BOTTOM LOADING SHORT PUMP; EQUIPPED WITH FILTER REGULATOR; PUMP CYCLE COUNTER; BRASS QUICK-CONNECT FITTINGS ($\frac{3}{8}$-INCH O.D. AIR SUPPLY AND $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINES);
3. QED $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINE.
4. EXISTING WELL (4-INCH DIAMETER SCHEDULE 40 PVC).
5. 4-INCH DIAMETER SCHEDULE 40 PVC COUPLING SOC X SOC (SPEARS PART NO. 429=040.
6. 1-INCH DIAMETER CHECK VALVE (SPEARS S1580-10F) THREADED
7. 1-INCH DIAMETER TRUE UNION BALL VALVE (SPEARS 3629-010) THREADED OR SOCKET.
8. 1-INCH DIAMETER PEX 90° ELBOW, PUSH CONNECTORS.
9. 1-INCH DIAMETER PEX TUBING
10. 1-INCH DIAMETER (MINIMUM) PVC ELECTRICAL CONDUIT
11. 3/4-INCH NOMINAL DIAMETER PEX TUBING FOR COMPRESSED AIR SUPPLY
12. 3/4 - INCH REGULAR PORT THREADED BRONZE BALL VALVE; APOLLO VALVE SERIES 32-104.
13. QED $\frac{3}{8}$-INCH O.D. AIR SUPPLY LINE.
14. NEMA-6P JUNCTION BOX FOR 120V ELECTRICAL. PROVIDE AND HARD WIRE CHROMALOX HEAT CABLE MODEL SRL-5-1CT INTO JUNCTION BOX. SECURE HEAT CABLE TO WATER LINE, VALVES, AND FITTINGS USING CHROMALOX-SUPPLIED SPLICES, TAPE, AND ENDS. PROVIDE AND INSTALL FOAM PIPE INSULATION.

NOT TO SCALE

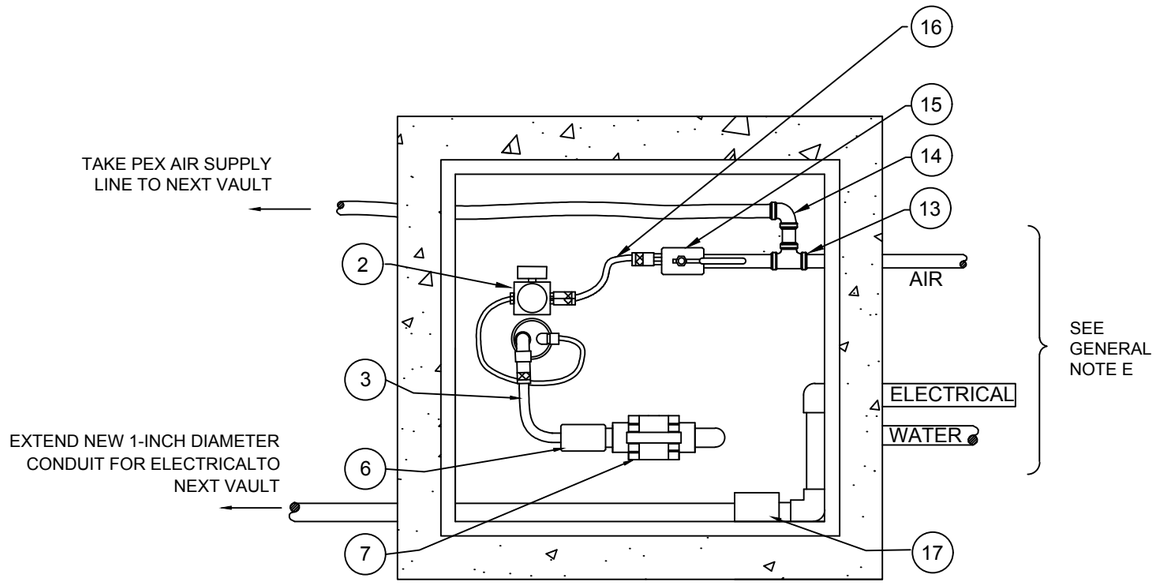
Hydro Con
510 Allen St. Suite B Kelso, Wa 98626, Ph(360)-703-6086

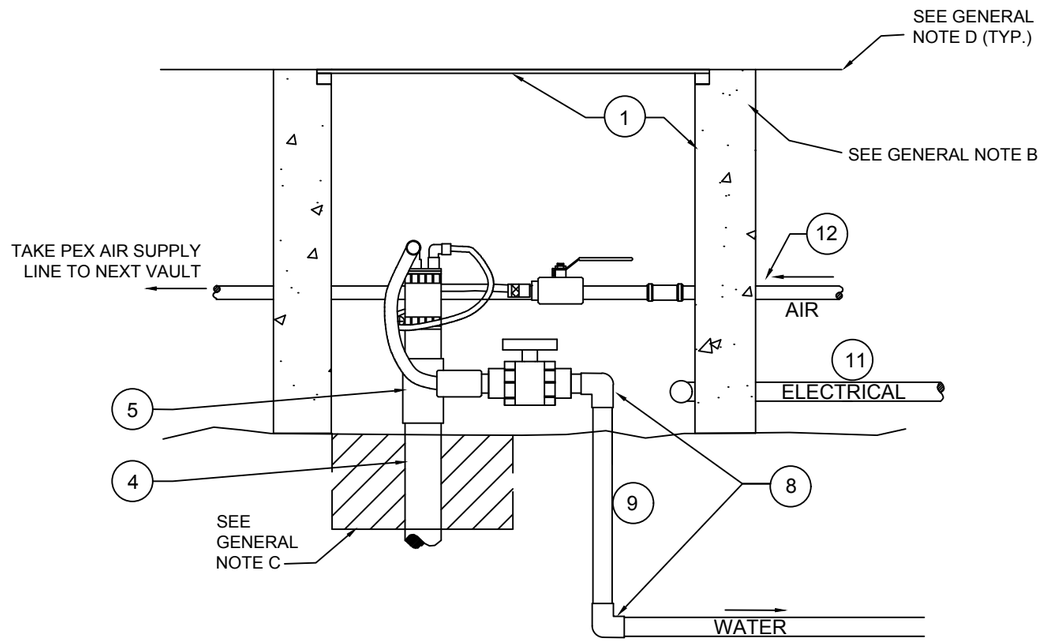
DATE: 10-11-18
DWN: MES/JJT
CHK: MES
APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET C-100
DETAILS FOR TERMINAL VAULTS MW-24 AND MW-32

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

C:\Users\Josh\Desktop\Autocad Files\Hydrocon-Autocad\2017-074 Coleman Oil\2018\Sept 2018\2017-074_2018_C-SHEETS-092718.dwg





GENERAL NOTES:

A. CONTRACTOR SHALL REMOVE EXISTING WELL MONUMENTS PRIOR TO INSTALLING NEW WELL VAULTS.

B. CONTRACTOR SHALL INSTALL THE VAULTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES. AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL SHALL BE PROVIDED PRIOR TO PAVING. CONTRACTOR WILL REMEDY ANY SUBSIDENCE THAT OCCURS WITHIN 1 YEAR WITHOUT COST TO HYDROCON., OR PROPERTY OWNER.

C. THE CONTRACTOR SHALL AVOID DAMAGING THE EXISTING GROUTED WELL SEAL [I.E., THE SEAL BETWEEN THE WELL CASING AND THE BORE HOLE WALL (ANNULAR SEAL)] WHEN INSTALLING THE PRECAST VAULT AND WHEN DRILLING DRAIN HOLES IN THE BOTTOM OF THE VAULT. THE WELL SEAL TYPICALLY EXTENDS A MINIMUM OF FOUR INCHES HORIZONTALLY BEYOND THE SIDE OF THE WELL CASING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ANNULAR SEAL AT THE CONTRACTOR'S EXPENSE IF THE SEAL IS DAMAGED BY THE CONTRACTOR DURING THE INSTALLATION OF THE VAULT.

D. CONTRACTOR SHALL SET THE TOP OF VAULT FLUSH WITH THE EXISTING GRADE.

E. THE 1-INCH DIAMETER PEX TUBING FOR THE WATER SHOULD BE INSTALLED AT A MINIMUM DEPTH OF 36 INCHES IN THE PIPE TRENCH. TUBING FOR COMPRESSED AIR CAN BE INSTALLED AT A SHALLOWER DEPTH AND SHOULD BE INSTALLED THROUGH KNOCKOUTS IN THE WALL OF THE VAULT. ELECTRICAL CONDUIT SHALL BE BURIED A MINIMUM OF 18 INCHES BELOW GROUND SURFACE.

DESCRIPTION OF WELLHEAD ITEMS:

1. OLDCASTLE PRECAST "24 X 24 X VARIES VAULT". SPECIFY A DEPTH OF 24 INCHES, WITH OPEN BOTTOM; KNOCKOUTS ON ONE SIDE OF VAULT AND GALVANIZED LID.
2. QED ENVIRONMENTAL - STANDARD 2-INCH WELL CAP WITH FITTINGS FOR WELL PUMP AP2 BOTTOM LOADING SHORT PUMP; EQUIPPED WITH FILTER REGULATOR; PUMP CYCLE COUNTER; BRASS QUICK-CONNECT FITTINGS ($\frac{3}{8}$-INCH O.D. AIR SUPPLY AND $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINES);
3. QED $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINE.
4. EXISTING WELL (2-INCH DIAMETER SCHEDULE 40 PVC).
5. 2-INCH DIAMETER SCHEDULE 40 PVC COUPLING SOC X SOC (SPEARS PART NO. 429=020.
6. 1-INCH DIAMETER CHECK VALVE (SPEARS S1580-10F) THREADED
7. 1-INCH DIAMETER TRUE UNION BALL VALVE (SPEARS 3629-010) THREADED OR SOCKET.
8. 1-INCH DIAMETER PEX 90° ELBOW PUSH CONNECTIONS
9. 1-INCH DIAMETER PEX TUBING
10. REPLACE EXISTING 90° ELBOW WITH A 1-INCH DIAMETER SCHEDULE 80 PVC "TEE " FOR EXTENDING WATER LINE TO THE NORTH TO CONNECT NEW WELL MW28 TO SYSTEM
11. 1-INCH DIAMETER (MINIMUM) PVC ELECTRICAL CONDUIT
12. 3/4-INCH NOMINAL DIAMETER PEX TUBING FOR COMPRESSED AIR SUPPLY
13. 3/4-INCH PEX "T" FITTING PUSH CONNECTOR
14. 3/4-INCH PEX 90 DEGREE ELBOW PUSH CONNECTOR
15. 3/4 - INCH REGULAR PORT THREADED BRONZE BALL VALVE; APOLLO VALVE SERIES 32-104.
16. QED $\frac{3}{8}$-INCH O.D. AIR SUPPLY LINE.
17. NEMA-6P JUNCTION BOX FOR 120V ELECTRICAL. PROVIDE AND HARD WIRE CHROMALOX HEAT CABLE MODEL SRL-5-1CT INTO JUNCTION BOX. SECURE HEAT CABLE TO WATER LINE, VALVES, AND FITTINGS USING CHROMALOX-SUPPLIED SPLICES, TAPE, AND ENDS. PROVIDE AND INSTALL FOAM PIPE INSULATION.

NOT TO SCALE

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

DATE: 10-11-18
DWN: MES/JJT
CHK: MES
APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET C-101
DETAILS FOR VAULT BH-1

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

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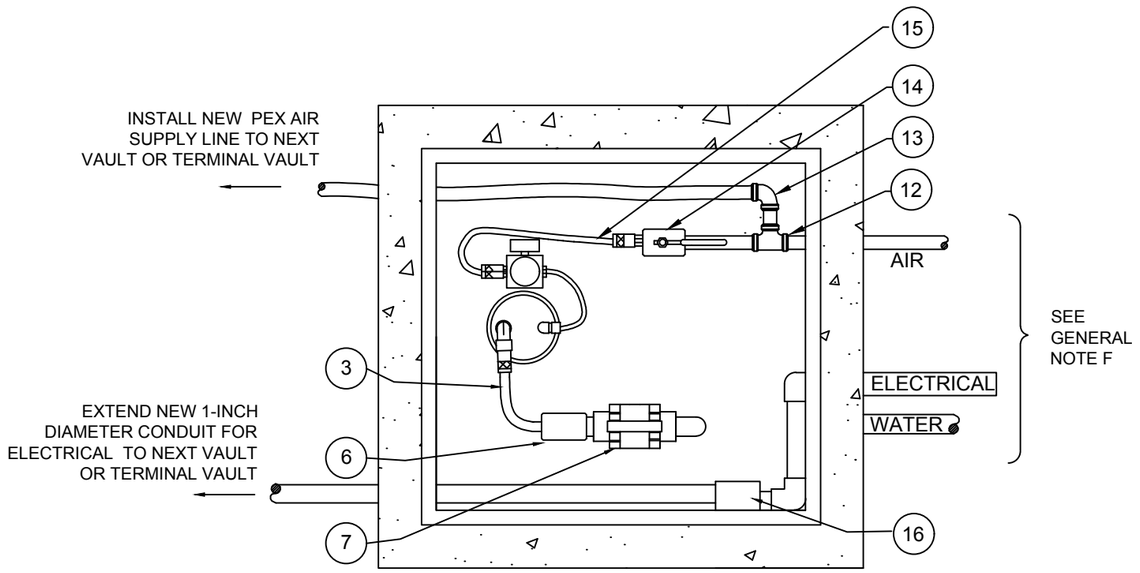
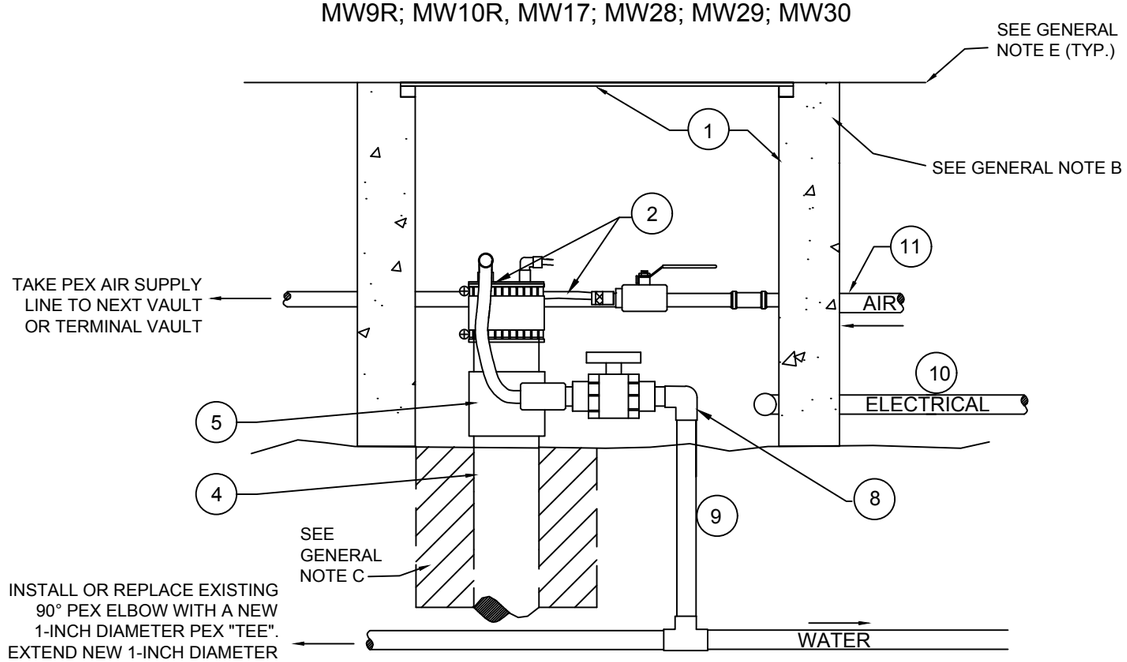


TYPICAL PLAN VIEW FOR PASS THROUGH VAULTS
MW9R; MW10R, MW17; MW28; MW29; MW30



TYPICAL SECTIONAL VIEW FOR PASS THROUGH VAULTS
MW9R; MW10R, MW17; MW28; MW29; MW30

GENERAL NOTES:

A. CONTRACTOR SHALL REMOVE EXISTING WELL MONUMENTS PRIOR TO INSTALLING NEW WELL VAULTS.

B. CONTRACTOR SHALL INSTALL THE VAULTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES. AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL SHALL BE PROVIDED PRIOR TO PAVING. CONTRACTOR WILL REMEDY ANY SUBSIDENCE THAT OCCURS WITHIN 1 YEAR WITHOUT COST TO HYDROCON., OR PROPERTY OWNER.

C. THE CONTRACTOR SHALL AVOID DAMAGING THE EXISTING GROUTED WELL SEAL [I.E., THE SEAL BETWEEN THE WELL CASING AND THE BORE HOLE WALL (ANNULAR SEAL)] WHEN INSTALLING THE PRECAST VAULT AND WHEN DRILLING DRAIN HOLES IN THE BOTTOM OF THE VAULT. THE WELL SEAL TYPICALLY EXTENDS A MINIMUM OF FOUR INCHES HORIZONTALLY BEYOND THE SIDE OF THE WELL CASING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ANNULAR SEAL AT THE CONTRACTOR'S EXPENSE IF THE SEAL IS DAMAGED BY THE CONTRACTOR DURING THE INSTALLATION OF THE VAULT.

D. CONTRACTOR SHALL GROUT THE FLOOR OF THE VAULT TO MINIMIZE VACUUM SHORT CIRCUITING. PROVIDE A MINIMUM OF FOUR $\frac{1}{2}$-INCH DIAMETER WEEP HOLES FOR DRAINAGE. PROVIDE A MINIMUM THICKNESS OF 6 INCHES OF GROUT IN THE BASE OF THE VAULT.

E. CONTRACTOR SHALL SET THE TOP OF VAULT FLUSH WITH THE EXISTING GRADE.

F. THE 1-INCH PEX TUBING FOR THE WATER SHOULD BE INSTALLED AT A MINIMUM DEPTH OF 36 INCHES IN THE PIPE TRENCH. TUBING FOR COMPRESSED AIR CAN BE INSTALLED AT A SHALLOWER DEPTH AND SHOULD BE INSTALLED THROUGH KNOCKOUTS IN THE WALL OF THE VAULT. ELECTRICAL CONDUIT SHALL BE BURIED A MINIMUM OF 18 INCHES BELOW GROUND SURFACE.

DESCRIPTION OF WELLHEAD ITEMS:

1. OLDCASTLE PRECAST "24 X 24 X VARIES VAULT". SPECIFY A DEPTH OF 24 INCHES, WITH OPEN BOTTOM; KNOCKOUTS ON ONE SIDE OF VAULT AND GALVANIZED LID.
2. QED ENVIRONMENTAL - STANDARD 4-INCH WELL CAP WITH FITTINGS FOR WELL PUMP AP3 BOTTOM LOADING SHORT PUMP; EQUIPPED WITH FILTER REGULATOR; PUMP CYCLE COUNTER; BRASS QUICK-CONNECT FITTINGS ($\frac{3}{8}$-INCH O.D. AIR SUPPLY AND $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINES);
3. QED $\frac{5}{8}$-INCH O.D. LIQUID DISCHARGE LINE.
4. EXISTING WELL (4-INCH DIAMETER SCHEDULE 40 PVC).
5. 4-INCH DIAMETER SCHEDULE 40 PVC COUPLING SOC X SOC (SPEARS PART NO. 429=040.
6. 1-INCH DIAMETER CHECK VALVE (SPEARS S1580-10F) THREADED
7. 1-INCH DIAMETER TRUE UNION BALL VALVE (SPEARS 3629-010) THREADED OR SOCKET.
8. 1-INCH DIAMETER PEX 90° ELBOW PUSH CONNECTIONS
9. 1-INCH DIAMETER PEX TUBING
10. 1-INCH DIAMETER (MINIMUM) PVC ELECTRICAL CONDUIT
11. 3/4-INCH NOMINAL DIAMETER PEX TUBING FOR COMPRESSED AIR SUPPLY
12. 3/4-INCH PEX "T" FITTING PUSH CONNECTOR
13. 3/4-INCH PEX 90 DEGREE ELBOW PUSH CONNECTOR
14. 3/4 - INCH REGULAR PORT THREADED BRONZE BALL VALVE; APOLLO VALVE SERIES 32-104.
15. QED $\frac{3}{8}$-INCH O.D. AIR SUPPLY LINE.
16. NEMA-6P JUNCTION BOX FOR 120V ELECTRICAL. PROVIDE AND HARD WIRE CHROMALOX HEAT CABLE MODEL SRL-5-1CT INTO JUNCTION BOX. SECURE HEAT CABLE TO WATER LINE, VALVES, AND FITTINGS USING CHROMALOX-SUPPLIED SPLICES, TAPE, AND ENDS. PROVIDE AND INSTALL FOAM PIPE INSULATION.

NOT TO SCALE

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

DATE: 10-11-18
DWN: MES/JJT
CHK: MES
APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET C-102
DETAILS FOR PASS-THROUGH VAULTS

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

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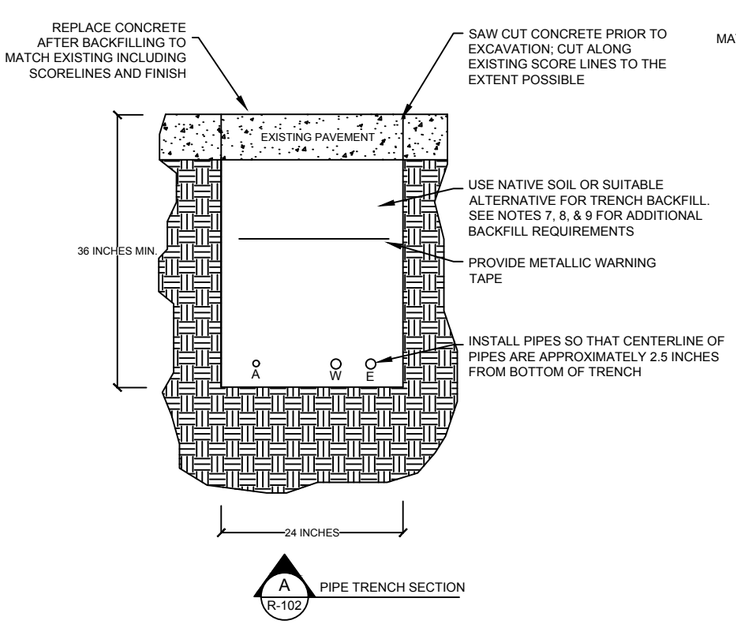

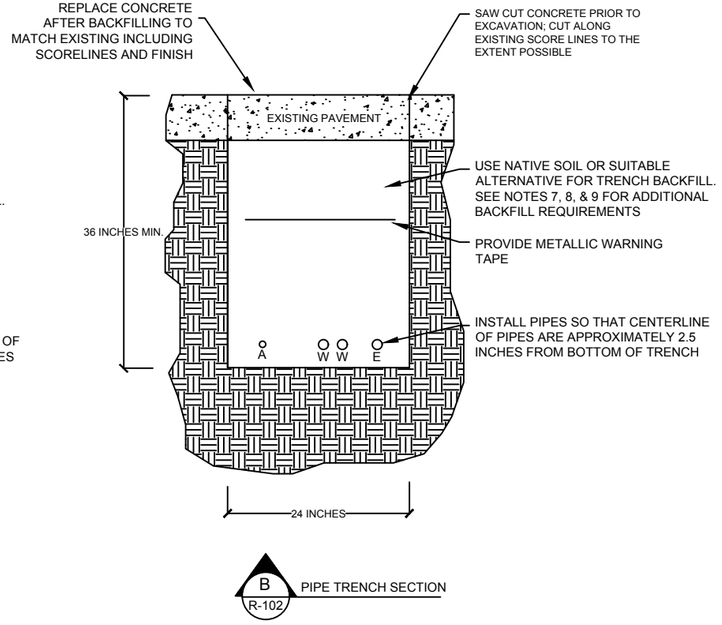

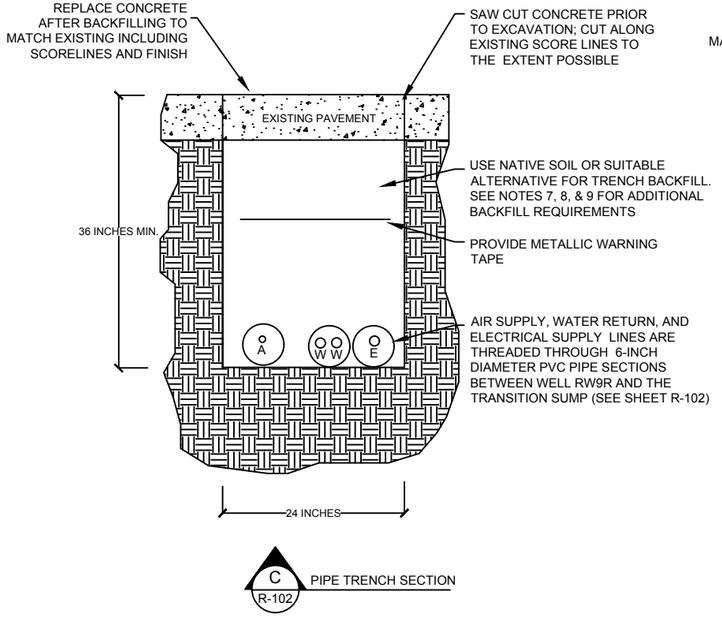

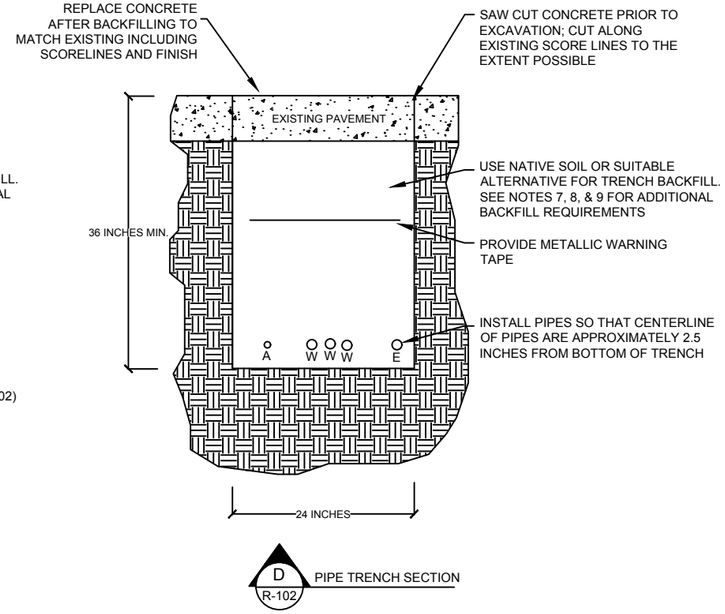

GENERAL NOTES:

1. INSPECT ALL PIPES FOR CUTS, SCRATCHES, GOUGES, OR SPLIT END UPON DELIVERY TO SITE AND PRIOR TO INSTALLATION. DO NOT USE DAMAGED SECTIONS OF PIPE.
2. STORE AND HANDLE PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. TRENCH BOTTOM SHALL BE CONTINUOUS, FREE OF ROCKS, AND RELATIVELY SMOOTH.
4. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PIPE SOLVENT CONNECTIONS AND CURE TIMES.
5. TEST PIPES FOR LEAKS PRIOR TO BACKFILLING.
6. FOLLOW PVC PIPING MANUFACTURER'S RECOMMENDATIONS FOR SNAKING BURIED PIPE TO COMPENSATE FOR THERMAL EXPANSION/CONTRACTION.
7. PLACE AND SURROUND PIPE(S) WITH A 6-INCH THICKNESS OF BACKFILL FREE OF ROCKS WITH A PARTICLE SIZE OF $\frac{1}{2}$ INCH OR LESS. CLEAN SAND IS PREFERRED.
8. PLACE BACKFILL IN 6- TO 8-INCH LOOSE LIFTS AND COMPACT BY HAND OR WITH A MECHANICAL TAMPER. PLACE A 12-INCH LOOSE LIFT ABOVE PIPE PRIOR TO BEGINNING COMPACTION. REMOVE LARGE OR SHARP ROCKS, FROZEN CLODS, AND OTHER DEBRIS GREATER THAN 2" IN DIAMETER.
9. PROVIDE AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL PRIOR TO PAVING.

PIPING LEGEND

A	3/4"-DIA. PEX AIR LINE
E	1"-DIA. PVC ELECTRICAL CONDUIT LINE
W	1"-DIA. PEX WATER LINE

NOT TO SCALE

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

DATE: 10-11-18
DWN: MES/JJT
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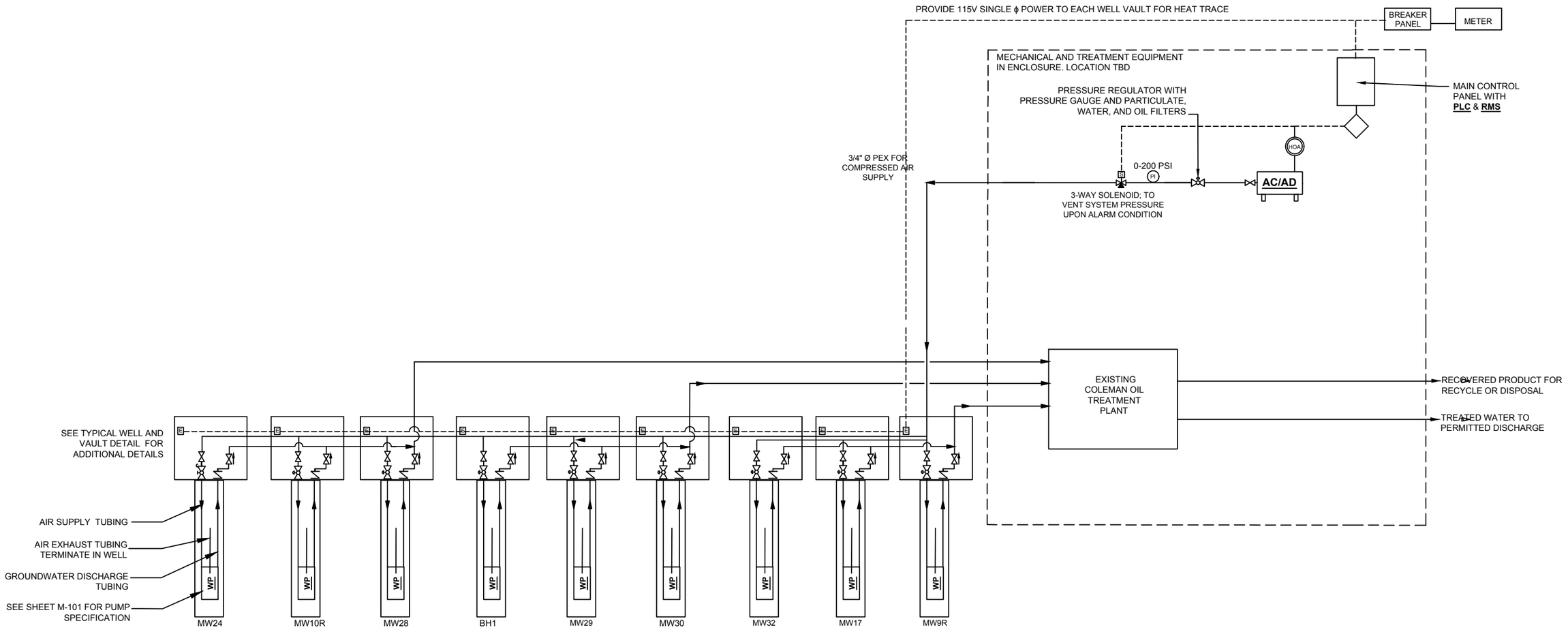
APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET C-103
UTILITY TRENCH DETAILS

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.



MAJOR EQUIPMENT

AC	AIR COMPRESSOR
AD	AIR DRYER
PLC	PROGRAMMABLE LOGIC CONTROLLER
RMS	REM
WP	OTE MONITORING SYSTEM WELL PUMP

LEGEND

PI	PRESSURE INDICATOR
SP	SAMPLE PORT
TYP	TYPICAL
HOA	HAND/OFF/AUTO SWITCH - CONTROL PANEL MOUNTED

VALVE - NORMALLY OPEN
VALVE NORMALLY CLOSED
FILTER REGULATOR
3-WAY SOLENOID VALVE
PRESSURE/VACUUM RELIEF VALVE
CHECK VALVE

NOT TO SCALE

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

DATE: 10-11-18
DWN: MES/JJT
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APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET M-100
PROCESS FLOW & INSTRUMENTATION

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

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EQUIPMENT; INSTRUMENTATION; AND WELL SCHEDULES

COLEMAN OIL GROUNDWATER RECOVERY SYSTEM;
(REFER TO SHEET M-100 FOR MAJOR EQUIPMENT ABBREVIATIONS)

EQUIPMENT SCHEDULE

- **AC/AD - AIR COMPRESSOR/AIR DRYER**
  CHAMPION PNEUMATIC L-SERIES ROTARY SCREW COMPRESSOR;
  7.5 HP AVAILABLE WITH EITHER 1ϕ 230V; OR 3ϕ 208/230V/460V
  TEFC MOTOR; EQUIPPED WITH ONBOARD REFRIGERANT DRYER
- **PLC - PROGRAMMABLE LOGIC CONTROLLER**
  DIRECT LOGIC DL205 OR EQUIVALENT
- **REMOTE MONITORING SYSTEM**
  TBD
- **WP- WELL PUMPS**
  SEE WELL AND PUMP SCHEDULE THIS SHEET FOR PUMP MODEL TO BE INSTALLED

INSTRUMENTATION SCHEDULE

PI - PRESSURE INDICATORS; RANGE AND UNITS SHOWN ON SHEET M-100

WELL AND PUMP SCHEDULE

WELL ID	DIAMETER INCHES	TOTAL DEPTH FT. BELOW TOC	SCREENED INTERVAL	WELL PUMP
MW09R	4	35	10-35'	QED; AP3T SHORT
MW10R	4	35	10-35'	QED; AP3T SHORT
BH-1	2	30	20-30'	QED; AP2T SHORT
MW17	4	29.75	9.52-29.52'	QED; AP2T SHORT
MW24	4	35	15-35'	QED; AP3T SHORT
MW28	4	40	15-40'	QED; AP3T SHORT
MW29	4	39.50	14.05-39.05'	QED; AP3T SHORT
MW30	4	40.12	14.67-39.67'	QED; AP3T SHORT
MW31	4	39.56	14.11-39.11'	NONE
MW32	4	34.40	8.95-33.95'	QED; AP3T SHORT

ABBREVIATIONS

ACFM = ACTUAL CUBIC FEET PER MINUTE
HP = HORSEPOWER
Hz = HERTZ
ϕ = ELECTRICAL PHASE
PSIG = POUNDS PER SQUARE INCH GAUGE
SCFM = STANDARD CUBIC FEET PER MINUTE
TBD = TO BE DETERMINED
TEFC = TOTAL ENCLOSED FAN COOLED
TOC = TOP OF CASING
V = ALTERNATING CURRENT VOLTAGE

NOT TO SCALE

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

DATE: 10-11-18
DWN: MES/JJT
CHK: MES
APPROVED: MES
PRJ. MGR: CH
PROJECT NO: 2017-074

SHEET M-101
EQUIPMENT & INSTRUMENTATION SCHEDULE

COLEMAN OIL COMPANY
3 CHEHALIS ST.
WENATCHEE, WA.

Appendix B
Product Recovery

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River				
Columbia River	3/27/2017	3/27/2017	30.00	pads
Columbia River	3/27/2017	4/2/2017	22.75	booms, pads
Columbia River	4/4/2017	4/4/2017	0.62	pads
Columbia River	4/5/2017	4/5/2017	2.89	booms, pads
Columbia River	4/6/2017	4/6/2017	2.02	booms, pads
Columbia River	4/7/2017	4/7/2017	3.77	booms, pads
Columbia River	4/8/2017	4/8/2017	2.59	pads
Columbia River	4/9/2017	4/9/2017	1.28	pads
Columbia River	4/10/2017	4/10/2017	1.77	pads
Columbia River	4/11/2017	4/11/2017	2.49	pads
Columbia River	4/12/2017	4/12/2017	2.69	pads
Columbia River	4/13/2017	4/13/2017	1.94	pads
Columbia River	4/14/2017	4/14/2017	1.65	pads
Columbia River	4/15/2017	4/15/2017	3.52	pads
Columbia River	4/16/2017	4/16/2017	1.21	pads
Columbia River	4/17/2017	4/17/2017	3.62	pads
Columbia River	4/18/2017	4/18/2017	1.13	pads
Columbia River	4/19/2017	4/19/2017	0.91	pads
Columbia River	4/20/2017	4/20/2017	0.76	pads
Columbia River	4/21/2017	4/21/2017	0.79	pads
Columbia River	4/22/2017	4/22/2017	1.08	pads
Columbia River	4/23/2017	4/23/2017	0.77	pads
Columbia River	4/25/2017	4/25/2017	0.44	pads
Columbia River	4/27/2017	4/27/2017	1.05	pads
Columbia River	4/28/2017	4/28/2017	0.95	pads
Columbia River	4/29/2017	4/29/2017	0.54	pads
Columbia River	4/30/2017	4/30/2017	1.09	pads
Columbia River	5/1/2017	5/1/2017	0.30	pads
Columbia River	5/3/2017	5/3/2017	2.00	pads
Columbia River	5/5/2017	5/5/2017	1.74	pads
Columbia River	5/6/2017	5/6/2017	0.95	pads
Columbia River	5/7/2017	5/7/2017	0.94	pads
Columbia River	5/9/2017	5/9/2017	1.85	pads
Columbia River	5/10/2017	5/10/2017	1.85	pads
Columbia River	5/11/2017	5/11/2017	2.96	pads
Columbia River	5/12/2017	5/12/2017	1.46	pads
Columbia River	5/13/2017	5/13/2017	0.60	pads
Columbia River	5/14/2017	5/14/2017	0.53	pads
Columbia River	5/15/2017	5/15/2017	0.83	pads
Columbia River	5/16/2017	5/16/2017	0.48	pads
Columbia River	5/17/2017	5/17/2017	1.19	pads
Columbia River	5/18/2017	5/18/2017	1.99	pads
Columbia River	5/19/2017	5/19/2017	0.24	pads
Columbia River	5/20/2017	5/20/2017	1.33	pads
Columbia River	5/21/2017	5/21/2017	0.79	pads
Columbia River	5/22/2017	5/22/2017	0.34	pads
Columbia River	5/31/2017	6/4/2017	0.41	pads
Columbia River	6/5/2017	6/5/2017	0.79	pads
Columbia River	5/25/2017	6/5/2017	1.24	boom
Columbia River	6/5/2017	6/6/2017	1.25	pads
Columbia River	6/6/2017	6/7/2017	0.10	pads
Columbia River	6/7/2017	6/8/2017	0.26	pads
Columbia River	6/8/2017	6/9/2017	0.40	pads
Columbia River	6/9/2017	6/10/2017	0.66	pads
Columbia River	6/10/2017	6/11/2017	0.30	pads
Columbia River	6/10/2017	6/11/2017	0.48	boom

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River	6/11/2017	6/12/2017	1.70	pads
Columbia River	6/12/2017	6/13/2017	0.49	pads
Columbia River	6/18/2017	6/19/2017	0.82	pads
Columbia River	6/19/2017	6/20/2017	2.63	boom
Columbia River	6/19/2017	6/20/2017	0.94	pads
Columbia River	6/20/2017	6/21/2017	0.24	pads
Columbia River	6/20/2017	6/21/2017	0.30	boom
Columbia River	6/21/2017	6/22/2017	0.20	boom
Columbia River	6/21/2017	6/22/2017	0.46	pads
Columbia River	6/22/2017	6/23/2017	0.72	pads
Columbia River	6/23/2017	6/24/2017	0.06	pads
Columbia River	6/24/2017	6/25/2017	0.21	pads
Columbia River	6/25/2017	6/26/2017	0.53	pads
Columbia River	6/22/2017	6/26/2017	0.14	boom
Columbia River	6/26/2017	6/27/2017	0.08	pads
Columbia River	6/27/2017	6/28/2017	0.45	pads
Columbia River	6/26/2017	6/28/2017	0.72	boom
Columbia River	6/28/2017	6/29/2017	0.32	pads
Columbia River	6/29/2017	6/30/2017	1.47	boom
Columbia River	6/29/2017	6/30/2017	0.56	pads
Columbia River	6/30/2017	7/1/2017	0.30	pads
Columbia River	7/1/2017	7/2/2017	0.53	pads
Columbia River	7/1/2017	7/2/2017	0.68	boom
Columbia River	7/2/2017	7/3/2017	0.25	pads
Columbia River	7/3/2017	7/4/2017	0.14	pads
Columbia River	7/4/2017	7/5/2017	1.73	pads
Columbia River	7/4/2017	7/5/2017	0.81	boom
Columbia River	7/5/2017	7/6/2017	0.08	pads
Columbia River	7/6/2017	7/7/2017	0.31	pads
Columbia River	7/7/2017	7/8/2017	0.31	pads
Columbia River	7/8/2017	7/9/2017	0.41	pads
Columbia River	7/9/2017	7/10/2017	0.16	pads
Columbia River	7/10/2017	7/11/2017	0.22	pads
Columbia River	7/11/2017	7/13/2017	0.53	pads
Columbia River	7/13/2017	7/14/2017	0.11	pads
Columbia River	7/14/2017	7/15/2017	0.46	pads
Columbia River	7/15/2017	7/16/2017	0.29	pads
Columbia River	7/16/2017	7/17/2017	0.11	pads
Columbia River	7/18/2017	7/19/2017	0.06	pads
Columbia River	7/5/2017	7/19/2017	0.11	boom
Columbia River	7/19/2017	7/20/2017	0.13	pads
Columbia River	7/20/2017	7/21/2017	0.15	pads
Columbia River	7/21/2017	7/22/2017	0.18	pads
Columbia River	7/21/2017	7/23/2017	0.06	pads
Columbia River	7/19/2017	7/24/2017	0.35	boom
Columbia River	7/23/2017	7/24/2017	0.01	pads
Columbia River	7/24/2017	7/25/2017	0.06	pads
Columbia River	7/25/2017	7/26/2017	0.09	pads
Columbia River	7/26/2017	7/27/2017	0.15	pads
Columbia River	7/27/2017	7/28/2017	0.01	pads
Columbia River	7/24/2017	7/30/2017	0.00	boom
Columbia River	7/28/2017	7/30/2017	0.22	pads
Columbia River	7/30/2017	7/31/2017	0.12	pads
Columbia River	7/30/2017	8/1/2017	0.93	boom
Columbia River	7/30/2017	8/1/2017	0.17	pads
Columbia River	8/1/2017	8/2/2017	0.09	pads
Columbia River	8/1/2017	8/3/2017	0.24	boom

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River	8/2/2017	8/3/2017	0.33	pads
Columbia River	8/3/2017	8/4/2017	0.14	pads
Columbia River	8/4/2017	8/5/2017	0.18	pads
Columbia River	8/3/2017	8/5/2017	0.30	boom
Columbia River	8/5/2017	8/6/2017	1.38	pads
Columbia River	8/6/2017	8/7/2017	0.19	pads
Columbia River	8/7/2017	8/8/2017	0.18	pads
Columbia River	8/5/2017	8/8/2017	0.85	boom
Columbia River	8/8/2017	8/9/2017	0.06	pads
Columbia River	8/8/2017	8/10/2017	0.05	boom
Columbia River	8/9/2017	8/10/2017	0.15	pads
Columbia River	8/10/2017	8/11/2017	0.18	pads
Columbia River	8/11/2017	8/12/2017	0.15	pads
Columbia River	8/12/2017	8/13/2017	0.24	pads
Columbia River	8/13/2017	8/14/2017	0.26	pads
Columbia River	8/10/2017	8/14/2017	0.05	boom
Columbia River	8/14/2017	8/15/2017	0.06	pads
Columbia River	8/15/2017	8/16/2017	0.30	pads
Columbia River	8/16/2017	8/17/2017	0.39	pads
Columbia River	8/17/2017	8/18/2017	0.13	pads
Columbia River	8/18/2017	8/19/2017	0.06	pads
Columbia River	8/19/2017	8/20/2017	0.20	pads
Columbia River	8/8/2017	8/20/2017	0.07	boom
Columbia River	8/20/2017	8/21/2017	0.17	pads
Columbia River	8/21/2017	8/22/2017	0.05	pads
Columbia River	8/23/2017	8/23/2017	0.05	pads
Columbia River	8/24/2017	8/24/2017	0.03	pads
Columbia River	8/25/2017	8/25/2017	0.30	pads
Columbia River	8/26/2017	8/26/2017	0.07	pads
Columbia River	8/28/2017	8/28/2017	0.34	pads
Columbia River	8/29/2017	8/29/2017	0.18	pads
Columbia River	8/30/2017	8/30/2017	0.04	pads
Columbia River	8/20/2017	8/30/2017	0.46	boom
Columbia River	8/20/2017	8/31/2017	0.98	boom
Columbia River	9/1/2017	9/1/2017	0.22	pads
Columbia River	8/20/2017	9/1/2017	0.55	boom
Columbia River	9/2/2017	9/2/2017	0.13	pads
Columbia River	9/3/2017	9/3/2017	0.22	pads
Columbia River	8/30/2017	9/4/2017	1.30	boom
Columbia River	9/4/2017	9/4/2017	0.14	pads
Columbia River	9/5/2017	9/5/2017	0.37	pads
Columbia River	9/12/2017	9/12/2017	0.08	pads
Columbia River	8/20/2017	9/14/2017	0.24	boom
Columbia River	9/14/2017	9/14/2017	0.01	pads
Columbia River	9/15/2017	9/15/2017	0.20	pads
Columbia River	9/16/2017	9/16/2017	0.03	pads
Columbia River	9/17/2017	9/17/2017	0.22	pads
Columbia River	9/19/2017	9/19/2017	0.05	pads
Columbia River	9/20/2017	9/20/2017	0.03	pads
Columbia River	9/1/2017	9/21/2017	0.60	boom
Columbia River	9/1/2017	9/22/2017	0.76	boom
Columbia River	9/22/2017	9/22/2017	0.07	pads
Columbia River	9/25/2017	9/25/2017	0.11	pads
Columbia River	9/25/2017	10/1/2017	0.17	pads
Columbia River	unknown	10/2/2017	1.04	boom
Columbia River	10/2/2017	10/6/2017	0.25	pads
Columbia River	10/6/2017	10/31/2017	0.33	boom

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River	11/31/17	11/29/2017	1.90	boom
Columbia River	10/31/2017	11/30/2017	3.38	boom
Columbia River	unknown	12/1/2017	0.37	pads
Columbia River	10/31/2017	12/3/2017	0.48	boom
Columbia River	unknown	12/5/2017	0.41	pads
Columbia River	12/5/2017	12/11/2017	0.58	pads
Columbia River	12/11/2017	12/16/2017	0.26	pads
Columbia River	12/16/2017	12/18/2017	0.51	pads
Columbia River	12/18/2017	12/20/2017	0.73	pads
Columbia River	12/20/2017	12/22/2017	0.23	pads
Columbia River	12/22/2017	12/23/2017	0.08	pad
Columbia River	12/22/2017	12/26/2017	0.34	pads
Columbia River	12/22/2017	12/27/2017	0.10	pads
Columbia River	12/26/2017	12/28/2017	0.27	pads
Columbia River	12/28/2017	12/29/2017	0.28	pads
Columbia River	12/29/2017	12/30/2017	0.31	pads
Columbia River	12/30/2017	12/31/2017	0.18	pads
Columbia River	12/28/2017	1/1/2018	0.51	pads
Columbia River	1/1/2018	1/3/2018	0.42	pads
Columbia River	1/3/2018	1/4/2018	0.63	pads
Columbia River	1/4/2018	1/6/2018	1.11	pads
Columbia River	1/6/2018	1/7/2018	0.41	pads
Columbia River	1/7/2018	1/8/2018	0.04	sock
Columbia River	1/8/2018	1/9/2018	0.28	socks
Columbia River	1/9/2018	1/10/2018	0.54	pads
Columbia River	1/10/2018	1/11/2018	0.49	pads
Columbia River	1/11/2018	1/12/2018	0.81	pads
Columbia River	1/12/2018	1/13/2018	0.41	pads
Columbia River	1/13/2018	1/14/2018	0.19	pads
Columbia River	1/14/2018	1/15/2018	0.19	pads
Columbia River	1/15/2018	1/16/2018	0.63	pads
Columbia River	1/16/2018	1/17/2018	0.33	pads
Columbia River	unknown	1/18/2018	1.99	boom
Columbia River	1/18/2018	1/18/2018	0.11	pads
Columbia River	1/18/2018	1/19/2018	0.30	pads
Columbia River	1/19/2018	1/20/2018	0.13	pads
Columbia River	1/20/2018	1/22/2018	0.29	pads
Columbia River	1/22/2018	1/23/2018	0.98	pads
Columbia River	1/23/2018	1/24/2018	0.79	pads
Columbia River	1/24/2018	1/25/2018	0.40	pads
Columbia River	1/25/2018	1/26/2018	0.61	pads
Columbia River	1/26/2018	1/27/2018	0.22	pads
Columbia River	1/27/2018	1/28/2018	1.08	pads
Columbia River	1/28/2018	1/29/2018	0.02	pads
Columbia River	1/29/2018	1/30/2018	0.51	pads
Columbia River	1/30/2018	1/31/2018	0.15	pads
Columbia River	1/31/2018	2/1/2018	0.46	pads
Columbia River	2/1/2018	2/2/2018	0.38	pads
Columbia River	2/2/2018	2/3/2018	0.40	pads
Columbia River	2/3/2018	2/5/2018	0.59	pads
Columbia River	2/5/2018	2/7/2018	1.62	boom
Columbia River	2/7/2018	2/7/2018	0.36	pads
Columbia River	2/7/2018	2/9/2018	0.63	pads
Columbia River	2/9/2018	2/11/2018	0.68	pads
Columbia River	2/11/2018	2/13/2018	0.16	pads
Columbia River	2/13/2018	2/14/2018	0.05	pads
Columbia River	2/14/2018	2/15/2018	0.18	pads

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River	2/15/2018	2/16/2018	0.19	pads
Columbia River	2/16/2018	2/17/2018	0.39	pads
Columbia River	2/17/2018	2/19/2018	0.29	pads
Columbia River	2/19/2018	2/20/2018	0.71	pads
Columbia River	2/20/2018	2/21/2018	0.39	pads
Columbia River	2/21/2018	2/22/2018	0.13	pads
Columbia River	2/22/2018	2/24/2018	0.43	pads
Columbia River	2/24/2018	2/26/2018	0.29	pads
Columbia River	2/26/2018	2/27/2018	0.04	pads
Columbia River	2/27/2018	3/2/2018	0.15	pads
Columbia River	3/2/2018	3/5/2018	0.11	pads
Columbia River	3/5/2018	3/6/2018	0.14	pads
Columbia River	3/6/2018	3/7/2018	0.07	pads
Columbia River	3/7/2018	3/9/2018	0.20	pads
Columbia River	3/9/2018	3/14/2018	0.45	pads
Columbia River	3/14/2018	3/19/2018	0.05	pads
Columbia River	3/19/2018	3/20/2018	0.01	pads
Columbia River	3/20/2018	3/23/2018	0.25	pads
Columbia River	3/23/2018	3/24/2018	0.04	pads
Columbia River	3/24/2018	3/25/2018	0.03	pads
Columbia River	3/25/2018	3/26/2018	0.01	pads
Columbia River	3/26/2018	3/28/2018	0.10	pads
Columbia River	3/28/2018	3/29/2018	0.01	pads
Columbia River	3/29/2018	4/1/2018	0.01	pads
Columbia River	4/1/2018	4/3/2018	0.01	pads
Columbia River	4/3/2018	4/5/2018	0.01	pads
Columbia River	4/5/2018	4/6/2018	0.01	pads
Columbia River	4/6/2018	4/7/2018	0.01	pads
Columbia River	4/7/2018	4/9/2018	0.02	pads
Columbia River	4/9/2018	4/10/2018	0.01	pads
Columbia River	4/10/2018	4/11/2018	0.01	pads
Columbia River	4/11/2018	4/14/2018	0.17	pads
Columbia River	4/14/2018	4/16/2018	0.45	pads
Columbia River	4/16/2018	4/17/2018	0.15	pads
Columbia River	4/17/2018	4/18/2018	0.09	pads
Columbia River	4/18/2018	4/19/2018	0.29	pads
Columbia River	4/19/2018	4/20/2018	0.18	pads
Columbia River	4/20/2018	4/21/2018	0.02	pads
Columbia River	4/21/2018	4/22/2018	0.22	pads
Columbia River	4/22/2018	4/23/2018	0.24	pads
Columbia River	4/23/2018	4/24/2018	0.26	pads
Columbia River	4/24/2018	4/24/2018	2.84	socks
Columbia River	4/24/2018	4/25/2018	0.24	pads
Columbia River	4/25/2018	4/26/2018	0.34	pads
Columbia River	4/26/2018	4/27/2018	0.39	pads
Columbia River	4/27/2018	4/28/2018	0.22	pads
Columbia River	4/28/2018	4/29/2018	0.63	pads
Columbia River	4/29/2018	4/30/2018	0.02	pads
Columbia River	4/30/2018	5/1/2018	2.14	pads
Columbia River	4/30/2018	5/1/2018	0.07	pads
Columbia River	5/1/2018	5/2/2018	2.58	pads
Columbia River	5/2/2018	5/2/2018	0.23	pads
Columbia River	5/2/2018	5/3/2018	0.19	pads
Columbia River	5/3/2018	5/4/2018	0.20	pads
Columbia River	5/3/2018	5/4/2018	1.02	socks
Columbia River	5/4/2018	5/5/2018	0.04	pads
Columbia River	5/4/2018	5/5/2018	0.18	pads

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Columbia River	5/5/2018	5/6/2018	0.04	pads
Columbia River	5/6/2018	5/7/2018	0.07	pads
Columbia River	5/7/2018	5/9/2018	0.26	pads
Columbia River	5/9/2018	5/10/2018	0.04	pads
Columbia River	5/10/2018	5/11/2018	0.18	pads
Columbia River	5/11/2018	5/15/2018	0.03	pads
Columbia River	5/15/2018	2/23/2018	0.32	pads
Columbia River	2/23/2018	5/25/2018	0.01	pads
Columbia River	5/25/2018	5/26/2018	0.13	pads
Columbia River	5/29/2018	6/3/2018	0.09	pads
Columbia River	7/11/2018	7/11/2018	0.12	pads
Columbia River	7/13/2018	7/13/2018	0.10	pads
Columbia River	7/15/2018	7/15/2018	0.08	pads
Columbia River	7/16/2018	7/16/2018	0.25	pads
Columbia River	7/17/2018	7/17/2018	0.08	pads
Columbia River	7/22/2018	7/22/2018	0.13	pads
Columbia River	7/23/2018	7/23/2018	0.21	pads
Columbia River	7/25/2018	7/25/2018	0.11	pads
Columbia River	7/30/2018	7/30/2018	0.22	pads
Columbia River	8/1/2018	8/1/2018	0.08	pads
Columbia River	8/3/2018	8/3/2018	0.18	pads
Columbia River	8/11/2018	8/11/2018	0.06	pads
Columbia River	8/14/2018	8/14/2018	0.22	pads
Columbia River	8/15/2018	8/15/2018	0.40	pads
Columbia River	8/17/2018	8/17/2018	0.10	pads
Columbia River	8/18/2018	8/18/2018	0.06	pads
Columbia River	8/22/2018	8/22/2018	0.09	pads
Columbia River	8/24/2018	8/24/2018	0.02	pads
Columbia River	8/29/2018	8/29/2018	0.11	pads
Total Recovered from Columbia River	**3/27/2017**	**12/31/2018**	**214.10**	**pads & booms**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #1 Near Fuel Rack				
Sump #1	4/11/2017	4/11/2017	2.85	pads, booms
Sump #1	4/12/2017	4/12/2017	2.85	pads
Sump #1	4/13/2017	4/13/2017	1.21	pads
Sump #1	4/14/2017	4/14/2017	0.63	pads
Sump #1	4/15/2017	4/15/2017	0.73	boom
Sump #1	4/16/2017	4/16/2017	0.42	boom
Sump #1	4/18/2017	4/18/2017	0.42	pads
Sump #1	4/19/2017	4/19/2017	0.42	pads
Sump #1	4/20/2017	4/20/2017	0.05	pads
Sump #1	4/21/2017	4/21/2017	0.31	pads
Sump #1	4/23/2017	4/23/2017	0.05	pads
Sump #1	4/25/2017	4/25/2017	0.26	pads
Sump #1	4/26/2017	4/26/2017	0.50	pads
Sump #1	5/5/2017	5/5/2017	0.18	pads
Sump #1	5/6/2017	5/6/2017	0.16	pads
Sump #1	5/12/2017	5/12/2017	0.26	pads
Sump #1	5/14/2017	5/14/2017	0.16	pads
Sump #1	5/23/2017	6/2/2017	0.07	pads
Sump #1	6/2/2017	6/8/2017	0.19	pads
Sump #1	6/8/2017	6/12/2017	0.18	pads
Sump #1	8/9/2017	8/12/2017	0.02	pads
Sump #1	8/12/2017	8/16/2017	0.07	pads
Sump #1	8/16/2017	1/16/2018	0.42	pads
Total Recovered from Sump #1	**4/11/2017**	**1/16/2018**	**12.41**	**pads**

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Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #2 Near Warehouse Loading Dock				
Sump #2	4/19/2017	4/19/2017	0.48	pads
Sump #2	4/20/2017	4/20/2017	0.05	pads
Sump #2	4/21/2017	4/21/2017	0.31	pads
Sump #2	4/22/2017	4/22/2017	0.05	pads
Sump #2	4/23/2017	4/23/2017	0.15	pads
Sump #2	4/24/2017	4/24/2017	0.58	pads
Sump #2	4/26/2017	4/26/2017	0.63	pads
Sump #2	5/2/2017	5/2/2017	0.36	pads
Sump #2	5/3/2017	5/3/2017	2.17	pads
Sump #2	5/5/2017	5/5/2017	0.18	pads
Sump #2	5/23/2017	6/22/2017	0.01	pads
Sump #2	6/22/2017	6/28/2017	0.16	pads
Sump #2	6/28/2017	7/5/2017	0.24	pads
Sump #2	7/5/2017	7/11/2017	0.33	pads
Sump #2	7/11/2017	7/15/2017	0.31	pads
Sump #2	7/15/2017	7/16/2017	0.14	pads
Sump #2	7/16/2017	7/18/2017	0.24	pads
Sump #2	7/18/2017	7/19/2017	0.26	pads
Sump #2	7/19/2017	7/20/2017	0.21	pads
Sump #2	7/20/2017	7/21/2017	0.20	pads
Sump #2	7/21/2017	7/22/2017	0.10	pads
Sump #2	7/22/2017	7/24/2017	0.20	pads
Sump #2	7/24/2017	7/25/2017	0.08	pads
Sump #2	7/25/2017	7/26/2017	0.11	pads
Sump #2	7/26/2017	7/28/2017	0.15	pads
Sump #2	7/28/2017	7/30/2017	0.03	pads
Sump #2	7/30/2017	8/1/2017	0.07	pads
Sump #2	8/1/2017	8/3/2017	0.20	pads
Sump #2	8/3/2017	8/4/2017	0.09	pads
Sump #2	8/4/2017	8/6/2017	0.09	pads
Sump #2	8/6/2017	8/7/2017	0.08	pads
Sump #2	8/7/2017	8/8/2017	0.09	pads
Sump #2	8/8/2017	8/9/2017	0.19	pads
Sump #2	8/9/2017	8/10/2017	0.15	pads
Sump #2	8/10/2017	8/11/2017	0.27	pads
Sump #2	8/11/2017	8/12/2017	0.04	pads
Sump #2	8/12/2017	8/13/2017	0.22	pads
Sump #2	8/13/2017	8/15/2017	0.46	pads
Sump #2	8/15/2017	8/16/2017	0.03	pads
Sump #2	8/16/2017	8/17/2017	0.05	pads
Sump #2	8/18/2017	8/19/2017	0.06	pads
Sump #2	8/19/2017	8/21/2017	0.04	pads
Sump #2	8/21/2017	8/22/2017	0.04	pads
Sump #2	8/22/2017	8/23/2017	0.04	pads
Sump #2	8/23/2017	8/24/2017	0.07	pads
Sump #2	8/25/2017	8/26/2017	0.12	pads
Sump #2	8/26/2017	8/27/2017	0.07	pads
Sump #2	8/27/2017	8/28/2017	0.14	pads
Sump #2	8/28/2017	8/29/2017	0.07	pads
Sump #2	8/29/2017	8/29/2017	0.15	pads
Sump #2	8/29/2017	8/30/2017	0.14	pads
Sump #2	8/30/2017	8/31/2017	0.22	pads
Sump #2	8/31/2017	9/1/2017	0.23	pads
Sump #2	9/1/2017	9/2/2017	0.31	pads
Sump #2	9/2/2017	9/4/2017	0.18	pads
Sump #2	9/4/2017	9/5/2017	0.13	pads

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #2	9/5/2017	9/6/2017	0.13	pads
Sump #2	9/6/2017	9/6/2017	0.16	pads
Sump #2	9/11/2017	9/12/2017	0.13	pads
Sump #2	9/12/2017	9/13/2017	0.19	pads
Sump #2	9/13/2017	9/14/2017	0.24	pads
Sump #2	9/14/2017	9/15/2017	0.20	pads
Sump #2	9/15/2017	9/17/2017	0.24	pads
Sump #2	9/18/2017	9/18/2017	0.17	pads
Sump #2	9/18/2017	9/19/2017	0.13	pads
Sump #2	9/19/2017	9/20/2017	0.20	pads
Sump #2	9/20/2017	9/21/2017	0.12	pads
Sump #2	9/21/2017	9/22/2017	0.21	pads
Sump #2	9/22/2017	9/24/2017	0.30	pads
Sump #2	9/24/2017	9/25/2017	0.30	pads
Sump #2	9/25/2017	9/26/2017	0.17	pads
Sump #2	9/26/2017	9/27/2017	0.36	pads
Sump #2	9/27/2017	10/2/2017	0.31	pads
Sump #2	10/2/2017	10/3/2017	0.20	pads
Sump #2	10/3/2017	10/4/2017	0.17	pads
Sump #2	10/4/2017	10/5/2017	0.10	pads
Sump #2	10/5/2017	10/7/2017	0.10	pads
Sump #2	10/7/2017	10/9/2017	0.12	pads
Sump #2	10/9/2017	10/11/2017	0.17	pads
Sump #2	10/11/2017	10/13/2017	0.14	pads
Sump #2	10/13/2017	10/14/2017	0.23	pads
Sump #2	10/14/2017	10/15/2017	0.15	pads
Sump #2	10/15/2017	10/16/2017	0.10	pads
Sump #2	10/16/2017	10/17/2017	0.10	pads
Sump #2	10/17/2017	10/19/2017	0.18	pads
Sump #2	10/19/2017	10/20/2017	0.28	pads
Sump #2	10/20/2017	10/22/2017	0.32	pads
Sump #2	10/22/2017	10/23/2017	0.28	pads
Sump #2	10/23/2017	10/24/2017	0.30	pads
Sump #2	11/21/2017	12/5/2017	0.02	pads
Sump #2	12/5/2017	12/21/2017	0.03	pads
Sump #2	12/21/2017	1/2/2018	0.08	pads
Sump #2	12/21/2017	1/12/2018	0.01	pads
Sump #2	1/12/2018	4/20/2018	0.15	pads
Sump #2	4/20/2018	6/1/2018	0.10	pads
Total Recovered from Sump #2	**4/19/2017**	**6/1/2018**	**18.66**	**pads**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #3 Near Office				
Sump #3	4/22/2017	4/22/2017	0.31	pads
Sump #3	4/23/2017	4/23/2017	0.36	pads
Sump #3	4/24/2017	4/24/2017	0.98	pads
Sump #3	4/26/2017	4/26/2017	0.05	pads
Sump #3	5/2/2017	5/2/2017	0.36	pads
Sump #3	5/3/2017	5/3/2017	1.22	pads
Total Recovered from Sump #3	**4/22/2017**	**5/3/2017**	**3.28**	**pads**
Sump #4 South End of Warehouse				
Sump #4	4/25/2017	4/25/2017	0.05	pads
Sump #4	4/26/2017	4/26/2017	0.05	pads
Sump #4	5/23/2017	6/21/2017	0.03	pads
Sump #4	12/15/2007	12/19/2017	0.13	pads
Sump #4	12/19/2017	6/1/2018	0.10	pads
Total Recovered from Sump #4	**4/25/2017**	**6/1/2018**	**0.36**	**pads**
Sump #5 Near Storage Building				
Sump #5	5/27/2017	6/2/2017	0.07	pads
Sump #5	6/2/2017	6/3/2017	0.63	pads
Sump #5	6/3/2017	6/5/2017	0.24	pads
Sump #5	6/5/2017	6/6/2017	0.42	pads
Sump #5	6/6/2017	6/7/2017	0.53	pads
Sump #5	6/7/2017	6/8/2017	0.74	pads
Sump #5	6/8/2017	6/9/2017	0.57	pads
Sump #5	6/9/2017	6/10/2017	0.39	pads
Sump #5	6/10/2017	6/11/2017	0.34	pads
Sump #5	6/11/2017	6/12/2017	0.34	pads
Sump #5	6/12/2017	6/13/2017	0.48	pads
Sump #5	6/19/2017	6/20/2017	0.73	pads
Sump #5	6/20/2017	6/21/2017	0.19	pads
Sump #5	6/21/2017	6/22/2017	0.29	pads
Sump #5	6/22/2017	6/23/2017	0.55	pads
Sump #5	6/23/2017	6/24/2017	0.40	pads
Sump #5	6/24/2017	6/28/2017	0.36	pads
Sump #5	6/28/2017	6/29/2017	0.68	pads
Sump #5	6/29/2017	6/30/2017	1.36	pads
Sump #5	6/30/2017	7/2/2017	0.65	pads
Sump #5	7/2/2017	7/5/2017	0.38	pads
Sump #5	7/5/2017	7/12/2017	0.68	pads
Sump #5	7/12/2017	7/13/2017	0.69	pads
Sump #5	7/13/2017	7/14/2017	0.66	pads
Sump #5	7/14/2017	7/15/2017	1.11	pads
Sump #5	7/15/2017	7/16/2017	0.40	pads
Sump #5	7/16/2017	7/17/2017	0.66	pads
Sump #5	7/17/2017	7/18/2017	1.05	pads
Sump #5	7/18/2017	7/19/2017	0.42	pads
Sump #5	7/19/2017	7/20/2017	0.61	pads
Sump #5	7/20/2017	7/21/2017	0.46	pads
Sump #5	7/21/2017	7/22/2017	0.38	pads
Sump #5	7/22/2017	7/23/2017	0.11	pads
Sump #5	7/23/2017	7/24/2017	0.28	pads
Sump #5	7/24/2017	7/25/2017	0.57	pads
Sump #5	7/25/2017	7/26/2017	0.55	pads
Sump #5	7/26/2017	7/27/2017	0.53	pads
Sump #5	7/27/2017	7/28/2017	0.66	pads
Sump #5	7/28/2017	7/29/2017	0.46	pads
Sump #5	7/29/2017	7/30/2017	0.38	pads
Sump #5	7/30/2017	7/31/2017	0.32	pads

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #5	7/31/2017	8/1/2017	0.30	pads
Sump #5	8/1/2017	8/2/2017	0.63	pads
Sump #5	8/2/2017	8/3/2017	0.50	pads
Sump #5	8/3/2017	8/4/2017	0.34	pads
Sump #5	8/4/2017	8/6/2017	0.32	pads
Sump #5	8/6/2017	8/7/2017	0.14	pads
Sump #5	8/7/2017	8/9/2017	0.51	pads
Sump #5	8/9/2017	8/11/2017	0.35	pads
Sump #5	8/11/2017	8/14/2017	0.26	pads
Sump #5	8/14/2017	8/15/2017	0.27	pads
Sump #5	8/15/2017	8/15/2017	0.15	pads
Sump #5	8/15/2017	8/16/2017	0.06	pads
Sump #5	8/16/2017	8/16/2017	0.26	pads
Sump #5	8/16/2017	8/17/2017	0.30	pads
Sump #5	8/17/2017	8/18/2017	0.21	pads
Sump #5	8/18/2017	8/19/2017	0.07	pads
Sump #5	8/19/2017	8/20/2017	0.26	pads
Sump #5	8/20/2017	8/21/2017	0.39	pads
Sump #5	8/21/2017	8/22/2017	0.40	pads
Sump #5	8/22/2017	8/23/2017	0.39	pads
Sump #5	8/23/2017	8/24/2017	0.28	pads
Sump #5	8/24/2017	8/25/2017	0.08	pads
Sump #5	8/25/2017	8/26/2017	0.05	pads
Sump #5	8/26/2017	8/27/2017	0.06	pads
Sump #5	8/27/2017	8/28/2017	0.08	pads
Sump #5	8/28/2017	8/30/2017	0.11	pads
Sump #5	8/30/2017	8/30/2017	0.20	pads
Sump #5	8/30/2017	8/31/2017	0.11	pads
Sump #5	8/31/2017	9/1/2017	0.21	pads
Sump #5	9/1/2017	9/2/2017	0.13	pads
Sump #5	9/2/2017	9/3/2017	0.14	pads
Sump #5	9/3/2017	9/6/2017	0.25	pads
Sump #5	9/11/2017	9/13/2017	0.20	pads
Sump #5	9/13/2017	9/15/2017	0.22	pads
Sump #5	9/15/2017	9/17/2017	0.08	pads
Sump #5	9/17/2017	9/19/2017	0.18	pads
Sump #5	9/19/2017	9/20/2017	0.10	pads
Sump #5	9/20/2017	9/21/2017	0.22	pads
Sump #5	9/21/2017	9/25/2017	0.16	pads
Sump #5	9/25/2017	9/27/2017	0.40	pads
Sump #5	9/25/2017	10/5/2017	0.09	pads
Sump #5	10/5/2017	10/9/2017	0.18	pads
Sump #5	10/9/2017	10/11/2017	0.09	pads
Sump #5	10/11/2017	10/13/2017	0.12	pads
Sump #5	10/13/2017	10/16/2017	0.10	pads
Sump #5	10/16/2017	10/18/2017	0.13	pads
Sump #5	10/18/2017	10/19/2017	0.13	pads
Sump #5	10/19/2017	10/20/2017	0.34	pads
Sump #5	10/20/2017	10/22/2017	0.28	pads
Sump #5	10/22/2017	10/23/2017	0.19	pads
Sump #5	11/23/2017	12/5/2017	0.15	pads
Sump #5	12/5/2017	12/21/2017	0.08	pads
Sump #5	12/21/2017	1/11/2018	0.15	pads
Sump #5	12/21/2017	2/2/2018	0.10	pads
Sump #5	2/2/2018	2/21/2018	0.13	pads
Sump #5	2/21/2018	4/17/2018	0.71	pads
Total Recovered from Sump #5	**5/27/2017**	**4/17/2018**	**34.14**	**pads**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Sump #6 on Northern End of Warehouse				
Sump #6	7/18/2017	7/18/2017	0.99	pads
Sump #6	7/18/2017	7/18/2017	5.55	pump
Sump #6	7/18/2017	7/19/2017	0.78	pads
Sump #6	7/19/2017	7/20/2017	0.24	pads
Sump #6	7/20/2017	7/24/2017	0.01	pads
Sump #6	7/24/2017	7/30/2017	0.07	pads
Sump #6	7/30/2017	8/1/2017	0.05	pads
Sump #6	8/1/2017	8/9/2017	0.20	pads
Sump #6	8/9/2017	8/11/2017	0.09	pads
Sump #6	8/11/2017	8/12/2017	0.05	pads
Sump #6	8/12/2017	8/13/2017	0.07	pads
Sump #6	8/13/2017	8/14/2017	0.07	pads
Sump #6	8/14/2017	8/15/2017	0.21	pads
Sump #6	8/15/2017	8/16/2017	0.11	pads
Sump #6	8/16/2017	8/17/2017	0.11	pads
Sump #6	8/16/2017	8/17/2017	0.04	pads
Sump #6	8/17/2017	8/18/2017	0.05	pads
Sump #6	8/18/2017	8/19/2017	0.10	pads
Sump #6	8/19/2017	8/20/2017	0.15	pads
Sump #6	8/20/2017	8/23/2017	0.11	pads
Sump #6	8/23/2017	8/24/2017	0.06	pads
Sump #6	8/24/2017	8/24/2017	0.07	pads
Sump #6	8/24/2017	8/25/2017	0.07	pads
Sump #6	8/25/2017	8/26/2017	0.10	pads
Sump #6	8/26/2017	8/27/2017	0.08	pads
Sump #6	8/27/2017	8/28/2017	0.12	pads
Sump #6	8/28/2017	8/29/2017	0.02	pads
Sump #6	8/30/2017	8/31/2017	0.06	pads
Sump #6	8/31/2017	9/1/2017	0.10	pads
Sump #6	9/1/2017	9/3/2017	0.17	pads
Sump #6	9/3/2017	9/6/2017	0.16	pads
Sump #6	9/11/2017	9/13/2017	0.07	pads
Sump #6	9/13/2017	9/15/2017	0.13	pads
Sump #6	9/15/2017	9/17/2017	0.10	pads
Sump #6	9/17/2017	9/20/2017	0.15	pads
Sump #6	9/20/2017	9/24/2017	0.18	pads
Sump #6	9/24/2017	9/26/2017	0.09	pads
Sump #6	9/26/2017	9/27/2017	0.06	pads
Sump #6	9/26/2017	10/2/2017	0.22	pads
Sump #6	10/2/2017	10/3/2017	0.05	pads
Sump #6	10/3/2017	10/4/2017	0.11	pads
Sump #6	10/4/2017	10/6/2017	0.05	pads
Sump #6	10/6/2017	10/9/2017	0.15	pads
Sump #6	10/9/2017	10/13/2017	0.09	pads
Sump #6	10/13/2017	10/16/2017	0.15	pads
Sump #6	10/16/2017	10/18/2017	0.20	pads
Sump #6	10/19/2017	10/20/2017	0.11	pads
Sump #6	10/20/2017	10/22/2017	0.48	pads
Sump #6	10/22/2017	10/24/2017	0.36	pads
Sump #6	11/22/2017	12/5/2017	0.19	pads
Sump #6	12/5/2017	12/21/2017	0.05	pads
Sump #6	12/5/2017	1/19/2018	0.26	pads
Sump #6	1/19/2018	4/17/2018	0.22	pads
Sump #6	4/17/2018	5/7/2018	0.04	pads
Total Recovered from Sump #6	**7/18/2017**	**5/7/2018**	**13.57**	**pads & pump**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Original Oil-Water Separator[2]				
Oil-water separator	4/24/2017	4/24/2017	4.11	pump
Oil-water separator	7/23/2017	7/24/2017	0.82	pump
Oil-water separator	7/24/2017	7/24/2017	0.62	pump
Oil-water separator	7/25/2017	7/25/2017	1.18	pump
Oil-water separator	7/24/2017	8/14/2017	0.02	sock
Oil-water separator	8/23/2017	8/23/2017	0.05	pump
Oil-water separator	8/25/2017	8/25/2017	0.12	pump
Oil-water separator	8/25/2017	8/25/2017	0.05	pads
Oil-water separator	8/28/2017	8/28/2017	0.07	pump
Oil-water separator	8/29/2017	8/29/2017	0.02	pump
Oil-water separator	8/29/2017	8/29/2017	0.05	pads
Oil-water separator	8/30/2017	8/30/2017	0.02	pump
Oil-water separator	9/5/2017	9/5/2017	0.05	pump
Oil-water separator	9/18/2017	9/18/2017	0.10	pads
Oil-water separator	10/3/2017	10/6/2017	0.12	pads
Oil-water separator	11/30/2017	12/13/2017	0.12	pads
Oil-water separator	12/13/2017	12/18/2017	0.13	pads
Oil-water separator	12/18/2017	12/23/2017	0.20	pads
Oil-water separator	12/23/2017	1/3/2018	0.09	pads
Oil-water separator	1/3/2018	1/15/2018	0.42	pads
Oil-water separator	1/15/2018	1/20/2018	0.17	pads
Oil-water separator	1/20/2018	1/25/2018	0.18	pads
Oil-water separator	1/25/2018	2/1/2018	0.06	pads
Oil-water separator	2/1/2018	2/6/2018	0.14	pads
Oil-water separator	2/6/2018	2/15/2018	0.57	pads
Oil-water separator	2/15/2018	2/16/2018	0.27	pads
Oil-water separator	2/16/2018	2/21/2018	0.92	pads
Oil-water separator	2/21/2018	2/27/2018	0.17	pads
Oil-water separator	2/27/2018	3/17/2018	0.30	pads
Oil-water separator	3/17/2018	4/12/2018	0.23	pads
Total Recovered from Oil-Water Separator	**4/24/2017**	**4/12/2018**	**11.37**	
MW-6				
MW-6	6/16/2017	9/25/2017	0.09	sock
MW-6	9/30/2017	10/2/2017	0.11	sock
MW-6	10/2/2017	10/3/2017	0.19	sock
MW-6	10/3/2017	10/4/2017	0.08	sock
MW-6	10/4/2017	10/13/2017	0.04	sock
MW-6	10/13/2017	10/23/2017	0.10	sock
MW-6	10/23/2017	10/24/2017	0.10	sock
MW-6	10/24/2017	10/25/2017	0.10	sock
MW-6	10/25/2017	11/30/2017	0.08	sock
MW-6	11/30/2017	1/23/2018	0.03	sock
MW-6	1/23/2018	2/8/2018	0.01	sock
Total Recovered from MW-6	**6/16/2017**	**2/8/2018**	**0.93**	**sock**

Hydro Con

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Monitoring Well MW-8				
MW-8	4/13/2017	4/13/2017	1.86	pump
MW-8	5/4/2017	5/4/2017	1.62	pump
MW-8	5/5/2017	5/5/2017	0.68	pump
MW-8	5/6/2017	5/6/2017	0.57	pump
MW-8	5/7/2017	5/7/2017	0.51	pump
MW-8	5/8/2017	5/8/2017	0.67	pump
MW-8	5/10/2017	5/10/2017	1.12	pump
MW-8	5/11/2017	5/11/2017	0.79	pump
MW-8	5/12/2017	5/12/2017	0.56	pump
MW-8	5/13/2017	5/13/2017	0.79	pump
MW-8	5/14/2017	5/14/2017	0.34	pump
MW-8	5/15/2017	5/15/2017	0.34	pump
MW-8	5/16/2017	5/16/2017	0.34	pump
MW-8	5/17/2017	5/17/2017	0.11	pump
MW-8	5/18/2017	5/18/2017	0.11	pump
MW-8	5/20/2017	5/20/2017	0.07	socks
MW-8	5/21/2017	5/21/2017	0.08	socks
MW-8	5/22/2017	5/22/2017	0.03	socks
MW-8	6/2/2017	6/5/2017	0.06	sock
MW-8	6/2/2017	6/8/2017	0.05	sock
MW-8	6/18/2017	6/19/2017	0.12	sock
MW-8	6/19/2017	6/20/2017	0.11	sock
MW-8	6/20/2017	6/21/2017	0.21	sock
MW-8	6/21/2017	6/22/2017	0.15	sock
MW-8	6/22/2017	6/23/2017	0.13	sock
MW-8	6/23/2017	6/24/2017	0.09	sock
MW-8	6/24/2017	6/25/2017	0.10	sock
MW-8	6/25/2017	6/26/2017	0.08	sock
MW-8	6/26/2017	6/30/2017	0.08	sock
MW-8	6/30/2017	7/2/2017	0.09	sock
MW-8	7/2/2017	7/3/2017	0.11	sock
MW-8	7/4/2017	7/5/2017	0.11	sock
MW-8	7/5/2017	7/6/2017	0.07	sock
MW-8	7/6/2017	7/10/2017	0.05	sock
MW-8	7/10/2017	7/14/2017	0.07	sock
MW-8	7/14/2017	7/15/2017	0.10	sock
MW-8	7/15/2017	7/16/2017	0.11	sock
MW-8	7/16/2017	7/17/2017	0.11	sock
MW-8	7/17/2017	7/17/2017	0.62	pump
MW-8	7/17/2017	7/18/2017	0.08	sock
MW-8	7/18/2017	7/21/2017	0.07	sock
MW-8	7/21/2017	7/27/2017	0.02	sock
MW-8	7/27/2017	8/11/2017	0.03	sock
MW-8	8/11/2017	9/11/2017	0.04	sock
MW-8	9/11/2017	9/26/2017	0.02	sock
MW-8	9/30/2017	10/2/2017	0.11	sock
MW-8	10/2/2017	10/3/2017	0.11	sock
MW-8	10/3/2017	10/4/2017	0.09	sock
MW-8	10/4/2017	10/5/2017	0.07	sock
MW-8	10/2/2017	12/6/2017	0.05	sock
MW-8	10/5/2017	1/10/2018	0.02	sock
MW-8	10/5/2017	1/24/2018	0.04	sock
MW-8	1/24/2018	2/22/2018	0.01	sock
MW-8	2/22/2018	3/13/2018	0.03	sock
MW-8	3/13/2018	4/18/2018	0.02	sock
Total Recovered from MW-8	**4/13/2017**	**4/18/2018**	**14.12**	**pump & socks**

Hydro Con

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Monitoring Well MW-9				
MW-9	5/2/2017	5/2/2017	3.00	pump
MW-9	5/4/2017	5/4/2017	3.58	pump
MW-9	5/5/2017	5/5/2017	1.80	pump
MW-9	5/6/2017	5/6/2017	0.56	pump
MW-9	5/7/2017	5/7/2017	0.28	pump
MW-9	5/8/2017	5/8/2017	2.70	pump
MW-9	5/9/2017	5/9/2017	4.14	pump
MW-9	5/10/2017	5/10/2017	3.82	pump
MW-9	5/11/2017	5/11/2017	1.46	pump
MW-9	5/12/2017	5/12/2017	1.80	pump
MW-9	5/13/2017	5/13/2017	1.57	pump
MW-9	5/14/2017	5/14/2017	1.12	pump
MW-9	5/15/2017	5/15/2017	0.45	pump
MW-9	5/16/2017	5/16/2017	0.67	pump
MW-9	5/17/2017	5/17/2017	0.67	pump
MW-9	5/18/2017	5/18/2017	0.45	pump
MW-9	5/19/2017	5/19/2017	0.45	pump
MW-9	5/20/2017	5/20/2017	0.35	sock
MW-9	5/21/2017	5/21/2017	0.21	sock
MW-9	5/22/2017	5/22/2017	0.26	sock
MW-9	6/2/2017	6/2/2017	0.32	sock
MW-9	6/3/2017	6/3/2017	0.16	sock
MW-9	6/4/2017	6/4/2017	0.21	sock
MW-9	6/5/2017	6/5/2017	0.24	sock
MW-9	6/5/2017	6/5/2017	0.11	sock
MW-9	6/5/2017	6/6/2017	0.34	pump
MW-9	6/7/2017	6/7/2017	0.25	sock
MW-9	6/8/2017	6/8/2017	0.36	sock
MW-9	6/8/2017	6/9/2017	0.09	sock
MW-9	6/9/2017	6/10/2017	0.10	sock
MW-9	6/10/2017	6/11/2017	0.11	sock
MW-9	6/11/2017	6/12/2017	0.10	sock
MW-9	6/12/2017	6/13/2017	0.11	sock
MW-9	6/13/2017	6/14/2017	0.12	sock
MW-9	6/19/2017	6/20/2017	0.11	sock
MW-9	6/20/2017	6/21/2017	0.21	sock
MW-9	6/21/2017	6/22/2017	0.19	sock
MW-9	6/22/2017	6/23/2017	0.15	sock
MW-9	6/23/2017	6/24/2017	0.08	sock
MW-9	6/24/2017	6/25/2017	0.08	sock
MW-9	6/25/2017	6/26/2017	0.18	sock
MW-9	6/26/2017	6/27/2017	0.18	sock
MW-9	6/27/2017	6/28/2017	0.16	sock
MW-9	6/29/2017	6/30/2017	0.10	sock
MW-9	6/30/2017	7/3/2017	0.07	sock
MW-9	7/3/2017	7/7/2017	0.08	sock
MW-9	7/7/2017	7/17/2017	0.08	sock
MW-9	7/17/2017	7/23/2017	0.05	sock
MW-9	7/23/2017	7/27/2017	0.02	sock
MW-9	7/27/2017	8/11/2017	0.03	sock
MW-9	8/11/2017	8/23/2017	0.03	sock
MW-9	8/23/2017	9/11/2017	0.05	sock
MW-9	9/11/2017	9/26/2017	0.04	sock
MW-9	9/26/2017	10/24/2017	0.11	sock
MW-9	11/27/2017	12/6/2017	0.08	sock
MW-9	12/7/2017	12/8/2017	0.08	sock

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
MW-9	12/8/2017	12/9/2017	0.08	sock
MW-9	12/10/2017	12/10/2017	0.05	sock
MW-9	12/9/2017	12/10/2017	0.09	sock
MW-9	12/11/2017	12/11/2017	0.07	sock
MW-9	12/10/2017	12/11/2017	0.08	sock
MW-9	unknown	12/12/2017	0.13	pump
MW-9	12/12/2017	12/12/2017	0.06	sock
MW-9	12/11/2017	12/12/2017	0.09	sock
MW-9	12/12/2017	12/13/2017	0.04	sock
MW-9	unknown	12/12/2017	0.13	pump
MW-9	12/12/2017	12/12/2017	0.06	sock
MW-9	12/11/2017	12/12/2017	0.09	sock
MW-9	12/12/2017	12/13/2017	0.04	sock
MW-9	12/12/2017	12/14/2017	0.14	pump
MW-9	12/13/2017	12/14/2017	0.09	sock
MW-9	12/12/2017	12/15/2017	0.58	pump
MW-9	12/14/2017	12/15/2017	0.08	sock
MW-9	12/15/2017	12/16/2017	0.08	Sock
MW-9	12/16/2017	12/17/2017	0.07	sock
MW-9	12/15/2017	12/18/2017	0.06	pump
MW-9	12/17/2017	12/18/2017	0.07	sock
MW-9	12/18/2017	12/19/2017	0.23	pump
MW-9	12/18/2017	12/19/2017	0.17	sock
MW-9	12/19/2017	12/20/2017	0.38	pump
MW-9	12/19/2017	12/20/2017	0.09	sock
MW-9	12/20/2017	12/21/2017	0.07	sock
MW-9	12/20/2017	12/22/2017	0.22	pump
MW-9	12/21/2017	12/22/2017	0.07	sock
MW-9	12/22/2017	12/23/2017	0.08	sock
MW-9	12/23/2017	12/24/2017	0.07	sock
MW-9	12/24/2017	12/25/2017	0.08	sock
MW-9	12/26/2017	12/26/2017	0.08	sock
MW-9	12/25/2017	12/26/2017	0.08	sock
MW-9	12/26/2017	12/27/2017	0.05	sock
MW-9	12/22/2017	12/27/2017	0.13	pump
MW-9	12/27/2017	12/28/2017	0.08	sock
MW-9	12/28/2017	12/29/2017	0.08	sock
MW-9	12/27/2017	12/29/2017	0.16	pump
MW-9	12/29/2017	12/30/2017	0.07	sock
MW-9	12/30/2017	1/1/2018	0.09	sock
MW-9	12/29/2017	1/2/2018	0.34	pump
MW-9	1/1/2018	1/2/2018	0.09	sock
MW-9	1/2/2018	1/3/2018	0.10	sock
MW-9	1/3/2018	1/4/2018	0.09	sock
MW-9	1/2/2018	1/5/2018	0.05	pump
MW-9	1/4/2018	1/5/2018	0.08	sock
MW-9	1/5/2018	1/6/2018	0.05	sock
MW-9	1/6/2018	1/8/2018	0.33	pads
MW-9	1/8/2018	1/10/2018	0.10	sock
MW-9	1/10/2018	1/11/2018	0.11	sock
MW-9	1/11/2018	1/12/2018	0.11	sock
MW-9	1/12/2018	1/13/2018	0.11	sock
MW-9	1/13/2018	1/14/2018	0.10	sock
MW-9	1/14/2018	1/15/2018	0.10	sock
MW-9	1/15/2018	1/24/2018	0.03	sock
MW-9	1/24/2018	1/31/2018	0.13	sock
MW-9	1/31/2018	2/5/2018	0.07	sock

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
MW-9	2/5/2018	2/8/2018	0.03	sock
MW-9	2/8/2018	3/20/2018	0.05	sock
MW-9	3/20/2018	3/21/2018	0.07	sock
MW-9	3/21/2018	3/22/2018	0.06	sock
MW-9	3/22/2018	3/24/2018	0.05	sock
MW-9	3/24/2018	3/26/2018	0.06	sock
MW-9	3/26/2018	3/27/2018	0.06	sock
MW-9	3/27/2018	3/28/2018	0.07	sock
MW-9	3/28/2018	3/30/2018	0.05	sock
MW-9	3/30/2018	3/31/2018	0.08	sock
MW-9	3/31/2018	4/1/2018	0.06	sock
MW-9	4/1/2018	4/2/2018	0.08	sock
MW-9	4/2/2018	4/3/2018	0.06	sock
MW-9	4/3/2018	4/5/2018	0.07	sock
MW-9	4/5/2018	4/8/2018	0.08	sock
MW-9	4/8/2018	4/10/2018	0.06	sock
MW-9	4/10/2018	4/15/2018	0.05	sock
MW-9	7/23/2018	7/23/2018	0.13	pump
Total Recovered from MW-9	**5/16/2017**	**7/23/2018**	**41.74**	**pump & socks**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Monitoring Well MW-10				
MW-10	7/4/2017	7/5/2017	0.15	sock
MW-10	7/5/2017	7/6/2017	0.29	sock
MW-10	7/6/2017	7/7/2017	0.24	sock
MW-10	7/7/2017	7/10/2017	0.17	sock
MW-10	7/10/2017	7/11/2017	0.19	sock
MW-10	7/11/2017	7/12/2017	0.16	sock
MW-10	7/12/2017	7/13/2017	0.14	sock
MW-10	7/13/2017	7/14/2017	0.13	sock
MW-10	7/14/2017	7/15/2017	0.07	sock
MW-10	7/15/2017	7/16/2017	0.08	sock
MW-10	7/16/2017	7/17/2017	0.09	sock
MW-10	7/17/2017	7/17/2017	0.41	pump
MW-10	7/17/2017	7/18/2017	0.07	sock
MW-10	7/18/2017	7/18/2017	0.20	pump
MW-10	7/18/2017	7/19/2017	0.05	sock
MW-10	7/19/2017	7/19/2017	0.11	pump
MW-10	7/19/2017	7/20/2017	0.09	sock
MW-10	7/20/2017	7/20/2017	1.13	pump
MW-10	7/20/2017	7/21/2017	0.09	sock
MW-10	7/21/2017	7/21/2017	1.03	pump
MW-10	7/21/2017	7/22/2017	0.03	sock
MW-10	7/22/2017	7/23/2017	0.03	sock
MW-10	7/23/2017	7/24/2017	0.07	sock
MW-10	7/24/2017	7/24/2017	0.62	pump
MW-10	7/24/2017	7/25/2017	0.07	sock
MW-10	7/25/2017	7/25/2017	0.05	sock
MW-10	7/25/2017	7/26/2017	0.07	sock
MW-10	7/26/2017	7/26/2017	1.23	pump
MW-10	7/26/2017	7/27/2017	0.07	sock
MW-10	7/27/2017	7/27/2017	0.82	pump
MW-10	7/27/2017	7/27/2017	0.66	pump
MW-10	7/27/2017	7/27/2017	0.04	sock
MW-10	7/27/2017	7/28/2017	0.08	sock
MW-10	7/28/2017	7/29/2017	0.09	sock
MW-10	7/29/2017	7/30/2017	0.09	sock
MW-10	7/30/2017	7/31/2017	0.10	sock
MW-10	7/31/2017	8/1/2017	0.09	sock
MW-10	8/1/2017	8/2/2017	0.11	sock
MW-10	8/2/2017	8/3/2017	0.10	sock
MW-10	8/3/2017	8/3/2017	0.08	sock
MW-10	8/3/2017	8/4/2017	0.09	sock
MW-10	8/4/2017	8/5/2017	0.09	sock
MW-10	8/5/2017	8/6/2017	0.09	sock
MW-10	8/6/2017	8/7/2017	0.11	sock
MW-10	8/7/2017	8/8/2017	0.10	sock
MW-10	8/8/2017	8/9/2017	0.10	sock
MW-10	8/9/2017	8/11/2017	0.11	sock
MW-10	8/11/2017	8/11/2017	0.06	sock
MW-10	8/11/2017	8/13/2017	0.09	sock
MW-10	8/13/2017	8/14/2017	0.09	sock
MW-10	8/14/2017	8/14/2017	0.09	sock
MW-10	8/14/2017	8/14/2017	1.00	pump
MW-10	8/14/2017	8/15/2017	0.05	sock
MW-10	8/15/2017	8/15/2017	1.60	pump
MW-10	8/15/2017	8/15/2017	0.07	sock
MW-10	8/15/2017	8/16/2017	0.09	sock

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
MW-10	8/16/2017	8/16/2017	0.09	sock
MW-10	8/16/2017	8/17/2017	0.09	sock
MW-10	8/17/2017	8/17/2017	1.44	pump
MW-10	8/17/2017	8/17/2017	0.07	sock
MW-10	8/17/2017	8/18/2017	0.11	sock
MW-10	8/18/2017	8/18/2017	0.07	pump
MW-10	8/18/2017	8/18/2017	0.09	sock
MW-10	8/18/2017	8/19/2017	0.10	sock
MW-10	8/19/2017	8/20/2017	0.11	sock
MW-10	8/20/2017	8/21/2017	0.09	sock
MW-10	8/21/2017	8/21/2017	0.09	sock
MW-10	8/21/2017	8/21/2017	0.09	sock
MW-10	8/21/2017	8/21/2017	0.01	pump
MW-10	8/21/2017	8/22/2017	0.09	sock
MW-10	8/22/2017	8/22/2017	0.10	pump
MW-10	8/22/2017	8/22/2017	0.09	sock
MW-10	8/22/2017	8/23/2017	0.10	sock
MW-10	8/23/2017	8/23/2017	0.15	pump
MW-10	8/23/2017	8/23/2017	0.09	sock
MW-10	8/23/2017	8/24/2017	0.09	sock
MW-10	8/24/2017	8/24/2017	0.05	pump
MW-10	8/24/2017	8/24/2017	0.07	pads
MW-10	8/24/2017	8/25/2017	0.09	sock
MW-10	8/25/2017	8/25/2017	0.05	pump
MW-10	8/25/2017	8/25/2017	0.08	sock
MW-10	8/25/2017	8/26/2017	0.11	sock
MW-10	8/26/2017	8/27/2017	0.09	sock
MW-10	8/27/2017	8/28/2017	0.09	sock
MW-10	8/28/2017	8/28/2017	0.05	pump
MW-10	8/28/2017	8/28/2017	0.09	sock
MW-10	8/28/2017	8/29/2017	0.11	sock
MW-10	8/29/2017	8/29/2017	0.07	sock
MW-10	8/29/2017	8/30/2017	0.11	sock
MW-10	8/30/2017	8/30/2017	0.04	pump
MW-10	8/30/2017	8/31/2017	0.11	sock
MW-10	8/31/2017	9/1/2017	0.11	sock
MW-10	9/1/2017	9/1/2017	0.09	pump
MW-10	9/1/2017	9/1/2017	0.09	sock
MW-10	9/1/2017	9/2/2017	0.11	sock
MW-10	9/2/2017	9/3/2017	0.09	sock
MW-10	9/3/2017	9/4/2017	0.11	sock
MW-10	9/4/2017	9/5/2017	0.10	sock
MW-10	9/5/2017	9/5/2017	0.07	pump
MW-10	9/5/2017	9/5/2017	0.09	sock
MW-10	9/5/2017	9/6/2017	0.11	sock
MW-10	9/6/2017	9/6/2017	0.09	sock
MW-10	9/11/2017	9/12/2017	0.09	sock
MW-10	9/12/2017	9/12/2017	0.05	pump
MW-10	9/12/2017	9/12/2017	0.10	sock
MW-10	9/12/2017	9/13/2017	0.10	sock
MW-10	9/13/2017	9/13/2017	0.05	pump
MW-10	9/13/2017	9/13/2017	0.09	sock
MW-10	9/13/2017	9/14/2017	0.09	sock
MW-10	9/14/2017	9/14/2017	0.06	pump
MW-10	9/14/2017	9/14/2017	0.09	sock
MW-10	9/15/2017	9/15/2017	0.10	sock
MW-10	9/15/2017	9/15/2017	0.05	pump
MW-10	9/14/2017	9/15/2017	0.09	sock

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
MW-10	9/15/2017	9/17/2017	0.11	sock
MW-10	9/18/2017	9/18/2017	0.10	sock
MW-10	9/18/2017	9/18/2017	0.05	pump
MW-10	9/17/2017	9/18/2017	0.11	sock
MW-10	9/19/2017	9/19/2017	0.07	sock
MW-10	9/19/2017	9/19/2017	0.05	pump
MW-10	9/18/2017	9/19/2017	0.10	sock
MW-10	9/20/2017	9/20/2017	0.02	pump
MW-10	9/19/2017	9/20/2017	0.09	sock
MW-10	9/20/2017	9/21/2017	0.09	sock
MW-10	9/22/2017	9/22/2017	0.02	pump
MW-10	9/21/2017	9/22/2017	0.11	sock
MW-10	9/22/2017	9/24/2017	0.11	sock
MW-10	9/25/2017	9/25/2017	0.05	pump
MW-10	9/24/2017	9/25/2017	0.11	sock
MW-10	9/25/2017	9/26/2017	0.11	sock
MW-10	9/26/2017	9/27/2017	0.06	pads
MW-10	9/27/2017	10/1/2017	0.11	sock
MW-10	9/30/2017	10/2/2017	0.12	sock
MW-10	10/2/2017	10/3/2017	0.18	sock
MW-10	10/3/2017	10/4/2017	0.20	sock
MW-10	10/4/2017	10/5/2017	0.10	sock
MW-10	10/5/2017	10/6/2017	0.10	sock
MW-10	10/6/2017	10/9/2017	0.09	sock
MW-10	10/6/2017	10/10/2017	0.09	sock
MW-10	10/10/2017	10/12/2017	0.10	sock
MW-10	10/12/2017	10/13/2017	0.10	sock
MW-10	10/13/2017	10/16/2017	0.05	sock
MW-10	10/16/2017	10/17/2017	0.08	sock
MW-10	10/17/2017	10/18/2017	0.09	sock
MW-10	10/18/2017	10/19/2017	0.09	sock
MW-10	10/19/2017	10/20/2017	0.16	sock
MW-10	10/20/2017	10/23/2017	0.19	sock/pump
MW-10	10/22/2017	10/24/2017	0.06	pump
MW-10	11/29/2017	1/9/2018	0.03	sock
MW-10	1/9/2018	2/8/2018	0.01	sock
MW-10	2/8/2018	2/15/2018	0.06	sock
MW-10	2/15/2018	3/20/2018	0.19	pump
MW-10	3/20/2018	3/20/2018	0.09	sock
MW-10	3/20/2018	3/21/2018	0.05	sock
MW-10	3/21/2018	3/29/2018	0.03	sock
MW-10	3/29/2018	3/31/2008	0.08	sock
MW-10	3/31/2008	4/1/2018	0.09	sock
MW-10	4/1/2018	4/15/2018	0.04	sock
MW-10	4/15/2018	5/5/2018	20.76	pump
MW-10	5/5/2018	5/8/2018	0.41	pump
MW-10	5/8/2018	5/9/2018	0.31	pump
MW-10	5/9/2018	5/10/2018	0.31	pump
MW-10	5/10/2018	5/11/2018	0.31	pump
MW-10	5/11/2018	5/12/2018	0.20	pump
MW-10	5/12/2018	5/13/2018	0.20	pump
MW-10	5/13/2018	5/14/2018	0.20	pump
MW-10	5/14/2018	5/27/2018	0.31	pump
MW-10	5/27/2018	6/3/2018	0.44	pump
MW-10	6/3/2018	6/10/2018	0.44	pump
MW-10	6/10/2018	6/11/2018	0.44	pump
MW-10	6/11/2018	6/24/2018	0.44	pump

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
MW-10	6/24/2018	7/1/2018	0.75	pump
MW-10	7/1/2018	7/8/2018	0.31	pump
MW-10	7/8/2018	7/15/2018	0.25	pump
MW-10	7/15/2018	7/22/2018	0.13	pump
MW-10	7/22/2018	7/29/2018	0.08	pump
MW-10	7/29/2018	8/20/2019	0.13	pump
Total Recovered from MW-10	**7/4/2017**	**12/31/2018**	**49.88**	**pump, pads, & socks**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Monitoring Well MW-11				
MW-11	6/8/2017	6/9/2017	0.28	socks
MW-11	6/9/2017	6/10/2017	0.10	sock
MW-11	6/10/2017	6/11/2017	0.08	sock
MW-11	6/11/2017	6/13/2017	0.07	sock
MW-11	7/18/2017	7/19/2017	0.08	sock
MW-11	7/19/2017	8/4/2017	0.01	sock
MW-11	10/6/2017	10/7/2017	0.09	sock
MW-11	10/7/2017	10/8/2017	0.09	sock
MW-11	10/8/2017	10/10/2017	0.11	sock
MW-11	10/10/2017	10/12/2017	0.10	sock
MW-11	10/12/2017	10/23/2017	0.11	sock
MW-11	10/23/2017	10/24/2017	0.11	sock
MW-11	10/24/2017	10/25/2017	0.10	sock
MW-11	11/22/2017	1/2/2018	0.03	sock
MW-11	1/2/2018	1/23/2018	0.03	sock
MW-11	1/23/2018	2/8/2018	0.01	sock
MW-11	2/8/2018	2/25/2018	0.05	sock
MW-11	2/25/2018	3/11/2018	0.04	sock
Total Recovered from MW-11	**6/8/2017**	**3/11/2018**	**1.49**	**sock**
Monitoring Well BH-1				
BH-1	7/4/2017	7/7/2017	0.03	sock
BH-1	7/7/2017	7/10/2017	0.04	sock
BH-1	7/10/2017	7/12/2017	0.04	sock
BH-1	7/12/2017	7/20/2017	0.07	sock
BH-1	7/20/2017	7/23/2017	0.01	sock
BH-1	7/23/2017	9/26/2017	0.02	sock
BH-1	9/26/2017	12/8/2017	0.07	sock
BH-1	12/8/2017	2/8/2018	0.01	sock
BH-1	2/8/2018	3/3/2018	0.09	sock
BH-1	3/3/2018	3/4/2018	0.08	sock
BH-1	3/4/2018	3/5/2018	0.09	sock
BH-1	3/5/2018	3/9/2018	0.06	sock
BH-1	3/9/2018	3/10/2018	0.09	sock
BH-1	3/12/2018	3/12/2018	0.31	pump
BH-1	3/10/2018	3/12/2018	0.08	sock
BH-1	3/12/2018	3/12/2018	0.11	sock
BH-1	3/12/2018	3/13/2018	0.08	sock
BH-1	3/14/2018	3/14/2018	0.09	pump
BH-1	3/13/2018	3/14/2018	0.07	sock
BH-1	3/14/2018	3/14/2018	0.09	sock
BH-1	3/14/2018	3/15/2018	0.08	sock
BH-1	3/15/2018	3/16/2018	0.07	sock
BH-1	3/16/2018	4/14/2018	0.09	sock
BH-1	4/14/2018	4/15/2018	0.08	sock
BH-1	4/15/2018	4/16/2018	0.07	sock
BH-1	4/16/2018	4/20/2018	0.04	sock
Total Recovered from BH-1	**7/4/2017**	**4/20/2018**	**1.96**	**sock**

Appendix B

Light Nonaqueous-Phase Liquid Recovery
Coleman Oil
Wenatchee, Washington

Recovery Location(s)	Time Recovered		Volume (gallons)	LNAPL Recovered with Pads, Booms, Socks, or Pumps[1]
	From:	To:		
Monitoring Well BH-2				
BH-2	5/20/2017	5/20/2017	0.18	socks
BH-2	5/21/2017	5/21/2017	0.08	socks
BH-2	5/22/2017	5/22/2017	0.03	socks
BH-2	5/23/2017	6/2/2017	0.03	sock
BH-2	6/2/2017	6/5/2017	0.02	sock
BH-2	6/5/2017	6/12/2017	0.08	sock
BH-2	6/18/2017	6/22/2017	0.03	sock
BH-2	6/22/2017	7/23/2017	0.02	sock
BH-2	7/23/2017	9/26/2017	0.01	sock
BH-2	10/31/2017	1/2/2018	0.03	sock
BH-2	1/2/2018	2/8/2018	0.01	sock
BH-2	2/8/2018	2/26/2018	0.01	sock
Total Recovered from BH-2	**6/18/2017**	**2/26/2018**	**0.52**	**sock**
Total Recovered LNAPL	**3/27/2017**	**8/29/2018**	**418.52**	

NOTES:

[1]The quantity of LNAPL recovered by sorbent material in gallons was determined by subtracting the total weight of oiled sorbent material from the total weight of pre-oiled sorbent material, assuming 25% percent as water content. This process complies with requirements of Washington Administrative Code 173-183-870.

[2]This system was replaced in October 2018 with the existing three treatment systems.

Ecology = Washington State Department of Ecology

LNAPL = light nonaqueous-phase liquid

Appendix C-1
Daily Equipment Observations

Appendix C-1
Daily Equipment Observations
Coleman Oil Site
Wenatchee, Washington

	COMPRESSOR CONDITIONS					WATER FILTER (PSI)				GRANULATED ACTIVATED CARBON					WATER DISCHARGE
Date	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Compressor Hours	Tank Pressure (PSI)	Regulator Pressure (PSI)	Filter 1 In (psi)	Filter 1 Out (psi)	Filter 2 In (psi)	Filter 2 Out (psi)	GAC1 In (psi)	GAC1 Out (psi)	GAC2 In (psi)	GAC2 Out (psi)	Any Leaks (yes/no)	Gallons Discharged to City
12/31/2018	off	on	1069	128	129	0	0	0	0	0	0	0	0	no	0
12/30/2018	off	off	1056	0	0	0	0	0	0	0	0	0	0	no	
12/29/2018	off	off	1054	121	121	0	0	0	0	0	0	0	0	no	
12/28/2018	off	off	1047	0	0	0	0	0	0	0	0	0	0	no	
12/27/2018	on	off	1039	0	0	0	0	0	0	0	0	0	0	no	
12/26/2018	on	off	1037	0	0	0	0	0	0	0	0	0	0	no	
12/25/2018	on	on	1016	121	123	0	0	0	0	0	0	0	0	no	
12/24/2018	on	on	996	128	129	0	0	0	0	0	0	0	0	no	
12/23/2018	on	on	984	122	122	0	0	0	0	0	0	0	0	no	
12/22/2018	on	on	969	123	123	0	0	0	0	0	0	0	0	no	
12/21/2018	on	on	959	129	129	0	0	0	0	0	0	0	0	no	
12/20/2018	on	on	943	128	129	0	0	0	0	0	0	0	0	no	
12/19/2018	on	on	925	123	123	0	0	0	0	0	0	0	0	no	0
12/18/2018	on	on	914	131	131	0	0	0	0	0	0	0	0	no	1180
12/17/2018	on	on	900	130	131	0	0	0	0	0	0	0	0	no	0
12/16/2018	on	on	883	123	123	0	0	0	0	0	0	0	0	no	0
12/15/2018	on	on	868	125	125	0	0	0	0	0	0	0	0	no	0
12/14/2018	on	on	857	131	131	0	0	0	0	0	0	0	0	no	3240
12/13/2018	on	on	841	131	131	0	0	0	0	0	0	0	0	no	0
12/12/2018	on	on	826	0	0	0	0	0	0	0	0	0	0	no	0
12/11/2018	on	on	811	0	0	0	0	0	0	0	0	0	0	no	0
12/10/2018	off	off	800	0	0	0	0	0	0	0	0	0	0	no	0
12/9/2018	off	off	800	0	0	0	0	0	0	0	0	0	0	no	0
12/8/2018	off	off	800	0	0	0	0	0	0	0	0	0	0	no	0
12/7/2018	on	off	800	0	0	0	0	0	0	0	0	0	0	no	0
12/6/2018	on	off	799	0	0	0	0	0	0	0	0	0	0	no	0
12/5/2018	on	off	790	0	0	0	0	0	0	0	0	0	0	no	0
12/4/2018	on	on	780	121	121	0	0	0	0	0	0	0	0	no	0
12/3/2018	on	on	757	121	121	0	0	0	0	0	0	0	0	no	0
12/2/2018	on	on	728	120	120	0	0	0	0	0	0	0	0	no	0
12/1/2018	off	on	706	0	0	0	0	0	0	0	0	0	0	no	0
11/30/2018	off	off	701	0	0	0	0	0	0	0	0	0	0	no	0
11/29/2018	off	off	701	0	0	0	0	0	0	0	0	0	0	no	0
11/28/2018	off	off	701	0	0	0	0	0	0	0	0	0	0	no	0
11/27/2018	on	off	701	0	0	0	0	0	0	0	0	0	0	no	0
11/26/2018	on	on	696	130	131	0	0	0	0	0	0	0	0	no	0
11/25/2018	on	on	680	127	127	0	0	0	0	0	0	0	0	no	0
11/24/2018	on	on	666	121	121	0	0	0	0	0	0	0	0	no	0
11/23/2018	on	on	658	123	125	0	0	0	0	0	0	0	0	no	0
11/22/2018	on	on	640	121	125	0	0	0	0	0	0	0	0	no	0
11/21/2018	on	on	628	127	121	0	0	0	0	0	0	0	0	no	0
11/20/2018	on	on	607	127	127	0	0	0	0	0	0	0	0	no	0
11/19/2018	on	on	597	121	121	0	0	0	0	0	0	0	0	no	0
11/18/2018	on	on	580	121	121	0	0	0	0	0	0	0	0	no	0
11/17/2018	on	on	566	125	125	0	0	0	0	0	0	0	0	no	0
11/16/2018	on	on	554	130	131	0	0	0	0	0	0	0	0	no	0
11/15/2018	on	on	539	130	131	0	0	0	0	0	0	0	0	no	0
11/14/2018	on	on	515	130	131	0	0	0	0	0	0	0	0	no	0
11/13/2018	on	on	497	130	131	0	0	0	0	0	0	0	0	no	0
11/11/2018	on	on	479	130	131	0	0	0	0	0	0	0	0	no	0
11/11/2018	on	on	456	131	131	0	0	0	0	0	0	0	0	no	0
11/10/2018	on	on	438	133	133	0	0	0	0	0	0	0	0	no	0
11/9/2018	on	on	421	128	129	0	0	0	0	0	0	0	0	no	0
11/8/2018	on	on	405	131	133	0	0	0	0	0	0	0	0	no	0
11/7/2018	on	on	387	129	127	0	0	0	0	0	0	0	0	no	0

Is this water discharge column accurate?

Red numbers taken from the notes of the Log sheet.

Appendix C-1
Daily Equipment Observations
Coleman Oil Site
Wenatchee, Washington

	COMPRESSOR CONDITIONS					WATER FILTER (PSI)				GRANULATED ACTIVATED CARBON					WATER DISCHARGE
Date	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Compressor Hours	Tank Pressure (PSI)	Regulator Pressure (PSI)	Filter 1 In (psi)	Filter 1 Out (psi)	Filter 2 In (psi)	Filter 2 Out (psi)	GAC1 In (psi)	GAC1 Out (psi)	GAC2 In (psi)	GAC2 Out (psi)	Any Leaks (yes/no)	Gallons Discharged to City
11/6/2018	on	on	368	127	127	0	0	0	0	0	0	0	0	no	0
11/5/2018	on	on	352	127	127	0	0	0	0	0	0	0	0	no	0
11/4/2018	on	on	331	126	126	0	0	0	0	0	0	0	0	no	0
11/3/2018	on	on	318	127	127	0	0	0	0	0	0	0	0	no	0
11/2/2018	on	on	310	129	129	0	0	0	0	0	0	0	0	no	0
11/1/2018	on	on	292	136	134	0	0	0	0	0	0	0	0	no	0
10/31/2018	on	on	288	123	122	0	0	0	0	0	0	0	0	no	0
10/30/2018	on	on	288	122	122	0	0	0	0	0	0	0	0	no	0
10/29/2018	on	on	286	126	127	0	0	0	0	0	0	0	0	no	0
10/28/2018	on	on	286	127	127	0	0	0	0	0	0	0	0	no	0
10/27/2018	on	on	285	129	129	0	0	0	0	0	0	0	0	no	0
10/26/2018	off	on	285	126	121	0	0	0	0	0	0	0	0	no	0
10/25/2018	off	off	284	0	0	0	0	0	0	0	0	0	0	no	0
10/24/2018	off	off	284	0	0	0	0	0	0	0	0	0	0	no	0
10/23/2018	off	off	284	0	0	0	0	0	0	0	0	0	0	no	0
10/22/2018	off	off	284	0	0	0	0	0	0	0	0	0	0	no	0
10/21/2018	on	off	284	123	123	0	0	0	0	0	0	0	0	no	0
10/20/2018	on	on	284	121	121	0	0	0	0	0	0	0	0	no	0
10/19/2018	on	on	284	121	121	0	0	0	0	0	0	0	0	no	0
10/18/2018	on	on	283	126	121	0	0	0	0	0	0	0	0	no	0
10/17/2018	on	on	283	121	121	0	0	0	0	0	0	0	0	no	0
10/16/2018	on	on	283	130	121	0	0	0	0	0	0	0	0	no	0
10/15/2018	on	on	283	130	121	0	0	0	0	0	0	0	0	no	0
10/14/2018	on	on	283	121	121	0	0	0	0	0	0	0	0	no	0
10/13/2018	on	on	282	127	127	0	0	0	0	0	0	0	0	no	0
10/12/2018	on	on	282	121	121	0	0	0	0	0	0	0	0	no	0
10/11/2018	on	on	282	121	121	0	0	0	0	0	0	0	0	no	0
10/10/2018	on	on	281	123	123	0	0	0	0	0	0	0	0	no	0
10/9/2018	on	on	281	121	121	0	0	0	0	0	0	0	0	no	0
10/8/2018	on	on	280	127	127	0	0	0	0	0	0	0	0	no	0
10/7/2018	on	on	279	130	130	0	0	0	0	0	0	0	0	no	0
10/6/2018	on	on	279	131	131	0	0	0	0	0	0	0	0	no	0
10/5/2018	on	on	279	133	133	0	0	0	0	0	0	0	0	no	0
10/4/2018	on	on	278	122	122	0	0	0	0	0	0	0	0	no	0
10/3/2018	on	on	278	123	123	0	0	0	0	0	0	0	0	no	0
10/2/2018	on	on	278	132	132	0	0	0	0	0	0	0	0	no	0
10/1/2018	on	on	277	131	131	0	0	0	0	0	0	0	0	no	0
9/30/2018	on	on	277	126	126	0	0	0	0	0	0	0	0	no	0
9/29/2018	on	on	276	126	126	0	0	0	0	0	0	0	0	no	0
9/28/2018	on	on	276	132	132	0	0	0	0	0	0	0	0	no	0
9/27/2018	on	on	276	131	131	0	0	0	0	0	0	0	0	no	0
9/26/2018	on	on	275	122	122	0	0	0	0	0	0	0	0	no	0
9/25/2018	on	on	275	122	122	0	0	0	0	0	0	0	0	no	0
9/24/2018	on	on	275	123	123	0	0	0	0	0	0	0	0	no	0
9/23/2018	on	on	274	133	133	0	0	0	0	0	0	0	0	no	0
9/22/2018	on	on	274	124	124	0	0	0	0	0	0	0	0	no	0
9/21/2018	on	on	274	130	130	0	0	0	0	0	0	0	0	no	0
9/20/2018	on	on	274	135	135	0	0	0	0	0	0	0	0	no	0
9/19/2018	on	on	273	121	121	0	0	0	0	0	0	0	0	no	0
9/18/2018	on	on	272	126	126	0	0	0	0	0	0	0	0	no	0
9/17/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/16/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/15/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/14/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/13/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0

Appendix C-1
Daily Equipment Observations
Coleman Oil Site
Wenatchee, Washington

	COMPRESSOR CONDITIONS					WATER FILTER (PSI)				GRANULATED ACTIVATED CARBON					WATER DISCHARGE
Date	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Compressor Hours	Tank Pressure (PSI)	Regulator Pressure (PSI)	Filter 1 In (psi)	Filter 1 Out (psi)	Filter 2 In (psi)	Filter 2 Out (psi)	GAC1 In (psi)	GAC1 Out (psi)	GAC2 In (psi)	GAC2 Out (psi)	Any Leaks (yes/no)	Gallons Discharged to City
9/12/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/11/2018	off	off	272	0	0	0	0	0	0	0	0	0	0	no	0
9/10/2018	on	on	272	128	128	0	0	0	0	0	0	0	0	no	0
9/9/2018	on	on	272	126	124	0	0	0	0	0	0	0	0	no	0
9/8/2018	on	on	271	125	125	0	0	0	0	0	0	0	0	no	0
9/7/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/6/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/5/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/4/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/3/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/2/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
9/1/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/31/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/30/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/29/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/28/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/27/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/26/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/25/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/24/2018	off	off	269	0	0	0	0	0	0	0	0	0	0	no	0
8/23/2018	on	on	269	124	124	0	0	0	0	0	0	0	0	no	0
8/22/2018	on	on	269	132	132	0	0	0	0	0	0	0	0	no	0
8/21/2018	on	on	269	128	128	0	0	0	0	0	0	0	0	no	0
8/20/2018	on	on	269	124	124	0	0	0	0	0	0	0	0	no	0
8/19/2018	on	on	269	126	126	0	0	0	0	0	0	0	0	no	0
8/18/2018	on	on	269	126	126	0	0	0	0	0	0	0	0	no	0
8/17/2018	on	on	269	134	134	0	0	0	0	0	0	0	0	no	0
8/16/2018	on	on	269	126	126	0	0	0	0	0	0	0	0	no	0
8/15/2018	on	on	268	131	131	0	0	0	0	0	0	0	0	no	0
8/14/2018	on	on	258	130	130	0	0	0	0	0	0	0	0	no	0
8/13/2018	on	on	250	130	130	0	0	0	0	0	0	0	0	no	0
8/12/2018	on	on	239	130	130	0	0	0	0	0	0	0	0	no	0
8/11/2018	on	on	230	140	135	0	0	0	0	0	0	0	0	no	0
8/10/2018	on	on	221	138	138	0	0	0	0	0	0	0	0	no	2380
8/9/2018	on	on	125	125	211	0	0	0	0	0	0	0	0	no	3200
8/8/2018	on	on	203	136	136	0	0	0	0	0	0	0	0	no	3530
8/7/2018	on	on	193	123	123	0	0	0	0	0	0	0	0	no	3410
8/6/2018	on	on	184	130	130	0	0	0	0	0	0	0	0	no	0
8/5/2018	on	on	174	135	127	0	0	0	0	0	0	0	0	no	0
8/4/2018	on	on	165	130	128	0	0	0	0	0	0	0	0	no	1800
8/3/2018	on	on	157	124	124	0	0	0	0	0	0	0	0	no	0
8/2/2018	on	on	149	110	121	0	0	0	0	0	0	0	0	no	0
8/1/2018	on	on	0	0	130	0	0	0	0	0	0	0	0	no	0
7/31/2018	on	on	0	0	133	0	0	0	0	0	0	0	0	no	0
7/30/2018	on	on	0	0	135	0	0	0	0	0	0	0	0	no	0
7/29/2018	on	on	0	0	123	0	0	0	0	0	0	0	0	no	0
7/28/2018	on	on	0	0	128	0	0	0	0	0	0	0	0	no	0
7/27/2018	on	on	0	0	134	0	0	0	0	0	0	0	0	no	0
7/26/2018	on	on	0	0	132	0	0	0	0	0	0	0	0	no	0
7/25/2018	on	on	0	0	130	0	0	0	0	0	0	0	0	no	0
7/24/2018	on	on	0	0	130	0	0	0	0	0	0	0	0	no	0
7/23/2018	on	on	0	0	125	0	0	0	0	0	0	0	0	no	0
7/22/2018	on	on	0	0	130	0	0	0	0	0	0	0	0	no	0
7/21/2018	on	on	0	0	120	0	0	0	0	0	0	0	0	no	0
7/20/2018	on	on	0	0	123	0	0	0	0	0	0	0	0	no	0

Appendix C-1
Daily Equipment Observations
Coleman Oil Site
Wenatchee, Washington

	COMPRESSOR CONDITIONS					WATER FILTER (PSI)				GRANULATED ACTIVATED CARBON					WATER DISCHARGE
Date	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Compressor Hours	Tank Pressure (PSI)	Regulator Pressure (PSI)	Filter 1 In (psi)	Filter 1 Out (psi)	Filter 2 In (psi)	Filter 2 Out (psi)	GAC1 In (psi)	GAC1 Out (psi)	GAC2 In (psi)	GAC2 Out (psi)	Any Leaks (yes/no)	Gallons Discharged to City
7/19/2018	on	on	0	0	123	0	0	0	0	0	0	0	0	no	0
7/18/2018	on	on	0	0	120	12	0	0	0	0	8	0	7	no	0
7/17/2018	on	on	0	0	110	13	12	0	0	0	9	0	7	no	0
7/16/2018	on	on	0	0	124	0	0	0	0	0	0	0	0	no	0
7/15/2018	on	on	0	0	130	0	0	0	0	0	0	0	0	no	0
7/14/2018	on	on	0	0	115	0	0	0	0	0	0	0	0	no	0
7/13/2018	on	on	0	0	123	0	0	0	0	0	0	0	0	no	0
7/12/2018	on	on	0	0	121	0	0	0	0	0	0	0	0	no	0
7/11/2018	on	on	0	0	123	0	0	0	0	0	0	0	0	no	0
7/10/2018	on	on	0	0	120	0	0	0	0	0	0	0	0	no	0

Appendix C-2
Daily Monitoring Well Observations
Coleman Oil Site
Wenatchee, Washington

	PUMPING WELL DATA															
	MW-8				MW-9				MW-10				BH-1			
Date	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
12/31/2018	no	15.32	--	--	yes	28.13	--	--	yes	27.35	--	--	yes	--	--	--
12/30/2018	no	15.29	--	--	no	16.65	--	--	no	22.68	--	--	no	--	--	--
12/29/2018	no	15.21	--	--	no	17.62	--	--	no	22.75	--	--	no	--	--	--
12/28/2018	no	15.93	--	--	no	17.21	--	--	no	22.65	--	--	no	--	--	--
12/27/2018	no	15.93	--	--	no	16.61	--	--	no	27.20	--	--	no	--	--	--
12/26/2018	no	15.26	--	--	no	28.13	--	--	no	27.29	--	--	no	--	--	--
12/25/2018	no	15.26	--	--	yes	28.13	--	--	yes	27.29	--	--	yes	--	--	--
12/24/2018	no	15.26	--	--	yes	28.13	--	--	yes	27.30	--	--	yes	--	--	--
12/23/2018	no	15.26	--	--	yes	28.12	--	--	yes	27.30	--	--	yes	--	--	--
12/22/2018	no	15.41	--	--	yes	28.10	28.09	0.01	yes	27.31	--	--	yes	--	--	--
12/21/2018	no	15.75	--	--	yes	28.10	--	--	yes	27.27	--	--	yes	--	--	--
12/20/2018	no	15.75	--	--	yes	28.13	--	--	yes	27.30	--	--	yes	--	--	--
12/19/2018	no	15.75	--	--	yes	28.13	--	--	yes	27.33	--	--	yes	--	--	--
12/18/2018	no	15.93	--	--	yes	28.12	--	--	yes	27.30	--	--	yes	--	--	--
12/17/2018	no	15.93	--	--	yes	28.11	--	--	yes	27.29	--	--	yes	--	--	--
12/16/2018	no	15.90	--	--	yes	28.14	--	--	yes	27.32	--	--	yes	--	--	--
12/15/2018	no	15.90	--	--	yes	28.12	--	--	yes	27.30	--	--	yes	--	--	--
12/14/2018	no	15.95	--	--	yes	28.14	--	--	yes	27.30	27.29	0.01	yes	--	--	--
12/13/2018	no	15.95	--	--	yes	28.10	--	--	yes	27.33	27.32	0.01	yes	--	--	--
12/12/2018	no	15.95	--	--	yes	28.11	--	--	yes	27.34	27.32	0.02	yes	--	--	--
12/11/2018	no	15.95	--	--	yes	28.11	--	--	yes	27.33	27.32	0.01	yes	--	--	--
12/10/2018	no	15.94	--	--	no	19.96	19.85	0.11	no	24.48	24.34	0.14	no	--	--	--
12/9/2018	no	15.94	--	--	no	19.96	19.85	0.11	no	24.48	24.34	0.14	no	--	--	--
12/8/2018	no	15.95	--	--	no	20.01	19.87	0.14	no	24.42	24.27	0.15	no	--	--	--
12/7/2018	no	15.93	--	--	no	28.10	--	--	no	26.85	26.77	0.08	no	--	--	--
12/6/2018	no	15.93	--	--	no	28.10	--	--	no	26.85	26.77	0.08	no	--	--	--
12/5/2018	no	15.93	--	--	no	28.10	--	--	no	26.85	26.77	0.08	no	--	--	--
12/4/2018	no	15.95	--	--	yes	28.11	--	--	yes	26.87	26.77	0.10	yes	--	--	--
12/3/2018	no	15.95	--	--	yes	28.11	--	--	yes	26.90	26.75	0.15	yes	--	--	--
12/2/2018	no	16.05	--	--	yes	28.07	--	--	yes	27.27	--	--	yes	--	--	--
12/1/2018	no	16.08	--	--	yes	28.01	--	--	yes	27.22	--	--	yes	--	--	--
11/30/2018	no	16.00	--	--	no	28.00	--	--	no	27.10	--	--	no	--	--	--
11/29/2018	no	16.00	--	--	no	28.10	--	--	no	27.39	--	--	no	--	--	--
11/28/2018	no	16.00	--	--	yes	28.10	--	--	yes	27.39	--	--	yes	--	--	--
11/27/2018	no	16.00	--	--	yes	28.10	--	--	yes	27.39	--	--	yes	--	--	--
11/26/2018	no	16.00	--	--	yes	28.10	--	--	yes	27.37	--	--	yes	--	--	--
11/25/2018	no	16.03	--	--	yes	28.10	--	--	yes	27.31	--	--	yes	--	--	--
11/24/2018	no	16.00	--	--	yes	28.25	--	--	yes	27.30	--	--	yes	--	--	--
11/23/2018	no	15.95	--	--	yes	28.00	--	--	yes	27.36	--	--	yes	--	--	--
11/22/2018	no	15.98	--	--	yes	28.01	--	--	yes	27.37	--	--	yes	--	--	--
11/21/2018	no	15.98	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
11/20/2018	no	15.97	--	--	yes	28.08	--	--	yes	27.38	--	--	yes	--	--	--
11/19/2018	no	15.94	--	--	yes	28.09	--	--	yes	27.41	--	--	yes	--	--	--
11/18/2018	no	15.94	--	--	yes	28.09	--	--	yes	27.40	--	--	yes	--	--	--
11/17/2018	no	15.94	--	--	yes	28.06	--	--	yes	27.35	--	--	yes	--	--	--
11/16/2018	no	15.95	--	--	yes	19.92	--	--	yes	27.35	--	--	yes	--	--	--
11/15/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.35	--	--	yes	--	--	--
11/14/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.35	--	--	yes	--	--	--
11/13/2018	no	15.91	--	--	yes	19.87	--	--	yes	27.33	--	--	yes	--	--	--
11/11/2018	no	15.82	--	--	yes	19.80	--	--	yes	27.40	--	--	yes	--	--	--
11/11/2018	no	15.82	--	--	yes	19.82	--	--	yes	27.30	--	--	yes	--	--	--
11/10/2018	no	15.85	--	--	yes	20.82	--	--	yes	27.31	--	--	yes	--	--	--
11/9/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.40	--	--	yes	--	--	--
11/8/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.40	--	--	yes	--	--	--
11/7/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.40	--	--	yes	--	--	--
11/6/2018	no	15.95	--	--	yes	19.90	--	--	yes	27.35	--	--	yes	--	--	--
11/5/2018	no	15.95	--	--	yes	27.90	--	--	yes	27.35	--	--	yes	--	--	--
11/4/2018	no	16.01	--	--	yes	28.04	--	--	yes	27.35	--	--	yes	--	--	--
11/3/2018	no	16.07	--	--	yes	28.15	--	--	yes	27.33	--	--	yes	--	--	--
11/2/2018	no	16.25	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
11/1/2018	no	16.25	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/31/2018	no	16.70	--	--	yes	28.10	--	--	yes	27.00	--	--	yes	--	--	--
10/30/2018	no	16.70	--	--	yes	28.10	--	--	yes	27.10	--	--	yes	--	--	--
10/29/2018	no	17.00	--	--	yes	28.10	--	--	yes	27.00	--	--	yes	--	--	--
10/28/2018	no	16.96	--	--	yes	28.02	--	--	yes	27.04	--	--	yes	--	--	--
10/27/2018	no	17.00	--	--	yes	27.96	--	--	yes	26.66	--	--	yes	--	--	--
10/26/2018	no	17.20	--	--	no	26.40	--	--	no	26.50	--	--	no	--	--	--
10/25/2018	no	17.20	--	--	no	26.40	--	--	no	26.50	--	--	no	--	--	--
10/24/2018	no	17.20	--	--	no	26.40	--	--	no	26.50	--	--	no	--	--	--
10/23/2018	no	17.20	--	--	no	26.40	--	--	no	26.50	--	--	no	--	--	--
10/22/2018	no	17.10	--	--	no	26.40	--	--	no	26.50	--	--	no	--	--	--
10/21/2018	no	17.10	--	--	no	26.25	--	--	no	26.70	--	--	no	--	--	--
10/20/2018	no	17.15	--	--	yes	28.02	--	--	yes	27.36	--	--	yes	--	--	--
10/19/2018	no	17.20	--	--	yes	28.10	--	--	yes	27.30	--	--	yes	--	--	--
10/18/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.30	--	--	yes	--	--	--
10/17/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/16/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/15/2018	no	17.10	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/14/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/13/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/12/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.40	--	--	yes	--	--	--
10/11/2018	no	17.20	--	--	yes	28.01	--	--	yes	27.40	--	--	no	--	--	--
10/10/2018	no	17.16	--	--	yes	28.00	--	--	yes	27.40	--	--	no	--	--	--
10/9/2018	no	17.21	--	--	yes	28.03	--	--	yes	27.42	--	--	no	--	--	--
10/8/2018	no	17.26	--	--	yes	28.00	--	--	yes	27.45	--	--	no	--	--	--
10/7/2018	no	17.21	--	--	yes	27.99	--	--	yes	27.34	--	--	no	--	--	--
10/6/2018	no	17.20	--	--	yes	28.00	--	--	yes	27.44	--	--	no	--	--	--
10/5/2018	no	17.20	--	--	yes	28.10	--	--	yes	27.42	--	--	no	--	--	--
10/4/2018	no	17.14	--	--	yes	28.00	--	--	yes	27.35	--	--	no	--	--	--
10/3/2018	no	17.19	--	--	yes	27.92	--	--	yes	27.35	--	--	no	--	--	--
10/2/2018	no	17.08	--	--	yes	28.00	--	--	yes	27.39	--	--	no	--	--	--
10/1/2018	no	17.09	--	--	yes	28.00	--	--	yes	27.37	--	--	no	--	--	--
9/30/2018	no	17.07	--	--	yes	28.00	--	--	yes	27.31	--	--	no	--	--	--
9/29/2018	no	17.06	--	--	yes	27.99	--	--	yes	27.30	--	--	no	--	--	--
9/28/2018	no	17.05	--	--	yes	28.00	--	--	yes	26.92	--	--	no	--	--	--
9/27/2018	no	17.04	--	--	yes	28.00	--	--	yes	27.35	--	--	no	--	--	--
9/26/2018	no	17.05	--	--	yes	27.98	--	--	yes	27.35	--	--	no	--	--	--
9/25/2018	no	17.05	--	--	yes	28.00	--	--	yes	27.37	--	--	no	--	--	--
9/24/2018	no	17.04	--	--	yes	28.00	--	--	yes	27.37	--	--	no	--	--	--

Appendix C-2
Daily Monitoring Well Observations
Coleman Oil Site
Wenatchee, Washington

	PUMPING WELL DATA															
	MW-8				MW-9				MW-10				BH-1			
Date	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
9/23/2018	no	16.97	--	--	yes	27.94	--	--	yes	27.33	--	--	no	--	--	--
9/22/2018	no	16.97	--	--	yes	27.94	--	--	yes	27.33	--	--	no	--	--	--
9/21/2018	no	17.03	--	--	no	27.98	--	--	no	27.44	--	--	no	--	--	--
9/20/2018	no	17.03	--	--	no	27.97	--	--	no	27.42	--	--	no	--	--	--
9/19/2018	no	17.08	--	--	no	27.95	--	--	no	27.34	--	--	no	--	--	--
9/18/2018	no	17.10	--	--	no	27.95	--	--	no	27.35	--	--	no	--	--	--
9/17/2018	no	16.97	--	--	no	19.97	19.95	0.02	no	27.12	27.10	0.02	no	--	--	--
9/16/2018	no	16.93	--	--	no	19.98	--	--	no	27.05	--	--	no	--	--	--
9/15/2018	no	16.92	--	--	no	19.98	--	--	no	26.81	--	--	no	--	--	--
9/14/2018	no	16.87	--	--	yes	27.78	--	--	yes	27.35	--	--	no	--	--	--
9/13/2018	no	16.87	--	--	yes	27.78	--	--	yes	27.35	--	--	no	--	--	--
9/12/2018	no	16.85	--	--	yes	27.76	--	--	yes	27.33	--	--	no	--	--	--
9/11/2018	no	16.85	--	--	yes	28.00	--	--	yes	27.35	--	--	no	--	--	--
9/10/2018	no	16.85	--	--	yes	28.00	--	--	yes	27.35	--	--	no	--	--	--
9/9/2018	no	16.85	--	--	yes	27.90	--	--	yes	27.25	--	--	no	--	--	--
9/8/2018	no	16.84	--	--	yes	19.96	--	--	yes	27.20	--	--	no	--	--	--
9/7/2018	no	16.83	--	--	no	19.95	--	--	no	26.27	26.25	0.02	no	--	--	--
9/6/2018	no	16.84	--	--	no	19.95	--	--	no	26.28	26.27	0.01	no	26.58	26.36	0.22
9/5/2018	no	16.82	--	--	no	19.93	--	--	no	26.06	26.'--5	0.01	no	26.40	26.23	0.17
9/4/2018	no	16.81	--	--	no	19.94	--	--	no	25.92	25.90	0.02	no	26.42	26.39	0.03
9/3/2018	no	16.81	--	--	no	19.93	--	--	no	26.27	26.25	0.02	no	26.55	26.38	0.17
9/2/2018	no	16.78	--	--	no	19.92	--	--	no	25.82	25.81	0.01	no	26.33	26.17	0.16
9/1/2018	no	16.76	--	--	no	19.92	--	--	no	25.94	25.93	0.01	no	26.30	26.15	0.15
8/31/2018	no	16.77	--	--	no	19.91	--	--	no	25.71	--	--	no	26.27	--	--
8/30/2018	no	16.77	--	--	no	19.92	--	--	no	25.65	--	--	no	--	--	--
8/29/2018	no	16.76	--	--	no	19.93	--	--	no	24.83	24.78	0.05	no	--	--	--
8/28/2018	no	16.76	--	--	no	19.93	--	--	no	24.84	24.79	0.05	no	--	--	--
8/27/2018	no	16.75	--	--	no	19.93	--	--	no	25.81	25.75	0.06	no	--	--	--
8/26/2018	no	16.75	--	--	no	19.92	--	--	no	25.61	25.56	0.05	no	--	--	--
8/25/2018	no	16.75	--	--	no	19.90	--	--	no	24.43	24.40	0.03	no	--	--	--
8/24/2018	no	16.70	--	--	no	19.90	--	--	no	24.45	24.40	0.05	no	--	--	--
8/23/2018	no	16.70	--	--	no	19.90	--	--	no	24.42	24.39	0.03	yes	--	--	--
8/22/2018	no	16.62	--	--	no	19.90	--	--	no	24.95	24.93	0.02	yes	--	--	--
8/21/2018	no	16.62	--	--	no	0.00	--	--	no	0.00	--	--	yes	--	--	--
8/20/2018	no	16.60	--	--	no	0.00	--	--	no	0.00	--	--	yes	--	--	--
8/19/2018	no	16.65	--	--	no	0.00	--	--	no	0.00	--	--	yes	--	--	--
8/18/2018	no	16.64	--	--	no	0.00	--	--	no	0.00	--	--	yes	--	--	--
8/17/2018	no	16.60	--	--	yes	n/a	--	--	yes	n/a	--	--	yes	--	--	--
8/16/2018	no	16.60	--	--	yes	n/a	--	--	yes	n/a	--	--	yes	--	--	--
8/15/2018	no	16.70	--	--	yes	22.20	21.40	0.86	yes	0.00	--	--	yes	--	--	--
8/14/2018	no	16.70	--	--	yes	22.26	21.40	0.86	yes	0.00	--	--	yes	--	--	--
8/13/2018	no	16.68	--	--	yes	22.68	21.38	0.86	yes	0.00	--	--	yes	--	--	--
8/12/2018	no	16.64	--	--	yes	21.85	21.32	0.53	yes	0.00	--	--	yes	--	--	--
8/11/2018	no	16.60	--	--	yes	22.10	21.45	0.65	yes	0.00	--	--	yes	--	--	--
8/10/2018	no	16.62	--	--	yes	22.10	21.35	0.75	yes	0.00	--	--	yes	--	--	--
8/9/2018	no	16.60	--	--	yes	22.30	21.35	0.95	yes	0.00	--	--	yes	--	--	--
8/8/2018	no	16.60	--	--	yes	22.02	21.43	0.59	yes	0.00	--	--	yes	--	--	--
8/7/2018	no	16.56	--	--	yes	22.23	21.45	0.78	yes	0.00	--	--	yes	--	--	--
8/6/2018	no	16.57	--	--	yes	22.20	21.40	0.80	yes	0.00	--	--	yes	--	--	--
8/5/2018	no	16.50	--	--	yes	21.85	21.40	0.45	yes	0.00	--	--	yes	--	--	--
8/4/2018	no	16.55	--	--	yes	22.10	21.35	0.75	yes	0.00	--	--	yes	--	--	--
8/3/2018	no	16.50	--	--	yes	22.15	21.35	0.80	yes	0.00	--	--	yes	--	--	--
8/2/2018	no	16.43	--	--	yes	22.03	21.44	0.59	yes	0.00	--	--	yes	--	--	--
8/1/2018	no	16.45	--	--	yes	22.05	21.45	0.60	yes	0.00	--	--	yes	--	--	--
7/31/2018	no	16.45	--	--	yes	22.20	21.41	0.79	yes	0.00	--	--	yes	--	--	--
7/30/2018	no	16.42	--	--	yes	22.04	21.50	0.54	yes	0.00	--	--	yes	--	--	--
7/29/2018	no	16.35	--	--	yes	21.94	21.33	0.61	yes	0.00	--	--	yes	--	--	--
7/28/2018	no	16.28	--	--	yes	21.90	21.35	0.55	yes	0.00	--	--	yes	--	--	--
7/27/2018	no	16.24	--	--	yes	22.05	21.45	0.60	yes	0.00	--	--	yes	--	--	--
7/26/2018	no	16.24	--	--	yes	22.00	21.53	0.47	yes	0.00	--	--	yes	--	--	--
7/25/2018	no	16.26	--	--	yes	22.04	21.52	0.52	yes	0.00	--	--	yes	--	--	--
7/24/2018	no	16.25	--	--	yes	21.95	21.35	0.60	yes	0.00	--	--	yes	--	--	--
7/23/2018	no	16.21	--	--	yes	21.97	21.31	0.66	yes	0.00	--	--	yes	--	--	--
7/22/2018	no	16.15	--	--	yes	21.95	21.45	0.50	yes	0.00	--	--	yes	--	--	--
7/21/2018	no	16.14	--	--	yes	21.95	21.45	0.50	yes	0.00	--	--	yes	--	--	--
7/20/2018	no	16.17	--	--	yes	21.95	21.44	0.51	yes	0.00	--	--	yes	--	--	--
7/19/2018	no	16.15	--	--	yes	21.93	21.44	0.49	yes	0.00	--	--	yes	--	--	--
7/18/2018	no	16.13	--	--	yes	21.89	21.40	0.49	yes	0.00	--	--	yes	--	--	--
7/17/2018	no	16.15	--	--	yes	22.10	21.51	0.59	yes	0.00	--	--	yes	--	--	--
7/16/2018	no	16.11	--	--	yes	21.93	21.41	0.52	yes	0.00	--	--	yes	--	--	--
7/15/2018	no	16.05	--	--	yes	21.95	21.45	0.50	yes	0.00	--	--	yes	--	--	--
7/14/2018	no	16.05	--	--	yes	21.90	21.40	0.50	yes	0.00	--	--	yes	--	--	--
7/13/2018	no	16.10	--	--	yes	21.86	21.38	0.48	yes	0.00	--	--	yes	--	--	--
7/12/2018	no	16.07	--	--	yes	22.10	21.50	0.60	yes	0.00	--	--	yes	--	--	--
7/11/2018	no	16.05	--	--	yes	21.94	21.43	0.51	yes	0.00	--	--	yes	--	--	--
7/10/2018	no	16.07	--	--	yes	21.95	21.45	0.50	yes	0.00	--	--	yes	--	--	--
7/9/2018	no	16.05	--	--		21.93	21.40	0.53		27.08	--	--		26.81	--	--
7/8/2018	no	16.00	--	--		21.94	21.44	0.5		27.08	--	--		26.81	--	--
7/7/2018	no	16.00	--	--		21.95	21.43	0.52		27.08	--	--		26.81	--	--
7/6/2018	no	16.05	--	--		21.91	21.40	0.51		27.08	--	--		26.81	--	--
7/5/2018	no	16.50	--	--		21.88	21.42	0.46		27.08	--	--		26.81	--	--
7/4/2018	no	16.07	--	--		21.85	21.40	0.45		27.08	--	--		26.81	--	--
7/3/2018	no	16.05	--	--		21.90	21.42	0.48		27.08	--	--		26.81	--	--
7/2/2018	no	16.03	--	--		21.85	21.43	0.42		27.08	--	--		26.81	--	--
7/1/2018	no	15.96	--	--		22.02	21.45	0.57		27.08	--	--		26.81	--	--
6/30/2018	no	15.97	--	--		22.02	21.46	0.56		27.08	--	--		26.81	--	--
6/29/2018	no	16.02	--	--		21.89	21.44	0.45		27.08	--	--		26.81	--	--
6/28/2018	no	16.00	--	--		21.94	21.45	0.49		27.08	--	--		26.81	--	--
6/27/2018	no	15.99	--	--		21.84	21.42	0.42		27.08	--	--		26.81	--	--
6/26/2018	no	15.99	--	--		21.85	21.40	0.45		27.08	--	--		26.81	--	--
6/25/2018	no	15.96	--	--		21.91	21.41	0.5		27.08	--	--		26.81	--	--
6/24/2018	no	15.91	--	--		21.85	21.41	0.44		27.08	--	--		26.81	--	--
6/23/2018	no	15.92	--	--		20.93	2'--.41	0.52		27.08	--	--		26.81	--	--
6/22/2018	no	15.95	--	--		21.95	21.52	0.43		27.08	--	--		26.81	--	--
6/21/2018	no	15.92	--	--		21.96	21.43	0.53		27.08	--	--		26.81	--	--
6/20/2018	no	15.91	--	--		20.83	2'--.4	0.43		27.08	--	--		26.81	--	--
6/19/2018	no	15.91	--	--		20.90	2'--.37	0.53		27.08	--	--		26.81	--	--
6/18/2018	no	15.90	--	--		20.89	2'--.37	0.52		27.08	--	--		26.81	--	--
6/17/2018	no	15.85	--	--		20.89	2'--.36	0.53		27.08	--	--		26.81	--	--
6/16/2018	no	15.86	--	--		20.90	2'--.38	0.52		27.08	--	--		26.81	--	--
6/15/2018	no	15.90	--	--		20.87	2'--.36	0.51		27.08	--	--		26.81	--	--
6/14/2018	no	15.90	--	--		20.89	2'--.37	0.52		27.08	--	--		26.81	--	--
6/13/2018	no	15.88	--	--		20.75	2'--.33	0.42		27.08	--	--		26.81	--	--
6/12/2018	no	15.90	--	--		20.78	2'--.33	0.45		27.08	--	--		26.81	--	--
6/11/2018	no	15.88	--	--		21.43	21.10	0.33		27.08	--	--		26.81	--	--
6/10/2018	no	15.81	--	--		21.68	21.23	0.45		27.08	--	--		26.81	--	--

Appendix C-2
Daily Monitoring Well Observations
Coleman Oil Site
Wenatchee, Washington

	PUMPING WELL DATA															
	MW-8				MW-9				MW-10				BH-1			
Date	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
6/9/2018	no	15.80	--	--		21.69	21.19	0.5		27.08	--	--		26.81	--	--
6/8/2018	no	15.82	--	--		21.60	21.20	0.4		27.08	--	--		26.81	--	--
6/7/2018	no	15.80	--	--		21.73	21.23	0.5		27.08	--	--		26.81	--	--
6/6/2018	no	15.80	--	--		21.63	21.20	0.43		27.08	--	--		26.81	--	--
6/5/2018	no	15.75	--	--		21.62	21.20	0.42		27.08	--	--		26.81	--	--
6/4/2018	no	15.74	--	--		21.60	21.20	0.4		27.08	--	--		26.81	--	--
6/3/2018	no	15.69	--	--	no	21.81	21.20	0.61	no	27.08	--	--	no	26.81	--	--
6/2/2018	no	15.69	--	--	no	21.63	21.14	0.49	no	27.08	--	--	no	26.81	--	--
6/1/2018	no	15.69	--	--	no	20.30	19.95	0.35	no	27.08	--	--	no	26.81	--	--
5/31/2018	no	15.63	--	--	no	21.73	21.12	0.61	no	27.08	--	--	no	26.81	--	--
5/30/2018	no	15.66	--	--	no	21.75	21.13	0.62	no	27.08	--	--	no	26.81	--	--
5/29/2018	no	15.65	--	--	no	21.56	21.20	0.36	no	27.08	--	--	no	26.81	--	--
5/28/2018	no	15.60	--	--	no	19.54	19.21	0.33	no	27.08	--	--	no	26.81	--	--
5/27/2018	no	15.60	--	--	no	19.81	19.49	0.32	no	27.08	--	--	no	26.81	--	--
5/26/2018	no	15.59	--	--	no	21.80	21.18	0.62	no	27.08	--	--	no	26.81	--	--
5/25/2018	no	15.58	--	--	no	21.70	21.13	0.57	no	27.08	--	--	no	26.81	--	--
5/24/2018	no	15.62	--	--	no	21.65	21.17	0.48	no	27.08	--	--	no	26.81	--	--
5/23/2018	no	15.62	--	--	no	21.90	21.'--8	0.82	no	27.08	--	--	no	26.81	--	--
5/22/2018	no	15.62	--	--	no	21.90	21.'--8	0.82	no	27.08	--	--	no	26.81	--	--
5/21/2018	no	15.62	--	--	no	21.80	21.'--6	0.74	no	27.08	--	--	no	26.81	--	--
5/20/2018	no	15.64	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/19/2018	no	15.64	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/18/2018	no	15.63	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/17/2018	no	15.65	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/16/2018	no	15.65	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/15/2018	no	15.61	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/14/2018	no	15.61	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/13/2018	no	15.56	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/12/2018	no	15.56	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/11/2018	no	15.54	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/10/2018	no	15.50	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/9/2018	no	15.50	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/8/2018	no	15.49	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/7/2018	no	15.47	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/6/2018	no	15.42	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/5/2018	no	15.40	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/4/2018	no	15.30	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/3/2018	no	15.20	--	--	no	21.80	--	--	no	27.08	--	--	no	26.81	--	--
5/2/2018	no	15.23	--	--	no	17.47	17.42	0.05	no	20.16	--	--	no	23.04	--	--
5/1/2018	no	15.21	--	--	no	17.41	17.37	0.04	no	20.51	--	--	no	23.10	--	--
4/30/2018	no	15.18	--	--	no	17.35	17.32	0.03	no	20.86	--	--	no	23.11	--	--
4/29/2018	no	15.16	--	--	no	17.28	--	--	no	20.62	--	--	no	23.06	--	--
4/28/2018	no	15.13	--	--	no	17.25	--	--	no	20.98	--	--	no	23.08	--	--
4/27/2018	no	15.12	--	--	no	17.22	--	--	no	20.96	--	--	no	23.03	--	--
4/26/2018	no	15.13	--	--	no	17.24	--	--	no	21.00	--	--	no	23.03	--	--
4/25/2018	no	15.20	--	--	no	17.29	--	--	no	23.15	--	--	no	21.25	--	--
4/24/2018	no	15.22	--	--	no	17.32	--	--	no	23.12	--	--	no	21.22	--	--
4/23/2018	no	15.24	--	--	no	17.38	--	--		24.60	--	--		23.11	--	--
4/22/2018	no	15.31	--	--	no	17.50	--	--		24.55	--	--		23.18	--	--
4/21/2018	no	15.37	--	--	no	17.64	--	--		24.50	--	--		21.32	--	--
4/20/2018	no	15.46	--	--	no	17.92	--	--		24.46	--	--		23.46	--	--
4/19/2018	no	15.59	--	--	no	18.25	--	--		24.41	--	--		23.66	--	--
4/18/2018	no	15.76	--	--	no	18.91	--	--		24.36	--	--		24.02	--	--
4/17/2018	no	15.89	--	--	no	19.39	--	--		24.32	--	--		22.62	--	--
4/16/2018	no	16.05	--	--	no	20.19	--	--		24.27	--	--		26.73	--	--
4/15/2018	no	16.29	--	--	no	21.18	--	--		24.23	--	--		26.59	26.46	0.13
4/14/2018	no	16.69	--	--	no	21.29	--	--		24.18	--	--		27.28	27.11	0.17
4/13/2018	no	17.92	--	--	no	21.51	--	--		24.13	--	--		28.58	--	--
4/12/2018	no	18.11	--	--	no	21.44	--	--		24.09	--	--		28.62	--	--
4/11/2018	no	18.13	--	--	no	21.31	--	--		24.04	--	--		28.63	--	--
4/10/2018	no	18.11	--	--	no	21.29	--	--		23.99	--	--		28.63	--	--
4/9/2018	no	18.08	--	--	no	21.11	--	--		23.95	--	--		28.66	--	--
4/8/2018	no	18.13	--	--	no	20.40	20.39	0.01		23.90	--	--		28.64	--	--
4/7/2018	no	18.13	--	--	no	21.46	21.45	0.01		23.86	--	--		28.63	--	--
4/6/2018	no	18.14	--	--	no	21.84	21.83	0.01		23.81	--	--		28.62	--	--
4/5/2018	no	18.14	--	--	no	21.84	--	--		23.76	--	--		28.61	--	--
4/4/2018	no	18.12	--	--	no	22.01	--	--		23.72	--	--		28.64	--	--
4/3/2018	no	18.13	--	--	no	22.04	--	--		23.67	--	--		28.57	--	--
4/2/2018	no	18.10	--	--	no	21.98	21.94	0.04		23.62	--	--		28.54	--	--
4/1/2018	no	18.09	--	--	no	21.96	21.91	0.05		23.58	--	--		28.53	--	--

Appendix C-2
Daily Monitoring Well Observations
Coleman Oil Site
Wenatchee, Washington

	PUMPING WELL DATA															
	MW-8				MW-9				MW-10				BH-1			
Date	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
3/31/2018	no	18.11	--	--	no	22.04	21.90	0.14		23.53	--	--		28.52	--	--
3/30/2018	no	18.11	--	--	no	22.17	--	--		23.49	--	--		28.50	--	--
3/29/2018	no	18.07	--	--	no	22.19	--	--		23.44	--	--		28.46	--	--
3/28/2018	no	18.08	--	--	no	22.15	--	--		23.39	--	--		28.46	--	--
3/27/2018	no	18.01	--	--	no	22.17	--	--		23.35	--	--		28.53	--	--
3/26/2018	no	17.76	--	--	no	22.21	--	--		23.30	--	--		28.56	--	--
3/25/2018	no	18.09	--	--	no	22.15	--	--		23.25	--	--		28.50	--	--
3/24/2018	no	18.13	--	--	no	22.16	--	--		23.21	--	--		28.54	--	--
3/23/2018	no	18.12	--	--	no	22.19	--	--		23.16	--	--		28.50	--	--
3/22/2018	no	18.13	--	--	no	22.19	--	--		23.12	--	--		28.48	--	--
3/21/2018	no	18.12	--	--	no	22.19	22.18	0.01		23.07	--	--		28.45	--	--
3/20/2018	no	18.11	--	--	no	22.16	--	--		23.02	--	--		28.42	--	--
3/19/2018	no	18.07	--	--	no	22.13	--	--		22.98	--	--		28.41	--	--
3/18/2018	no	18.09	--	--	no	22.11	--	--	no	22.93	--	--	no	28.36	--	--
3/17/2018	no	18.09	--	--	no	22.06	--	--	no	22.88	--	--	no	28.37	--	--
3/16/2018	no	18.02	--	--	no	22.03	--	--	no	22.84	--	--	no	28.46	--	--
3/15/2018	no	18.05	--	--	no	22.00	21.99	0.01	no	22.79	--	--	no	28.58	28.45	0.13
3/14/2018	no	17.96	--	--	no	21.94	--	--	no	22.74	--	--	no	28.05	27.86	0.19
3/13/2018	no	17.66	--	--	no	21.91	--	--	no	22.70	--	--	no	27.25	27.11	0.14
3/12/2018	no	17.42	--	--	no	21.96			no	22.65	--	--	no	28.13	27.18	0.95
3/11/2018	no	17.75	--	--		21.98	--	--	no	22.61	--	--	no	27.94	--	--
3/10/2018	no	18.05	--	--	no	21.97	--	--	no	22.56	--	--	no	28.04	--	--
3/9/2018	no	18.03	--	--	no	21.89	--	--	no	22.51	--	--	no	27.81	27.80	0.01
3/8/2018	no	18.00	--	--	no	21.84	--	--	no	22.47	--	--	no	27.30	--	--
3/7/2018	no	17.93	--	--	no	21.81	--	--	no	22.42	--	--	no	26.80	--	--
3/6/2018	no	17.79	--	--	no	21.76	21.75	0.01	no	22.37	--	--	no	26.25	--	--
3/5/2018	no	17.24	--	--	no	21.70	21.65	0.05	no	22.33	--	--	no	26.01	--	--
3/4/2018	no	16.81	--	--	no	21.81	21.76	0.05	no	22.28	--	--	no	26.64	26.59	0.05
3/3/2018	no	17.21	--	--	no	21.83	21.79	0.04	no	22.24	--	--	no	27.26	27.19	0.07
3/2/2018	no	17.95	--	--	no	21.83	21.71	0.12	no	22.19	--	--	no	27.17	--	--
3/1/2018	no	17.95	--	--	no	21.69	21.60	0.09	no	22.14	--	--	no	26.82	--	--
2/28/2018	no	17.83	--	--	no	21.60	21.54	0.06	no	22.10	--	--	no	26.21	--	--
2/27/2018	no	17.42	--	--	no	21.46	21.41	0.05	no	22.05	--	--	no	25.75	--	--
2/26/2018	no	16.43	--	--	no	21.39	21.35	0.04	no	22.00	--	--	no	26.11	--	--
2/25/2018	no	17.02	--	--	no	21.34	21.33	0.01	no	21.96	--	--	no	26.74	--	--
2/24/2018	no	17.91	--	--	no	21.25	21.24	0.01	no	21.91	--	--	no	26.54	--	--
2/23/2018	no	17.89	--	--	no	21.12	21.11	0.01	no	21.87	--	--	no	26.11	--	--
2/22/2018	no	17.75	17.74	0.01	no	20.92	20.91	0.01	no	21.82	--	--	no	25.33	--	--
2/21/2018	no	17.24	--	--	no	20.17	20.15	0.02	no	21.77	--	--	no	24.69	--	--
2/20/2018	no	16.18	--	--	no	19.30	19.29	0.01	no	20.61	20.60					
2/19/2018	no	15.90	--	--	no	18.42	18.39	0.03	no	20.45	--	--				
2/18/2018	no	16.21	--	--	no	18.60	18.59	0.01	no	20.26	--	--				
2/17/2018	no	16.03	--	--	no	17.50	--	--	no	19.78	--	--				
2/16/2018	no	15.18	--	--	no	16.76	16.75	0.01	no	19.40	--	--				
2/15/2018	no	14.96	--	--	no	16.87	16.84	0.03	no	19.60	19.39					
2/14/2018	no	14.79	--	--	no	16.37	--	--	no	19.27	--	--				
2/13/2018	no	14.85	--	--	no	16.38	--	--	no	19.39	--	--				
2/12/2018	no	14.90	--	--	no	16.49	--	--	no	19.39	--	--				
2/11/2018	no	15.59	--	--	no	17.76	--	--	no	19.26	--	--				
2/10/2018	no	15.39	--	--	no	17.69	17.68	0.01	no	19.30	--	--				
2/9/2018	no	15.84	--	--	no	18.20	18.13	0.07	no	19.43	--	--				
2/8/2018	no	16.86	--	--	no	17.72	17.71	0.01	no	19.29	--	--				
2/7/2018	no	16.10	--	--	no	16.84	--	--	no	19.21	--	--				
2/6/2018	no	15.55	--	--	no	16.51	--	--	no	19.23	--	--				
2/5/2018	no	15.65	--	--	no	16.45	--	--	no	19.42	--	--				
2/4/2018	no	14.92	--	--	no	17.18	--	--	no	19.65	--	--				
2/3/2018	no	15.51	--	--	no	17.28	--	--	no	19.68	--	--				
2/2/2018	no	15.30	--	--	no	17.30	--	--	no	19.66	--	--				
2/1/2018	no	15.44	--	--	no	17.59	--	--	no	19.65	--	--				
1/31/2018	no	15.73	--	--	no	17.19	--	--	no	19.43	--	--				
1/30/2018	no	15.55	--	--	no	16.67	--	--	no	19.32	--	--				
1/29/2018	no	15.32	--	--	no	16.43	--	--	no	18.99	--	--				
1/28/2018	no	15.08	--	--	no	16.33	--	--	no	19.11	--	--				
1/27/2018	no	14.83	--	--	no	16.19	--	--	no	18.89	--	--				
1/26/2018	no	14.79	--	--	no	15.88	--	--	no	18.69	--	--				
1/25/2018	no	14.97	--	--	no	15.53	--	--	no	18.63	--	--				
1/24/2018	no	15.66	--	--	no	15.20	--	--	no	18.40	--	--				
1/23/2018	no	15.02	--	--	no	14.65	--	--	no	18.16	--	--				
1/22/2018	no	14.17	--	--	no	14.29	--	--	no	18.21	--	--				
1/21/2018	no	13.88	--	--	no	14.45	--	--	no	18.38	--	--				
1/20/2018	no	15.22	--	--	no	14.97	--	--	no	18.48	--	--				
1/19/2018	no	15.15	--	--	no	14.93	--	--	no	18.21	--	--				
1/18/2018	no	14.97	--	--	no	14.91	--	--	no	18.39	--	--				
1/17/2018	no	15.28	--	--	no	15.68	--	--	no	18.63	--	--				
1/16/2018	no	15.81	--	--	no	16.38	--	--	no	19.33	--	--				
1/15/2018	no	15.20	--	--	no	17.18	17.09	0.09	no	20.25	--	--				
1/14/2018	no	15.63	--	--	no	18.93	18.91	0.02	no	21.54	--	--				
1/13/2018	no	16.71	--	--	no	20.52	20.34	0.18	no	22.33	--	--				
1/12/2018	no	17.65	--	--	no	20.93	20.72	0.21	no	22.45	--	--				
1/11/2018	no	17.53	--	--	yes	21.54	21.32	0.22	no	22.08	--	--				
1/10/2018	no	17.29	--	--	yes	21.25	21.19	0.06	no	22.60	--	--				
1/9/2018	no	16.50	--	--	no	21.05	--	--	no	22.89	--	--				
1/8/2018	no	16.30	--	--	no	21.00	--	--	no	22.98	--	--				
1/7/2018	no	16.15	--	--	no	21.00	--	--	no	22.80	--	--				
1/6/2018	no	16.56	--	--	no	21.05	--	--	no	22.81	--	--				
1/5/2018	no	16.17	--	--	no	20.89	20.85	0.04	no	22.61	--	--				
1/4/2018	no	16.09	--	--	no	21.36	21.20	0.16	no	22.78	--	--				
1/3/2018	no	16.43	--	--	yes	21.23	21.19	0.04	no	22.50	--	--				
1/2/2018	no	16.13	--	--	no	20.80	20.49	0.31	no	22.78	--	--				
1/1/2018	no	15.93	--	--	no	21.04	20.71	0.33	no	19.30	--	--				

Notes:
-- = product not present
blank cell = data not collected

Appendix C-2
Daily Monitoring Well Observations
Coleman Oil Site
Wenatchee, Washington

	MW-17				MW-24				MW-28				MW-29				MW-30				MW-32			
Date	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Operating	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)
12/31/2018	no	14.26	--	--	yes	26.90	--	--	yes	24.12	--	--	yes	32.49	--	--	yes	33.56	--	--	no	12.05	--	--
12/30/2018	no	14.26	--	--	no	26.13	--	--	no	23.04	--	--	no	23.58	--	--	no	34.87	--	--	no	12.05	--	--
12/29/2018	no	14.29	--	--	no	26.24	--	--	no	24.03	--	--	no	29.60	--	--	no	34.75	--	--	no	12.08	--	--
12/28/2018	no	14.31	--	--	no	25.39	--	--	no	24.74	--	--	no	32.49	--	--	no	34.60	--	--	no	12.04	--	--
12/27/2018	no	14.31	--	--	no	25.59	--	--	no	32.85	--	--	no	32.60	--	--	no	34.89	--	--	no	12.04	--	--
12/26/2018	no	14.31	--	--	no	27.01	--	--	no	32.85	--	--	no	35.10	--	--	no	34.89	--	--	no	12.04	--	--
12/25/2018	no	14.31	--	--	yes	27.01	--	--	yes	32.87	--	--	yes	35.09	--	--	yes	34.89	--	--	no	12.04	--	--
12/24/2018	no	14.31	--	--	yes	27.08	--	--	yes	32.85	--	--	yes	35.09	--	--	yes	34.89	--	--	no	12.04	--	--
12/23/2018	no	14.31	--	--	yes	27.05	--	--	yes	32.88	--	--	yes	35.08	--	--	yes	34.89	--	--	no	12.04	--	--
12/22/2018	no	14.33	--	--	yes	27.01	--	--	yes	32.90	--	--	yes	35.05	--	--	yes	34.99	--	--	no	12.10	--	--
12/21/2018	no	14.35	--	--	yes	27.01	--	--	yes	32.83	--	--	yes	34.54	--	--	yes	34.90	--	--	no	12.08	--	--
12/20/2018	no	14.35	--	--	yes	27.01	--	--	yes	32.88	--	--	yes	34.54	--	--	yes	34.90	--	--	no	12.08	--	--
12/19/2018	no	14.35	--	--	yes	27.00	--	--	yes	32.90	--	--	yes	34.54	--	--	yes	34.88	--	--	no	12.08	--	--
12/18/2018	no	14.53	--	--	yes	27.00	--	--	yes	32.84	--	--	yes	34.10	--	--	yes	34.84	--	--	no	12.09	--	--
12/17/2018	no	14.53	--	--	yes	27.01	--	--	yes	32.87	--	--	yes	34.11	--	--	yes	34.84	--	--	no	12.09	--	--
12/16/2018	no	14.53	--	--	yes	27.23	--	--	yes	32.84	--	--	yes	34.22	--	--	yes	34.82	--	--	no	12.09	--	--
12/15/2018	no	14.58	--	--	yes	27.04	--	--	yes	32.93	--	--	yes	28.22	--	--	yes	34.80	--	--	no	12.29	--	--
12/14/2018	no	24.66	--	--	yes	26.77	--	--	yes	33.75	--	--	yes	25.40	--	--	yes	34.33	--	--	no	12.35	--	--
12/13/2018	no	24.66	--	--	yes	26.90	--	--	yes	33.75	--	--	yes	25.39	--	--	yes	34.52	--	--	no	12.35	--	--
12/12/2018	no	24.66	--	--	yes	26.84	--	--	yes	33.72	--	--	yes	25.40	25.37	0.03	yes	34.54	--	--	no	12.35	--	--
12/11/2018	no	24.66	--	--	yes	26.90	--	--	yes	33.75	--	--	yes	25.39	25.37	0.02	yes	34.54	--	--	no	12.35	--	--
12/10/2018	no	24.66	--	--	no	26.32	--	--	no	24.35	--	--	no	27.49	--	--	no	34.55	--	--	no	12.35	--	--
12/9/2018	no	24.66	--	--	no	26.32	--	--	no	24.35	--	--	no	27.49	--	--	no	34.55	--	--	no	12.35	--	--
12/8/2018	no	14.65	--	--	no	26.05	--	--	no	24.49	--	--	no	34.06	--	--	no	34.46	--	--	no	12.35	--	--
12/7/2018	no	14.56	--	--	no	26.90	--	--	no	32.89	--	--	no	34.70	--	--	no	35.12	--	--	no	12.20	--	--
12/6/2018	no	14.56	--	--	no	26.90	--	--	no	32.89	--	--	no	34.70	--	--	no	35.12	--	--	no	12.20	--	--
12/5/2018	no	14.56	--	--	no	26.90	--	--	no	32.89	--	--	no	34.70	--	--	no	35.12	--	--	no	12.20	--	--
12/4/2018	no	14.56	--	--	yes	26.90	--	--	yes	32.90	--	--	yes	34.70	--	--	yes	35.12	--	--	no	12.20	--	--
12/3/2018	no	14.56	--	--	yes	26.90	--	--	yes	32.89	--	--	yes	34.75	--	--	yes	35.13	--	--	no	12.20	--	--
12/2/2018	no	14.56	--	--	yes	26.93	--	--	yes	32.83	--	--	yes	34.84	--	--	yes	35.91	--	--	no	12.20	--	--
12/1/2018	no	14.63	--	--	yes	26.88	--	--	yes	32.85	--	--	yes	35.05	--	--	yes	35.69	--	--	no	12.12	--	--
11/30/2018	no	14.73	--	--	no	26.88	--	--	no	32.87	--	--	no	34.76	--	--	no	34.80	--	--	no	12.39	--	--
11/29/2018	no	14.73	--	--	no	26.88	--	--	no	32.87	--	--	no	34.76	--	--	no	34.80	--	--	no	12.39	--	--
11/28/2018	no	14.73	--	--	yes	26.88	--	--	yes	32.87	--	--	yes	34.76	--	--	yes	34.80	--	--	no	12.39	--	--
11/27/2018	no	14.73	--	--	yes	26.88	--	--	yes	32.87	--	--	yes	34.76	--	--	yes	34.80	--	--	no	12.39	--	--
11/26/2018	no	14.73	--	--	yes	26.91	--	--	yes	32.90	--	--	yes	34.76	--	--	yes	34.80	--	--	no	12.39	--	--
11/25/2018	no	14.73	--	--	yes	27.16	--	--	yes	32.90	--	--	yes	34.76	--	--	yes	34.80	--	--	no	12.39	--	--
11/24/2018	no	14.72	--	--	yes	27.02	--	--	yes	34.92	--	--	yes	34.73	--	--	yes	34.73	--	--	no	12.38	--	--
11/23/2018	no	14.75	--	--	yes	26.93	--	--	yes	32.90	--	--	yes	34.80	--	--	yes	34.60	--	--	no	21.37	--	--
11/22/2018	no	14.75	--	--	yes	26.94	--	--	yes	32.90	--	--	yes	34.80	--	--	yes	34.60	--	--	no	21.37	--	--
11/21/2018	no	14.75	--	--	yes	26.95	--	--	yes	32.90	--	--	yes	34.80	--	--	yes	34.60	--	--	no	21.37	--	--
11/20/2018	no	14.75	--	--	yes	26.91	--	--	yes	32.91	--	--	yes	34.80	--	--	yes	34.60	--	--	no	21.37	--	--
11/19/2018	no	14.73	--	--	yes	27.00	--	--	yes	32.85	--	--	yes	34.70	--	--	yes	34.65	--	--	no	12.38	--	--
11/18/2018	no	14.73	--	--	yes	26.98	--	--	yes	32.86	--	--	yes	34.69	--	--	yes	34.65	--	--	no	12.38	--	--
11/17/2018	no	14.71	--	--	yes	26.99	--	--	yes	32.88	--	--	yes	34.69	--	--	yes	34.70	--	--	no	12.37	--	--
11/16/2018	no	27.40	--	--	yes	26.95	--	--	yes	32.85	--	--	yes	34.82	--	--	yes	34.85	--	--	no	12.33	--	--
11/15/2018	no	14.64	--	--	yes	26.95	--	--	yes	32.85	--	--	yes	34.80	--	--	yes	34.85	--	--	no	12.33	--	--
11/14/2018	no	14.64	--	--	yes	26.95	--	--	yes	32.85	--	--	yes	34.80	--	--	yes	34.85	--	--	no	12.33	--	--
11/13/2018	no	14.64	--	--	yes	26.95	--	--	yes	32.87	--	--	yes	34.80	--	--	yes	34.85	--	--	no	12.33	--	--
11/11/2018	no	14.64	--	--	no	27.00	--	--	yes	33.00	--	--	yes	34.80	--	--	yes	34.85	--	--	no	12.33	--	--
11/11/2018	no	14.64	--	--	no	26.89	--	--	yes	33.00	--	--	yes	34.81	--	--	yes	34.84	--	--	no	12.33	--	--
11/10/2018	no	14.62	--	--	yes	27.05	--	--	yes	32.90	--	--	yes	34.80	--	--	yes	34.88	--	--	no	12.29	--	--
11/9/2018	no	14.55	--	--	yes	27.00	--	--	yes	32.90	--	--	yes	34.90	--	--	yes	35.00	--	--	no	12.24	--	--
11/8/2018	no	14.55	--	--	yes	27.00	--	--	yes	32.85	--	--	yes	34.90	--	--	yes	35.00	--	--	no	12.24	--	--
11/7/2018	no	14.55	--	--	yes	27.00	--	--	yes	32.87	--	--	yes	34.90	--	--	yes	35.00	--	--	no	12.24	--	--
11/6/2018	no	14.55	--	--	yes	27.00	--	--	yes	31.90	--	--	yes	34.40	--	--	yes	35.00	--	--	no	12.24	--	--
11/5/2018	no	14.55	--	--	n/a	27.00	--	--	yes	30.90	--	--	yes	34.40	--	--	yes	35.00	--	--	no	12.24	--	--
11/4/2018	no	14.55	--	--	n/a	27.00	--	--	yes	32.90	--	--	yes	34.69	--	--	yes	34.94	--	--	no	12.24	--	--
11/3/2018	no	14.56	--	--	n/a	27.02	--	--	yes	32.87	--	--	yes	34.67	--	--	yes	34.10	--	--	no	12.24	--	--

Appendix C-3
Daily Columbia River Observations

Appendix C-3
Daily Columbia River Observations
Coleman Oil Site
Wenatchee, Washington

	RIVER LEVEL	RIVER SHEEN MONITORING/ABSORBENT PAD PRODUCT RECOVERY														
		DOWNRIVER					UP RIVER SOUTH					UP RIVER NORTH				
Date	River Water Level vs Gauge Mark (+/- inches)	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time
12/31/2018	9	None	0	0	0	732	None	0	0	0.000	736	None	0	0	0	739
12/30/2018	27	None	0	0	0	734	None	0	0	0.000	819	None	0	0	0	758
12/29/2018	19	None	0	0	0	733	None	0	0	0.000	738	None	0	0	0	742
12/28/2018	21	None	0	0	0	731	None	0	0	0.000	736	None	0	0	0	739
12/27/2018	21	None	0	0	0	745	None	0	0	0.000	749	None	0	0	0	751
12/26/2018	26	None	0	0	0	733	None	0	0	0.000	736	None	0	0	0	739
12/25/2018	20	None	0	0	0	724	None	0	0	0.000	727	None	0	0	0	730
12/24/2018	21	None	0	0	0	726	None	0	0	0.000	730	None	0	0	0	733
12/23/2018	15	None	0	0	0	734	None	0	0	0.000	741	None	0	0	0	745
12/22/2018	18	None	0	0	0	737	None	0	0	0.000	745	None	0	0	0	750
12/21/2018	23	None	0	0	0	737	None	0	0	0.000	740	None	0	0	0	743
12/20/2018	21	None	0	0	0	731	None	0	0	0.000	734	None	0	0	0	737
12/19/2018	21	None	0	0	0	732	None	0	0	0.000	737	None	0	0	0	740
12/18/2018	28	None	0	0	0	3732	None	0	0	0.000	737	None	0	0	0	740
12/17/2018	20	None	0	0	0	730	None	0	0	0.000	734	None	0	0	0	737
12/16/2018	30	None	0	0	0	735	None	0	0	0.000	746	None	0	0	0	751
12/15/2018	25	None	0	0	0	734	None	0	0	0.000	738	None	0	0	0	741
12/14/2018	21	None	0	0	0	729	None	0	0	0.000	733	None	0	0	0	735
12/13/2018	21	None	0	0	0	726	None	0	0	0.000	730	None	0	0	0	733
12/12/2018	24	None	0	0	0	731	None	0	0	0.000	734	None	0	0	0	737
12/11/2018	19	None	0	0	0	721	None	0	0	0.000	724	None	0	0	0	727
12/10/2018	19	None	0	0	0	734	None	0	0	0.000	739	None	0	0	0	743
12/9/2018	22	None	0	0	0	734	None	0	0	0.000	739	None	0	0	0	743
12/8/2018	9	Slight	0	0	0	730	Heavy	0	0	0.000	734	None	0	0	0	740
12/7/2018	10	None	0	0	0	726	None	0	0	0.000	728	None	0	0	0	730
12/6/2018	9	None	0	0	0	735	None	0	0	0.000	737	None	0	0	0	740
12/5/2018	13	None	0	0	0	729	None	0	0	0.000	732	None	0	0	0	734
12/4/2018	19	None	0	0	0	731	None	0	0	0.000	733	None	0	0	0	735
12/3/2018	15	None	0	0	0	734	None	0	0	0.000	738	None	0	0	0	740
12/2/2018	13	None	0	0	0	740	None	0	0	0.000	743	None	0	0	0	747
12/1/2018	12	None	0	0	0	735	None	0	0	0.000	742	None	0	0	0	745
11/30/2018	19	None	0	0	0	739	None	0	0	0.000	740	None	0	0	0	744
11/29/2018	11	None	0	0	0	739	None	0	0	0.000	740	None	0	0	0	744
11/28/2018	19	None	0	0	0	734	None	0	0	0.000	737	None	0	0	0	740
11/27/2018	16	None	0	0	0	726	None	0	0	0.000	729	None	0	0	0	732
11/26/2018	20	None	0	0	0	728	None	0	0	0.000	731	None	0	0	0	734
11/25/2018	28	None	0	0	0	733	None	0	0	0.000	738	None	0	0	0	742
11/24/2018	16	None	0	0	0	735	None	0	0	0.000	739	None	0	0	0	743
11/23/2018	20	None	0	0	0	727	None	0	0	0.000	731	None	0	0	0	735
11/22/2018	20	None	0	0	0	728	None	0	0	0.000	733	None	0	0	0	735
11/21/2018	20	None	0	0	0	748	None	0	0	0.000	752	None	0	0	0	756
11/20/2018	11	None	0	0	0	733	None	0	0	0.000	737	None	0	0	0	740
11/19/2018	9	None	0	0	0	802	None	0	0	0.000	806	None	0	0	0	809
11/18/2018	9	None	0	0	0	736	None	0	0	0.000	741	None	0	0	0	746
11/17/2018	14	None	0	0	0	744	None	0	0	0.000	751	None	0	0	0	754
11/16/2018	18	None	0	0	0	733	None	0	0	0.000	736	None	0	0	0	739
11/15/2018	11	None	0	0	0	735	None	0	0	0.000	737	None	0	0	0	739
11/14/2018	12	None	0	0	0	743	None	0	0	0.000	745	None	0	0	0	748
11/13/2018	19	None	0	0	0	728	None	0	0	0.000	733	None	0	0	0	738

Appendix C-3
Daily Columbia River Observations
Coleman Oil Site
Wenatchee, Washington

	RIVER LEVEL	RIVER SHEEN MONITORING/ABSORBENT PAD PRODUCT RECOVERY														
		DOWNRIVER					UP RIVER SOUTH					UP RIVER NORTH				
Date	River Water Level vs Gauge Mark (+/- inches)	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time
11/11/2018	19	Slight	0	0	0	730	None	0	0	0.000	734	None	0	0	0	737
11/11/2018	16	Slight	0	0	0	731	None	0	0	0.000	736	None	0	0	0	739
11/10/2018	19	Slight	0	0	0	734	None	0	0	0.000	742	None	0	0	0	746
11/9/2018	12	Moderate	0	0	0	725	None	0	0	0.000	728	None	0	0	0	732
11/8/2018	11	None	0	0	0	731	None	0	0	0.000	734	None	0	0	0	739
11/7/2018	11	None	0	0	0	723	None	0	0	0.000	730	None	0	0	0	733
11/6/2018	12	None	0	0	0	726	None	0	0	0.000	731	None	0	0	0	733
11/5/2018	16	Slight	0	0	0	736	None	0	0	0.000	743	None	0	0	0	746
11/4/2018	23	None	0	0	0	725	None	0	0	0.000	734	None	0	0	0	737
11/3/2018	19	None	0	0	0	737	None	0	0	0.000	743	None	0	0	0	747
11/2/2018	28	None	0	0	0	739	None	0	0	0.000	745	None	0	0	0	748
11/1/2018	13	None	0	0	0	728	None	0	0	0.000	731	None	0	0	0	735
10/31/2018	13	None	0	0	0	728	None	0	0	0.000	732	None	0	0	0	740
10/30/2018	8	None	0	0	0	738	None	0	0	0.000	741	None	0	0	0	743
10/29/2018	24	None	0	0	0	731	None	0	0	0.000	735	None	0	0	0	738
10/28/2018	23	None	0	0	0	733	None	0	0	0.000	738	None	0	0	0	742
10/27/2018	22	None	0	0	0	737	None	0	0	0.000	740	None	0	0	0	743
10/26/2018	24	None	0	0	0	728	None	0	0	0.000	731	None	0	0	0	734
10/25/2018	24	None	0	0	0	727	None	0	0	0.000	729	None	0	0	0	731
10/24/2018	29	None	0	0	0	742	None	0	0	0.000	744	None	0	0	0	747
10/23/2018	14	None	0	0	0	736	None	0	0	0.000	741	None	0	0	0	744
10/22/2018	13	None	0	0	0	733	None	0	0	0.000	735	None	0	0	0	738
10/21/2018	13	None	0	0	0	741	None	0	0	0.000	745	None	0	0	0	747
10/20/2018	25	None	0	0	0	734	None	0	0	0.000	738	None	0	0	0	743
10/19/2018	22	None	0	0	0	733	None	0	0	0.000	746	None	0	0	0	749
10/18/2018	22	None	0	0	0	737	None	0	0	0.000	739	None	0	0	0	743
10/17/2018	29	None	0	0	0	732	None	0	0	0.000	735	None	0	0	0	738
10/16/2018	12	None	0	0	0	736	None	0	0	0.000	739	None	0	0	0	746
10/15/2018	20	None	0	0	0	729	None	0	0	0.000	731	None	0	0	0	733
10/14/2018	24	None	0	0	0	738	None	0	0	0.000	744	None	0	0	0	746
10/13/2018	24	None	0	0	0	732	None	0	0	0.000	734	None	0	0	0	737
10/12/2018	20	None	0	0	0	733	None	0	0	0.000	736	None	0	0	0	739
10/11/2018	21	None	0	0	0	733	None	0	0	0.000	743	None	0	0	0	746
10/10/2018	14	None	0	0	0	959	None	0	0	0.000	1010	None	0	0	0	1013
10/9/2018	28	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/8/2018	22	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/7/2018	30	None	0	0	0	759	None	0	0	0.000	804	None	0	0	0	806
10/6/2018	31	None	0	0	0	752	None	0	0	0.000	757	None	0	0	0	759
10/5/2018	34	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/4/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/3/2018	28	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/2/2018	31	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
10/1/2018	22	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/30/2018	28	None	0	0	0	718	None	0	0	0.000	725	None	0	0	0	727
9/29/2018	28	None	0	0	0	810	None	0	0	0.000	815	None	0	0	0	818
9/28/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/27/2018	30	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/26/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/25/2018	19	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830

Appendix C-3
Daily Columbia River Observations
Coleman Oil Site
Wenatchee, Washington

	RIVER LEVEL	RIVER SHEEN MONITORING/ABSORBENT PAD PRODUCT RECOVERY														
		DOWNRIVER					UP RIVER SOUTH					UP RIVER NORTH				
Date	River Water Level vs Gauge Mark (+/- inches)	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time
9/24/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/23/2018	22	None	0	0	0	745	None	0	0	0.000	748	None	0	0	0	750
9/22/2018	27	None	0	0	0	816	None	0	0	0.000	818	None	0	0	0	821
9/21/2018	25	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/20/2018	27	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/19/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/18/2018	35	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/17/2018	31	None	0	0	0	1126	None	0	0	0.000	1130	None	0	0	0	1132
9/16/2018	19	None	0	0	0	1126	None	0	0	0.000	1130	None	0	0	0	1132
9/15/2018	17	None	0	0	0	747	None	0	0	0.000	750	None	0	0	0	753
9/14/2018	25	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/13/2018	40	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/12/2018	34	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/11/2018	28	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/10/2018	28	None	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
9/9/2018	27	None	0	0	0	746	None	0	0	0.000	750	None	0	0	0	754
9/8/2018	41	None	0	0	0	757	Slight	0	0	0.000	807	None	0	0	0	817
9/7/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/6/2018	25	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/5/2018	30	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/4/2018	18	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/3/2018	28	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
9/2/2018	32	None	0	0	0	748	None	0	0	0.000	800	None	0	0	0	809
9/1/2018	29	None	2	0	0	749	None	2	0	0.000	759	None	0	0	0	808
8/31/2018	22	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
8/30/2018	16	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
8/29/2018	12	None	7	15	0.11	830	None	0	0	0.000	830	None	0	0	0	830
8/28/2018	15	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
8/27/2018	26	None	0	0	0	830	None	0	0	0.000	830	None	0	0	0	830
8/26/2018	25	Slight	0	0	0	742	Slight	0	0	0.000	754	None	0	0	0	804
8/25/2018	21	None	0	0	0	747	None	0	0	0.000	756	None	0	0	0	800
8/24/2018	25	None	2	3	0.023	740	None	0	0	0.000	749	None	0	0	0	757
8/23/2018	20	none	0	0	0	830	none	0	0	0.000	830	none	0	0	0	830
8/22/2018	22	none	0	0	0	830	none	2	12	0.090	830	none	0	0	0	830
8/21/2018	16	none	0	0	0	830	none	0	0	0.000	830	none	0	0	0	830
8/20/2018	19	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/19/2018	24	None	0	0	0	751	None	0	0	0.000	801	None	0	0	0	805
8/18/2018	22	None	3	7	0.055	751	None	0	0	0.000	806	None	0	0	0	808
8/17/2018	30	None	2	9	0.07	830	None	1	4	0.030	830	None	0	0	0	830
8/16/2018	15	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/15/2018	22	Slight	0	0	0	830	Slight	0	6	0.040	830	None	0	0	0	830
8/14/2018	25	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/13/2018	23	Slight	0	0	0	830	Slight	5	28	0.218	830	None	0	0	0	830
8/12/2018	33	Slight	0	0	0	745	Slight	0	0	0.000	804	None	0	0	0	809
8/11/2018	30	Slight	0	0	0	809	Slight	2	7	0.055	819	None	0	0	0	826
8/10/2018	18	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/9/2018	27	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/8/2018	21	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/7/2018	15	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830

Appendix C-3
Daily Columbia River Observations
Coleman Oil Site
Wenatchee, Washington

	RIVER LEVEL	RIVER SHEEN MONITORING/ABSORBENT PAD PRODUCT RECOVERY														
		DOWNRIVER					UP RIVER SOUTH					UP RIVER NORTH				
Date	River Water Level vs Gauge Mark (+/- inches)	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time	Sheen Description	Pad Weight (oz)	Number of Pads	Product Recovered (gal)	Time
8/6/2018	27	Slight	0	0	0	609	Slight	0	0	0.000	619	None	0	0	0	624
8/5/2018	32	Slight	0	0	0	609	Slight	0	0	0.000	619	None	0	0	0	624
8/4/2018	27	Slight	0	0	0	746	Slight	0	0	0.000	755	None	0	0	0	759
8/3/2018	29	Slight	0	0	0	830	Slight	4	23	0.180	830	None	0	0	0	830
8/2/2018	23	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
8/1/2018	22	Slight	2	11	0.08	830	Slight	0	0	0.000	830	None	0	0	0	830
7/31/2018	12	Slight	0	0	0	830	Moderate	0	0	0.000	830	None	0	0	0	830
7/30/2018	14	Slight	5	27	0.22	830	Moderate	0	0	0.000	830	None	0	0	0	830
7/29/2018	25	Slight	0	0	0	743	Slight	0	0	0.000	756	None	0	0	0	807
7/28/2018	45	Slight	0	0	0	640	Slight	0	0	0.000	653	None	0	0	0	655
7/27/2018	20	Slight	0	0	0	753	Slight	0	0	0.000	803	None	0	0	0	809
7/26/2018	12	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
7/25/2018	8	Slight	0	0	0	830	Slight	2	14	0.110	830	None	0	0	0	830
7/24/2018	23	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
7/23/2018	12	Slight	2	16	0.125	830	Slight	2	13	0.101	830	None	0	0	0	830
7/22/2018	25	Slight	2	16	0.125	750	Slight	0	0	0.000	803	None	0	0	0	812
7/21/2018	16	Slight	0	0	0	754	Slight	0	0	0.000	806	None	0	0	0	811
7/20/2018	14	Slight	0	0	0	830	Slight	0	0	0.000	830	None	0	0	0	830
7/19/2018	8	Slight	0	0	0	830	Slight	0	0	0.000	830	0	0	10	0.08	1030
7/18/2018	8	Slight	0	0	0	830	Slight	0	0	0.000	830	0	0	0	0	0
7/17/2018	4	Slight	0	0	0	830	Slight	0	0	0.000	830	0	0	0	0	0
7/16/2018	12	Slight	0	0	0	830	Slight	0	0	0.000	830	0	0	0	0.25	830
7/15/2018	24	Slight	2	10	0.078	741	Slight	0	0	0.000	746	0	0	0	0	0
7/14/2018	9	Slight	0	0	0	747	Slight	0	0	0.000	754	0	0	0	0	0
7/13/2018	10	slight	3	13	0.1	830	slight	0	0	0.000	830	0	0	0	0	0
7/12/2018	20	slight	0	0	0	830	slight	0	0	0.000	830	0	0	0	0	0
7/11/2018	24	slight	2	15	0.12	830	slight	0	0	0.000	0	0	0	0	0	0
7/10/2018	18	slight	0	0	0	830	slight	2	5	0.040	830	0	15	33	0.26	930

Appendix C-4
Oil Water Separator Product Recovery

Appendix C-4
Oil Water Separator Product Recovery
Coleman Oil Site
Wenatchee, Washington

DATE	Amount of Product Recovery (gallons)			Cummulative Product Recovery (gallons)		
Date	MW-9R OWS	MW-10R OWS	BH-1 OWS	MW-9R OWS	MW-10R OWS	BH-1 OWS
12/31/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/30/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/29/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/28/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/27/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/26/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/25/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/24/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/23/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/22/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/21/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/20/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/19/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/18/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/17/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/16/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/15/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/14/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/13/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/12/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/11/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/10/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/9/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/8/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/7/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/6/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/5/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/4/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/3/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/2/2018	0.00	0.00	0.00	0.13	26.73	0.00
12/1/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/30/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/29/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/28/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/27/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/26/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/25/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/24/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/23/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/22/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/21/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/20/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/19/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/18/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/17/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/16/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/15/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/14/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/13/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/12/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/11/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/10/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/9/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/8/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/7/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/6/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/5/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/4/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/3/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/2/2018	0.00	0.00	0.00	0.13	26.73	0.00
11/1/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/31/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/30/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/29/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/28/2018	0.00	0.00	0.00	0.13	26.73	0.00

Appendix C-4
Oil Water Separator Product Recovery
Coleman Oil Site
Wenatchee, Washington

DATE	Amount of Product Recovery (gallons)			Cummulative Product Recovery (gallons)		
Date	MW-9R OWS	MW-10R OWS	BH-1 OWS	MW-9R OWS	MW-10R OWS	BH-1 OWS
10/27/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/26/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/25/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/24/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/23/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/22/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/21/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/20/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/19/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/18/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/17/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/16/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/15/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/14/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/13/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/12/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/11/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/10/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/9/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/8/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/7/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/6/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/5/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/4/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/3/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/2/2018	0.00	0.00	0.00	0.13	26.73	0.00
10/1/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/30/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/29/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/28/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/27/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/26/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/25/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/24/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/23/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/22/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/21/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/20/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/19/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/18/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/17/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/16/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/15/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/14/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/13/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/12/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/11/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/10/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/9/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/8/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/7/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/6/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/5/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/4/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/3/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/2/2018	0.00	0.00	0.00	0.13	26.73	0.00
9/1/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/31/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/30/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/29/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/28/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/27/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/26/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/25/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/24/2018	0.00	0.00	0.00	0.13	26.73	0.00

Appendix C-4
Oil Water Separator Product Recovery
Coleman Oil Site
Wenatchee, Washington

DATE	Amount of Product Recovery (gallons)			Cummulative Product Recovery (gallons)		
Date	MW-9R OWS	MW-10R OWS	BH-1 OWS	MW-9R OWS	MW-10R OWS	BH-1 OWS
8/23/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/22/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/21/2018	0.00	0.00	0.00	0.13	26.73	0.00
8/20/2018	0.00	0.13	0.00	0.13	26.73	0.00
8/19/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/18/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/17/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/16/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/15/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/14/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/13/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/12/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/11/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/10/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/9/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/8/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/7/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/6/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/5/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/4/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/3/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/2/2018	0.00	0.00	0.00	0.13	26.61	0.00
8/1/2018	0.00	0.00	0.00	0.13	26.61	0.00
7/31/2018	0.00	0.00	0.00	0.13	26.61	0.00
7/30/2018	0.00	0.00	0.00	0.13	26.61	0.00
7/29/2018	0.00	0.08	0.00	0.13	26.61	0.00
7/28/2018	0.00	0.00	0.00	0.13	26.53	0.00
7/27/2018	0.00	0.00	0.00	0.13	26.53	0.00
7/26/2018	0.00	0.00	0.00	0.13	26.53	0.00
7/25/2018	0.00	0.00	0.00	0.13	26.53	0.00
7/24/2018	0.00	0.00	0.00	0.13	26.53	0.00
7/23/2018	0.13	0.00	0.00	0.13	26.53	0.00
7/22/2018	0.00	0.13	0.00	0.00	26.53	0.00
7/21/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/20/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/19/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/18/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/17/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/16/2018	0.00	0.00	0.00	0.00	26.41	0.00
7/15/2018	0.00	0.25	0.00	0.00	26.41	0.00
7/14/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/13/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/12/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/11/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/10/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/9/2018	0.00	0.00	0.00	0.00	26.16	0.00
7/8/2018	0.00	0.31	0.00	0.00	26.16	0.00
7/7/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/6/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/5/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/4/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/3/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/2/2018	0.00	0.00	0.00	0.00	25.85	0.00
7/1/2018	0.00	0.75	0.00	0.00	25.85	0.00
6/30/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/29/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/28/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/27/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/26/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/25/2018	0.00	0.00	0.00	0.00	25.10	0.00
6/24/2018	0.00	0.44	0.00	0.00	25.10	0.00
6/23/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/22/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/21/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/20/2018	0.00	0.00	0.00	0.00	24.66	0.00

Appendix C-4
Oil Water Separator Product Recovery
Coleman Oil Site
Wenatchee, Washington

DATE	Amount of Product Recovery (gallons)			Cummulative Product Recovery (gallons)		
Date	MW-9R OWS	MW-10R OWS	BH-1 OWS	MW-9R OWS	MW-10R OWS	BH-1 OWS
6/19/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/18/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/17/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/16/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/15/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/14/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/13/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/12/2018	0.00	0.00	0.00	0.00	24.66	0.00
6/11/2018	0.00	0.44	0.00	0.00	24.66	0.00
6/10/2018	0.00	0.44	0.00	0.00	24.22	0.00
6/9/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/8/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/7/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/6/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/5/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/4/2018	0.00	0.00	0.00	0.00	23.78	0.00
6/3/2018	0.00	0.44	0.00	0.00	23.78	0.00
6/2/2018	0.00	0.00	0.00	0.00	23.35	0.00
6/1/2018	0.00	0.00	0.00	0.00	23.35	0.00
5/31/2018	0.00	0.00	0.00	0.00	23.35	0.00
5/30/2018	0.00	0.00	0.00	0.00	23.35	0.00
5/29/2018	0.00	0.00	0.00	0.00	23.35	0.00
5/28/2018	0.00	0.00	0.00	0.00	23.35	0.00
5/27/2018	0.00	0.31	0.00	0.00	23.35	0.00
5/26/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/25/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/24/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/23/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/22/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/21/2018	0.00	0.00	0.00	0.00	23.04	0.00
5/20/2018	0.00	0.31	0.00	0.00	23.04	0.00
5/19/2018	0.00	0.00	0.00	0.00	22.72	0.00
5/18/2018	0.00	0.00	0.00	0.00	22.72	0.00
5/17/2018	0.00	0.00	0.00	0.00	22.72	0.00
5/16/2018	0.00	0.00	0.00	0.00	22.72	0.00
5/15/2018	0.00	0.00	0.00	0.00	22.72	0.00
5/14/2018	0.00	0.20	0.00	0.00	22.72	0.00
5/13/2018	0.00	0.20	0.00	0.00	22.52	0.00
5/12/2018	0.00	0.20	0.00	0.00	22.32	0.00
5/11/2018	0.00	0.31	0.00	0.00	22.11	0.00
5/10/2018	0.00	0.31	0.00	0.00	21.80	0.00
5/9/2018	0.00	0.31	0.00	0.00	21.49	0.00
5/8/2018	0.00	0.41	0.00	0.00	21.17	0.00
5/7/2018	0.00	0.00	0.00	0.00	20.76	0.00
5/6/2018	0.00	0.00	0.00	0.00	20.76	0.00
5/5/2018	0.00	20.76	0.00	0.00	20.76	0.00

Appendix D
O&M Field Data Sheet

O&M Field Data Sheet – Coleman Oil
Wenatchee WA

GENERAL INFO			
Client Name: Coleman Oil		**Project Number:**	**Date:**
Site Address: 3 Chehalis Street Wenatchee, WA		**Reason for Visit or Phase/Task Number:** O&M Site Visit	**Inspector Name(s):**
Agreed Order No: Ecology / DE 15389		**Air Discharge:** NA	
State Waste Water Discharge No: Ecology / NA		**Waste Water Discharge Site No:** NA	

COMPRESSOR CONDITIONS						
Air Comp. Operating System	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Comp. Hours (hours)	Tank Pressure (psi)	Regulator Pressure (psi)	Maintenance Activities (oil change, belt replacement, etc.)
				-	-	

PUMPING WELL DATA						WATER RECOVERY		OIL WATER SEPARATOR
Well ID	Operating (yes/no)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Pump Cycle Counter	Weekly Product recovery (gal)	Flow Totalizer (gal)	Product Removed (fl oz)
MW-8			-	-		n/a	n/a	n/a
MW-9			-	-				
MW-17			-	-		-	-	-
MW-32			-	-				
MW10			-	-				
MW-24			-	-		-	-	-
MW-28			-	-				
BH-1			-	-				
MW-29			-	-		-	-	-
MW-30			-	-				

RIVER LEVEL	COMPRESSOR MAINTENANCE				WATER FILTER PRESSURE				GRANULAR ACTIVATED CARBON					DISCHARGE
					Filter 1		Filter 2		GAC1		GAC2			
River Water Level vs Gauge Mark (+/- inches*)	Check Oil (yes/no)	Change Oil (yes/no)	Pre-Filter (psi)	Post-Filter (psi)	In (psi)	Out (psi)	In (psi)	Out (psi)	In (psi)	Out (psi)	In (psi)	Out (psi)	Any Leaks (yes/no)	Volume Discharged to City (gal)
19	no	no	-	-	-		-	-	-	-	-	-	no	-

* A positive value denotes a river level below the gauge mark and negative value denotes a river level above the gauge mark.

RIVER SHEEN MONITORING/ABSORBENT PAD PRODUCT RECOVERY						
Location	Sheen Description	Number of Pads	Pad Weight (oz)	Product Recovered (gal)	Date (mm/dd/yyyy)	Time (2400)
Down River		-	-	-	-	
Up River South		-	-	-	-	
Up River North		-	-	-	-	

NOTES
System/Site Observations or Comments:

0

Appendix E
Coleman Oil Temporary Discharge Agreement

Agreement for Temporary Discharge of Treated Groundwater to the City of Wenatchee Publicly Owned Treatment Works

AGREEMENT made this 22 day of March, 2018, by and between the City of Wenatchee, a Washington municipal corporation, hereinafter referred to as "City," and Coleman Oil, Inc. hereinafter referred to as "Coleman."

Recitals

Whereas, the City owns and operates a Publicly Owned Treatment Works (hereinafter "POTW"); and

Whereas, Coleman desires to discharge treated groundwater from the spill cleanup at 3 Chehalis Street, Wenatchee, Washington, which has the potential to adversely affect the City's POTW; and

Whereas, the City and Coleman desire to enter into this special agreement pursuant to WCC 4.08.060 (4) setting forth special terms under which Coleman may discharge its treated groundwater to the POTW.

1. TERM OF CONTRACT:

1.1 The CONTRACT will expire upon completion of the project or twelve months after the effective date, whichever occurs first.

1.2 This CONTRACT is issued to Coleman for the specific discharge of treated groundwater from the site at 3 Chehalis Street, Wenatchee, Washington.

1.3 The CITY reserves the right to modify or terminate this CONTRACT at any time in the event it deems modification or termination is necessary to preserve the integrity and function of the POTW. City shall notify COLEMAN in writing of any proposed modifications or termination three (3) calendar days prior to the implementation of such modifications or termination.

2. USE OF SEWERS:

2.1 All use by Coleman of CITY sewers shall be in compliance with all federal, state and local regulations including Wenatchee City Code Chapter 4.08.

2.2 COLEMAN shall install a wastewater discharge meter on all sewer connections prior to beginning wastewater discharges. Meter specifications and location shall be approved by the CITY. The meter shall be read daily by COLEMAN and meter readings shall be submitted monthly to the CITY in a format and method acceptable to the CITY.

2.3 COLEMAN shall provide all testing data to the CITY and shall not discharge until written approval is received from the CITY for each batch. The CITY shall respond by the end of the next business day from when the data is received. The CITY may require additional analysis to the testing required by this CONTRACT at COLEMAN's expense. The CITY reserves the right to not accept specific batches.

2.4 COLEMAN shall only discharge to the POTW Monday through Friday. With advanced written approval from the CITY, discharges may be accepted on Saturday or Sunday.

2.5 COLEMAN shall be limited to a maximum discharge to the POTW of 4,000 gallons per day and at a maximum rate of 10 gallons per minute.

2.6 This CONTRACT and the authorization to discharge cannot be transferred, sold, or otherwise given to a new owner, new user, different premises, or any new or modified operation unless authorized in writing by the CITY.

3. ANALYTICAL TESTING, & FEES:

3.1 Table 3-1 lists the analytical tests required to discharge treated groundwater under the terms of this CONTRACT.

TABLE 3-1

Analytical Test	Method Number
Total Suspended Solids	SM2540-D
pH	SM4500-H+B
Chemical Oxygen Demand	SM5220-D
Total Organic Carbon	SM5310-B/C/D
Total Metals: As, Ba, Cd, Cr, Pb, Se, Ag, Cu, Zn	200.8
Total Mercury	7470A
Pesticides/PCBs	608
Volatile Petroleum Products	NWTPH-G_xBTEX
Semi-volatile Petroleum Products	NWTPH-D_x
Ignitability	1010A

3.2 All testing must be performed by a Washington State certified laboratory that at the time of testing is certified for the tests shown in Table 3-1.

3.3 COLEMAN shall be billed a base fee of $40.70 per month plus $3.90 per hundred cubic feet as well as applicable utility taxes to discharge to the POTW. In addition, a 15% administrative fee shall be applied to the monthly bill before taxes.

4. INSPECTIONS & REPORTING

4.1 COLEMAN shall allow CITY staff to enter upon COLEMAN's premises at 3 Chehalis during operating hours upon one hour advance notice by the CITY to:
4.2.1 Inspect any facilities, equipment (including monitoring and control equipment), practices, storage facilities or operations.
4.2.2 Have access to and copy any records that must be kept as a condition of the CONTRACT or the WASHINGTON STATE DEPARTMENT OF ECOLOGY.
4.2.3 Sample or monitor for the purpose of assuring compliance.
4.2.4 Inspect any production, manufacturing, fabricating or storage area where pollutants regulated under this CONTRACT could originate, be stored, or be discharged to the sewer system.

4.2 COLEMAN shall report any accidental or slug discharges immediately to the CITY. In case of an accidental or slug discharge or any other substantial incident which may have an adverse impact on the POTW, COLEMAN shall contact the CITY at (509)888-3324 between 7:00 A.M. and 3:30 P.M. and after hours call the CITY's afterhours emergency line at 1-800-374-5632.

4.3 COLEMAN shall notify the CITY for review and approval of any proposed changes to discharges at least seven (7) calendar days prior to the modified waste stream being discharged to the POTW.

5. ENFORCEMENT

5.1 The CITY reserves the right to initiate enforcement action for any violation of this CONTRACT or Wenatchee City Code Chapter 4.08.

5.2 COLEMAN may be billed surcharges and fines for violations for violations of this CONTRACT. Payment by Coleman shall be due in the normal course along with regular monthly sewer charges.

5.3 Enforcement action will be in accordance with the administrative and judicial actions under Wenatchee City Code Chapter 4.08.

6. INDEMNIFICATION:

COLEMAN shall defend, indemnify and save the CITY and its elected officials, officers and employees harmless from any and all claim and risk and all losses, damages, demands, suits, judgments, and attorney fees or other expenses of any kind on account of injury to or death of any and all persons, on or account of all property damage of any kind, or loss of use resulting therefrom, to any party arising out of, or in any manner connected with, the service performed under this contract, or caused in whole or in part by reason of the negligence or unlawful acts or omissions of COLEMAN, its' subcontractors, employees or agents, except

only for those losses resulting from and to the extent of the negligence of the CITY. COLEMAN waives its' immunity under the State Industrial Insurance ACT, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties.

7. INSURANCE:

COLEMAN shall obtain and keep in force during the term of the CONTRACT insurance in no less than the following amounts:

	Comprehensive/General	Property
Occurrence	$1,000,000	$1,000,000
Aggregate	$2,000,000	$2,000,000

A Certificate of Insurance shall be provided to the City upon request. Compliance with this section shall be a prerequisite to City accepting wastewater discharges hereunder.

SIGNED THIS 22 day of March, 2018.

CITY OF WENATCHEE,
a Washington municipal corporation

By: _____
FRANK KUNTZ, Mayor

COLEMAN OIL, INC.

By: James C Cach
JAMES C. CACH
Southwest Region Operations Manager