



TECHNICAL MEMORANDUM

To: Frank Winslow, LHG
From: Craig Hultgren, LHG
Date: September 1, 2021
Location: Coleman Oil Facility in Wenatchee, Washington
Subject: Progress Report for August 2021 – Agreed Order Number DE15389

A summary of work performed in August 2021 and plans for future groundwater monitoring is provided below.

Well Pumping & Groundwater Treatment:

- A total of **4,992** gallons of water treated with GAC and injected with hydrogen peroxide (H2O2) was discharged into three sumps across the property (Sump #3, West Trench North, and West Trench Middle).
- Approximately **6** gallons of H2O2 was applied to the site in August 2021.

Groundwater Recovery Rates:

- Daily groundwater recovery averaged **161** gallons per day. A decreasing trend was observed during the month.

River Conditions/Sheen Observations/Boom Management:

- The water level in the Columbia River rose above the level of all of the seeps on August 22, 2021. The river level was below each seep during the other days of the month.
- There was no observed sheen in the Columbia River during August 2021. The last time a sheen was observed was on May 22, 2020. This sheen coincided with an inoperable pump in BH01R due to biofouling.
- No free product was measured in any well during August 2021. The last time free product was measured at the site was 0.01 foot in MW29 after the pumps had been turned off for the 4th Quarter Groundwater Sampling Event in November 2020.
- There were no changes to the booms during August 2021.
- A River Level and Sheen Assessment form was completed each day. This form documents the depth of each pump setting and water levels at each pumping well to assess if the pumps are working properly. The form also documents the river elevation from daily river level measurement and seep elevations to compare river elevation with seep elevations. These forms are attached.

O&M Activities for August 2021:

- The air lines at several groundwater pumps had minor air leaks. All leaks were repaired and the system continued to operate.
- A compressor fault occurred on August 16th that took the groundwater pumping system offline for approximately 4 hours. The fault was caused by an oil level sensor in the compressor. The fault was remedied by field staff and the system is currently operating within normal parameters.



- A small oil leak has been discovered at the air compressor. An oil pan that underlies the compressor is capturing all oil released from the leak. Technicians have been contacted to perform annual maintenance of the compressor and will repair the leak.

Planned Activities for September 2021:

- Order and refill the Peroxide tank, as needed.
- Continue operation of the treated groundwater recirculation system.
- Continue river observation and maintenance of spill containment booms, as needed.
- HydroCon will continue to discharge treated water to selected sumps in the uplands area to promote flushing and stimulate biologic degradation of petroleum contaminants.
- Have the air compressor serviced.

Planned Groundwater Monitoring 2021:

- Beginning in April 2021, groundwater monitoring was transitioned to a semi-annual basis (spring and fall in 2021 followed by winter and summer the next year, etc.) at selected monitoring wells (agreed upon by Ecology) until all contaminants of concern are reduced below their respective MTCA Method A cleanup levels. Once that occurs, the groundwater monitoring schedule will revert back to a quarterly basis until the concentration of all contaminants of concern remain below their MTCA Method A cleanup level at all wells being monitored for 4 consecutive quarters.
- At Ecology's request, at least one monitoring event during the final quarterly sampling process will include sampling of all site monitoring wells to verify that the "clean wells" have remained below the cleanup level.
- The next semi-annual groundwater monitoring event is tentatively scheduled for October 2021.



River Level and Sheen Assessment

360.703.6079 / Fax 360.703.6086

314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 1, 2021

Agreed Order Number DE 15389

Page:

1 of 1

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.64	MW09R: 28.20	BH01R: 33.92
MW24: 27.16	MW17: 25.60	MW29: 35.13
MW28: 32.88	MW32: 28.33	MW30: 35.06

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 33" (-2.75')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.61

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 2, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.12	MW17: 25.60	MW29: 35.14
MW28: 32.88	MW32: 28.33	MW30: 35.05

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 30" (-2.5')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.86

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 3, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.18	BH01R: 33.92
MW24: 27.10	MW17: 25.60	MW29: 35.14
MW28: 32.88	MW32: 28.33	MW30: 35.05

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.11**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 4, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 27.04	MW17: 25.60	MW29: 35.15
MW28: 32.88	MW32: 28.33	MW30: 35.08

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.11**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 5, 2021

Prepared By:

Agreed Order Number DE 15389

Page:

1 of 1

Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.18	BH01R: 33.92
MW24: 27.20	MW17: 25.64	MW29: 35.15
MW28: 32.87	MW32: 28.33	MW30: 35.05

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.11

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 6, 2021

Agreed Order Number DE 15389

Page:

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 28.03	MW17: 25.66	MW29: 34.96
MW28: 32.90	MW32: 28.33	MW30: 35.25

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 45" (-3.75')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 615.61

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

360.703.6079 / Fax 360.703.6086

314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 7, 2021

Agreed Order Number DE 15389

Page:

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.04	MW17: 25.64	MW29: 34.95
MW28: 32.90	MW32: 28.33	MW30: 35.28

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 42" (-3.5')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 615.86

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 8, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 28.04	MW17: 25.66	MW29: 34.95
MW28: 32.90	MW32: 28.33	MW30: 35.35

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.11**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Biodiesel Investigation**

Date:

August 9, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.08	MW17: 25.65	MW29: 34.95
MW28: 32.90	MW32: 28.33	MW30: 35.44

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 42" (-3.5')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 615.86

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 10, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.15	MW17: 25.65	MW29: 34.95
MW28: 32.90	MW32: 28.32	MW30: 35.45

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.11**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 11, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.15	BH01R: 33.92
MW24: 28.15	MW17: 25.65	MW29: 35.18
MW28: 32.88	MW32: 28.30	MW30: 35.41

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 12, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.13	MW17: 25.65	MW29: 35.20
MW28: 32.88	MW32: 28.32	MW30: 35.41

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 30" (-2.5')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.86**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 13, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.14	MW17: 25.66	MW29: 35.20
MW28: 32.88	MW32: 28.33	MW30: 35.44

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 14, 2021

Prepared By:

Agreed Order Number DE 15389

Page:

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.15	MW17: 25.66	MW29: 35.22
MW28: 32.88	MW32: 28.33	MW30: 35.45

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 33" (-2.75')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.61**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 15, 2021

Prepared By:

Agreed Order Number DE 15389

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Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.17	MW17: 25.65	MW29: 35.20
MW28: 32.88	MW32: 28.33	MW30: 35.46

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 16, 2021

Prepared By:

Agreed Order Number DE 15389

Page:

1 of 1

Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 25.99	MW09R: 26.18	BH01R: 26.40
MW24: 27.44	MW17: 25.25	MW29: 35.00
MW28: 28.92	MW32: 27.14	MW30: 35.16

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36	Seeps
River Level: 30" (-2.5')	SL01: 618.70
Note: A negative number indicates the water level is ABOVE the top of the River gauge.	SL02: 618.57
Columbia River Elevation: 616.86	SL03: 619.11
	SL04: 618.84

Assessment: NOTE: Compressor was off for maybe an hour or two before the well depths were measured. Back up and running now.



River Level and Sheen Assessment

360.703.6079 / Fax 360.703.6086

314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 17, 2021

Agreed Order Number DE 15389

Page:

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.64	MW09R: 28.18	BH01R: 33.92
MW24: 27.93	MW17: 25.60	MW29: 34.92
MW28: 32.88	MW32: 28.33	MW30: 35.19

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

River Level: 36" (-3')

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

Columbia River Elevation: 616.36

Seeps

SL01: 618.70

SL02: 618.57

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

360.703.6079 / Fax 360.703.6086

314 West 15th St., Suite 300, Vancouver, WA

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 18, 2021

Prepared By:

Agreed Order Number DE 15389

Page:

1 of 1

Jim Clayson

DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.95	MW17: 25.64	MW29: 34.92
MW28: 32.88	MW32: 28.33	MW30: 35.22

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 30" (-2.5')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: **616.86**

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 19, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 27.99	MW17: 25.66	MW29: 34.94
MW28: 32.88	MW32: 28.33	MW30: 35.25

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 33" (-2.75')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.61

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 20, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 28.20	MW17: 25.66	MW29: 34.94
MW28: 32.90	MW32: 28.33	MW30: 35.44

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.11

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 21, 2021

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.20	MW17: 25.50	MW29: 34.90
MW28: 32.88	MW32: 28.33	MW30: 35.08

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 22" (-1.8333')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 617.52

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 22, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.64	MW09R: 28.22	BH01R: 33.92
MW24: 26.90	MW17: 25.64	MW29: 34.92
MW28: 32.88	MW32: 28.33	MW30: 35.08

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: -1" (0.0833')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 619.44

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 23, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.48	MW17: 25.65	MW29: 34.92
MW28: 32.88	MW32: 28.33	MW30: 35.22

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.11

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 24, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.98	MW17: 25.65	MW29: 34.92
MW28: 32.88	MW32: 28.33	MW30: 35.35

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 22" (-1.8333')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 617.52

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 25, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 27.78	MW17: 25.65	MW29: 34.90
MW28: 32.88	MW32: 28.32	MW30: 35.20

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 33" (-2.75')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.61

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

Coleman Oil Company - R99
Biodiesel Investigation

Agreed Order Number DE 15389

Date:

August 26, 2021

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? System is ON

Last time it was turned off? Quarterly GW Sampling Event at end of March 2020

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.65	MW09R: 28.20	BH01R: 33.92
MW24: 27.20	MW17: 25.65	MW29: 34.90
MW28: 32.88	MW32: 28.32	MW30: 35.20

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 27, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 27.16	MW17: 25.66	MW29: 34.90
MW28: 32.88	MW32: 28.32	MW30: 35.21

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 25" (-2.0833')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 617.27

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 28, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 27.20	MW17: 25.65	MW29: 34.92
MW28: 32.90	MW32: 28.33	MW30: 35.22

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 29, 2021

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.21	BH01R: 33.92
MW24: 27.27	MW17: 25.68	MW29: 34.92
MW28: 32.90	MW32: 28.33	MW30: 35.28

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 39" (-3.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.11

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 30, 2021

Agreed Order Number DE 15389

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.22	BH01R: 33.92
MW24: 27.28	MW17: 25.70	MW29: 34.92
MW28: 32.90	MW32: 28.33	MW30: 35.30

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 36" (-3')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 616.36

SL03: 619.11

SL04: 618.84

Assessment:



River Level and Sheen Assessment

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314 West 15th St., Suite 300, Vancouver, WA

Prepared By:

Jim Clayson

**Coleman Oil Company - R99
Biodiesel Investigation**

Date:

August 31, 2021

Agreed Order Number DE 15389

Page:

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DESCRIPTION OF SHEEN

NO SHEEN

Location:

Magnitude:

Description:

Groundwater/Product Extraction System

ON or OFF? **System is ON**

Last time it was turned off? **Quarterly GW Sampling Event at end of March 2020**

Drawdown Level Set at Pumping Wells

MW10R: 27'	MW09R: 28'	BH01R: 34'
MW24: 27'	MW17: 25'	MW29: 33'
MW28: 33'	MW32: 28'	MW30: 33'

Actual Depth to Water at Pumping Wells

MW10R: 27.66	MW09R: 28.20	BH01R: 33.92
MW24: 28.03	MW17: 25.65	MW29: 34.92
MW28: 32.90	MW32: 28.33	MW30: 35.21

Note:

Elevation of Columbia River and Seeps

River Gauge Elevation: 619.36

Seeps

River Level: 27" (-2.25')

SL01: 618.70

Note: A negative number indicates the water level is ABOVE the top of the River gauge.

SL02: 618.57

Columbia River Elevation: 617.11

SL03: 619.11

SL04: 618.84

Assessment: