



July 23, 2018

Mr. Robert Chesson
Department of Natural Resources
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203-2136

RE: 2017 Annual Report
Moser 1
Remediation #7138
API# 05-123-08041
NE1/4 NE1/4 SEC.26 T1N R67W 6PM
LAT./LONG.: 40.025851/-104.853189
Weld County, Colorado

Dear Mr. Chesson:

This report summarizes activities conducted in 2017 to address petroleum hydrocarbon impacts at the Moser 1 Tank Battery (site). The site is located within the northeast quarter of the northeast quarter of Section 26, Township 1 North, Range 67 West of the 6th Prime Meridian. A location map (Figure 1), a site map (Figure 2) and analytical result (Table 1) are attached.

BACKGROUND

In April 2012, during upgrade activities at the site, soil impacted beneath the flex hose connector were observed and reported to Encana.

From October 22, 2012 through October 30, 2012, EAGLE supervised Chemically Oxygenated Granular Activated Carbon (COGAC) in-situ remedial injections at the site. In the area where soil and groundwater impacts exceeded COGCC regulatory limits, 86 injections points were advanced on five foot centers from 5-14 feet below ground surface (bgs) and 9-14 feet bgs. In addition, in the area where only dissolved phase petroleum hydrocarbon impacts exceeded COGCC regulatory limits, 30 injections points were advanced on ten foot centers from 9-14 feet bgs. Approximately 100 pounds of COGAC material was combined with 100 gallons of water and injected into each point as a slurry. A total of 9,055 pounds of COGAC material was injected into 116 injection points throughout the site.

Encana completed source removal activities via three excavations at the site in June 2014. Petroleum impacted soil was disposed of offsite at an approved disposal facility. Prior to backfilling activities, a groundwater amendment was applied to the floor of each excavation followed by clean structural fill.

There are 6 monitoring wells on site, MW-01R through MW-06R.

Based on dissolved phase petroleum hydrocarbon impacts beneath the site, quarterly groundwater



monitoring is being conducted.

2015 Monitoring Results

Groundwater samples were collected from each well and analyzed throughout the year for BTEX. Groundwater monitoring was conducted on 3/9/2015, 6/11/2015 and 9/17/2015. No sampling was done for the fourth quarter.

Monitoring wells MW-03R, MW-04R and MW-05R reported below the COGCC Table 910-1 allowable limit throughout the year during 2015.

MW-01R had Benzene concentrations over the COGCC limits during the second and third quarters. Toluene, Ethylbenzene and Xylene concentrations were below table 910-1 limits throughout the year.

MW-02R had Benzene concentrations over the COGCC limits during the first and second quarters. Toluene, Ethylbenzene and Xylene concentrations were below table 910-1 limits throughout the year.

MW-06R had Benzene concentrations over the COGCC limits during all three quarters of testing. Toluene, Ethylbenzene and Xylene concentrations were below table 910-1 limits throughout the year.

2016 Monitoring Results

Groundwater samples were collected from each well and analyzed throughout the year for BTEX. Groundwater monitoring was conducted on 3/25/2016, 9/30/2016 and 12/29/2016.

Monitoring well MW-03R was reported below the COGCC Table 910-1 allowable limit throughout the year during 2016.

MW-01R had Benzene concentrations over the COGCC limits during the first quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-02R had Benzene concentrations over the COGCC limits during the first quarter. Ethylbenzene concentrations were over the COGCC limits during the third quarter. Toluene and Xylene were below table 910-1 limits for the sampled quarters.

MW-04R had Benzene concentrations over the COGCC limits during the first and third quarters. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-05R had Benzene concentrations over the COGCC limits during the first quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-06R had Benzene concentrations over the COGCC limits during all sampled quarters. Ethylbenzene concentrations were over the COGCC limits during the third quarter. Toluene and Xylene were below table 910-1 limits for the sampled quarters.



2017 Monitoring Results

Groundwater samples were collected from each well and analyzed throughout the year for BTEX. Groundwater monitoring was conducted on 3/29/2017, 6/29/2017, 9/28/2017 and 12/18/2017.

Monitoring well MW-03R was reported below the COGCC Table 910-1 allowable limit throughout the year during 2017.

MW-01R had Benzene concentrations over the COGCC limits during all four quarters. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-02R had Benzene concentrations over the COGCC limits during the first quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-04R had Benzene concentrations over the COGCC limits during the first quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-05R had Benzene concentrations over the COGCC limits during the second quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

MW-06R had Benzene concentrations over the COGCC limits during all four quarters. Toluene, Ethylbenzene and Xylene were below table 910-1 limits for the sampled quarters.

Please contact me if you have any questions or require additional information.

Sincerely,

David Tewkesbury
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Attachments:

Table 1 – Groundwater Analytical Results Moser 1

Figure 1 – Location Map

Figure 2 – Site Map

Figure 3 – Groundwater Flow Map

2017 Q1 Analytical Moser 1

2017 Q2 Analytical Moser 1

2017 Q3 Analytical Moser 1

2017 Q4 Analytical Moser 1