



November 28, 2017

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

**RE: 2016 Annual Report**  
**Brown C Unit 2 Battery**  
**API # 05-123-18575**  
**NW¼NW¼ SEC.5 T1N R68W 6PM**  
**LAT./LONG.: 40.085008/-105.033419**  
**Weld County, Colorado**

Dear Mr. Chesson:

This report summarizes activities conducted in 2016 to address petroleum hydrocarbon impacts at the Brown C Unit 2 Battery (site). The Brown C Unit #2 site is located within the northwest quarter of Section 5, Township 1 North, Range 68 West of the 6th Prime Meridian. The Brown C Unit #1 well is located at latitude: 40.085008 and longitude -105.033419 in Weld County, Colorado. A location map (Figure 1), a site map (Figure 2) and analytical result (Table 1) are attached.

#### **BACKGROUND**

On December 8, 2011, Encana contractors excavated approximately 500 cubic yards of petroleum hydrocarbon impacted soil from the site. The impacted soil was disposed of at the Denver Regional Landfill located in Erie, Colorado. The extents of the excavation were approximately 28 feet, east to west, by approximately 48 feet, north to south, with an approximate average depth of 10 feet below ground surface (bgs). Prior to backfilling activities, a groundwater amendment was applied to the excavation to address residual dissolved petroleum hydrocarbon impacts, followed by clean fill to the surface.

There are 11 monitoring wells on location; MW-01 through MW-05 and AGW-01 through AGW-06.

Based on dissolved phase petroleum hydrocarbon impacts beneath the site, quarterly groundwater monitoring has been completed at the site since January 2008.



### **2015 Monitoring Results**

Groundwater samples were collected from each well and analyzed throughout the year for BTEX. Groundwater monitoring was conducted on 3/10/2015, 6/10/2015 and 9/28/2015. No sampling was done during the fourth quarter of 2015.

Monitoring wells MW-02R, MW-03, MW-04, AGW-01, AGW-02, AGW-03, AGW-05 and AGW-06 were reported below the COGCC Table 910-1 allowable limit throughout the year during 2015.

Monitoring well AGW-02R was inaccessible for first quarter sampling. Monitoring wells AGW-03 and AGW-06 were dry for first quarter sampling and were not sampled.

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

MW-05 had Benzene concentrations over the COGCC limits for the second and third quarters. Toluene, Ethylbenzene and Xylene 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 3/28/2016, 9/23/2016 and 12/22/2016. No monitoring was conducted during the second quarter of 2016.

Monitoring wells AGW-01, AGW-03, AGW-04, AGW-05 and AGW-06 were reported below the COGCC Table 910-1 allowable limit throughout the year during 2016.

Monitoring well MW-02R was destroyed before sampling could be conducted during 2016.

AGW-02 had Benzene concentrations over the COGCC limits for the third and fourth quarters. Toluene, Ethylbenzene and Xylene were below table 910-1 limits throughout the year.

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

MW-03 had Benzene concentrations over the COGCC limits for third quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits throughout the year.

MW-04 had Benzene concentrations over the COGCC limits for third quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits throughout the year.

MW-05 had Benzene concentrations over the COGCC limits for third quarter. Toluene, Ethylbenzene and Xylene were below table 910-1 limits throughout the year.



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

Sincerely,

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Attachments:

Table 1 – Groundwater Analytical Results Brown C Unit 2

Figure 1 – Location Map

Figure 2 – Site Map