

On August 26, 2015 COGCC Environmental Staff (Alex Fischer and Jim Hughes) conducted an environmental field inspection at the Gramps Oil Field with a focus on the Pit Facility Complex ID: 114628 and the various remediation cell areas (REM 73) and monitoring well MW-4 that has historically had free phase hydrocarbons present. Mr. Tim Haarmann (Ranch Manager for the Banded Peak Ranch) and Travis Brooks were present during portions of the inspection.

The inspection is a follow up to R.T. Hicks Consultants, Inc. (R.T. Hicks) June 4, 2015 "Gramps Field Closure Report" (Document #2314748). The inspection also provides The Colorado Oil and Gas Conservation Commission (COGCC) review comments of R.T. Hicks response to the request for further information regarding the Gramps Oil Field Closure Report.

#### Review Comments:

As indicated in R.T. Hicks response, the Gramps Oil Field currently has "buried waste" that is not in compliance with current COGCC Rules and Regulations. Closure of remediation project #73 shall not be approved until additional characterization and remediation activities are performed, as defined in the February 17, 2015 letter (Document #2313981). COGCC Table 910-1 lists contaminant concentration levels for clean up standards. These standards are in place to provide protection of existing, as well as future land uses. The Statement of Basis regarding concentration levels in Table 910-1 can be found on the COGCC website.

COGCC staff will not support a variance request for areas containing "light soil impact". Sites that contain "light soil impact" are not considered "fully reclaimed sites" by the COGCC. Areas containing elevated contaminant concentration levels shall be remediated per Table 910-1.

Analysis for TPH concentration levels shall include GRO, DRO, and ORO. Variance requests for areas with contaminant concentration levels that exceed Table 910-1 will not be supported by COGCC Environmental staff. Liquid hydrocarbons shall be below detection level for soils and ground water.

Appendix C outlines a proposed sampling event for the treatment cells. Discrete confirmation soil samples shall be collected from all grid cells that have constituent concentration levels above Table 910-1. Discrete samples shall be collected to adequately characterize the material in the treatment cells.

Appendix D outlines a proposed monitoring well drilling plan to further delineate ground water impacts near MW-4. As stated in the February 17, 2015 letter, "The delineation of the extent of free phase hydrocarbons in shallow groundwater in the vicinity of MW-4 shall be conducted and remedial activities initiated." This shall be completed regardless of the status of the existing monitoring well network. Concentrations in groundwater and soil shall comply with Table 910-1 prior to closure.

The COGCC does not support continued monitoring and risk assessment, allowing remediation to ultimately be achieved through natural attenuation.

The COGCC is supportive of select monitoring well abandonment in accordance with the Colorado State Engineers Office practices and procedures. These wells shall include: MW-1, MW-2, MW-3, MW-5, MW-7, MW-9, MW-10, and MW-11.

MW-6 exhibited a hydrocarbon odor when the well cap was removed. A representative water sample shall be collected and analyzed for benzene, toluene, ethyl benzene, and xylenes (BTEX), Total Petroleum Hydrocarbons (TPH) including gasoline range organics (GRO) and diesel range organics (DRO).

By November 11, 2015, provide an amended Site Investigation/Remediation Plan (Form 27) that adequately addresses those items outlined in the COGCCs February 17, 2015 letter as well as the sampling of MW-6 and abandonment of the monitoring wells discussed above.

#### Inspection Summary:

- Pond A, water present and clear, no visual signs of hydrocarbons.
- Pond B, water present, flows into Pond A, clear, and no visual signs of hydrocarbons.
- MW-2 located west of Pond A. 4-inch PVC, approximately 2.5 feet of riser above ground surface. Writing in cap 6.5' -11.5' from surface, no hydrocarbon odor.
- Pond F, water present, clear, and no visual signs of hydrocarbons.
- MW-3, 4-inch PVC, approximately 2.5 feet of riser above ground surface. Writing in cap 4.75' - 9.75' from surface, no hydrocarbon odor.
- Pond E, no longer exists, has vegetation cover.
- MW-9, 2-inch galvanized, 1.5 feet of riser above ground surface, no hydrocarbon odor.
- Pond C, water present, surface diversion flows into Pond C then flows into Pond B, clear, and no visual signs of hydrocarbons.
- MW-6, 4-inch PVC, approximately 2.0 feet of riser above ground surface. Writing in cap 16' -26' from surface, has some hydrocarbon odor present, surface diversion located approximately 20 feet south west does not exhibit the presence of hydrocarbons.
- MW-7, 4-inch PVC, approximately 2.0 feet of riser above ground surface. Writing in cap 14.5'- 24.5' from surface, no hydrocarbon odor.
- Pond D, no longer exists, has vegetation cover.
- MW-10, near former "load out" 4-inch PVC, approximately 1.0 feet of riser above ground surface. Writing in cap 22.5'-32.5' from surface, no hydrocarbon odor.
- MW-4, 4-inch PVC, approximately 2.0 feet of riser above ground surface in a 2' X 2' concrete pad. Writing in cap 35'-45' from surface, strong hydrocarbon odor (suspect free phase hydrocarbon as this well historically has had free phase hydrocarbon present).
- Two 4-inch schedule 80 PVC risers near MW-4.
- MW-1, 4-inch PVC, approximately 2.5 feet of riser above ground surface. Writing in cap 23'-38' from surface, no hydrocarbon odor.
- MW-5, 4-inch PVC, approximately 2.0 feet of riser above ground surface in a 2' X 3' concrete pad. Writing in cap 22' - 32' from surface, no hydrocarbon odor.
- MW-11, 4-inch PVC, approximately 2.0 feet of riser above ground surface. Writing in cap 22' - 32' from surface, no hydrocarbon odor.
- Foundation/footing approximately 5' in depth for new hay barn south of the office. Did not observe any visual impacted material.
- Cell B, three 4-inch schedule 80 PVC risers with building materials (sheet metal) on the ground surface.
- Approximate location of pipeline (37.06895/-106.68967), gravel area that had been recently disturbed (according to Mr. Haarmann, they had used some of the material for fill near their

lodge). There was a slight hydrocarbon odor present and what appeared to be visual discoloration of soil in places. A sample (Sample ID 201508261425) was collected and submitted for analyses (BTEX, TPH-DRO, GRO, and ORO); none of these contaminants were detected.