

STATE OF  
COLORADO

EnviroScan - DNR, OGCC &lt;dnr\_ogcc.enviroscan@state.co.us&gt;

**Re: CM Production Oliver Warren #1 Northwest Skim Pit Impacted Soil Delineation (REM#8209)**

1 message

**Axelson - DNR, John** <john.axelson@state.co.us>

Wed, Jan 28, 2015 at 2:18 PM

To: James Hix &lt;jhix@olssonassociates.com&gt;

Cc: "rob.young@state.co.us" &lt;rob.young@state.co.us&gt;, OGCC EnviroScan - DNR &lt;ogcc.enviroscan@state.co.us&gt;

James,

COGCC approves of the proposed hand auger locations for additional delineation at the northwest corner of the skim pit excavation. Also, COGCC approves the removal of the plastic under the stockpiled oily waste to facilitate land treatment. I will be finalizing some conditions of approval for the land treatment related to the Supplemental Soil Remediation Work Plan that you submitted on behalf of CM in October. I hope to send those later today.

Thank you,  
John

John E. Axelson, P.G.  
East Environmental Supervisor



P 303.894.2100 x5115 | F 303.894.2109 | C 303-916-0527

1120 Lincoln Street, Suite 801, Denver, CO 80203

[john.axelson@state.co.us](mailto:john.axelson@state.co.us) | [www.colorado.gov/cogcc](http://www.colorado.gov/cogcc)

Rem #8209 - Correspondence

On Wed, Jan 28, 2015 at 11:44 AM, James Hix &lt;jhix@olssonassociates.com&gt; wrote:

John and Rob,

Attached is a map showing the proposed hand auger locations to delineate the extent of remaining soil impacts on the northwest corner of the pit and site photographs showing the excavation, power pole, and anchors in September 2014. Olsson will advance up to six hand auger borings in locations on the north side of the northwest pit to depths of approximately 8 feet to 10 feet below ground surface (bgs), or to auger refusal. Olsson will collect soil samples for laboratory analysis of diesel range organics (DRO) by EPA modified Method 8015. If the DRO results are greater than 500 mg/kg, then we will also have the laboratory run the Table 910-1 list of PAH compounds by EPA Method 8270 SIM.

Soils will be inspected for evidence of staining, odor, and will be screened with a photoionization detector (PID). The sample that exhibits the highest PID reading or shows visual or olfactory evidence of impact will be submitted for laboratory analysis. In the absence of elevated PID readings, staining, or hydrocarbon odor, the sample from the bottom of the hand auger boring will be submitted for laboratory analysis. Confirmation soil samples from the bottom of the boring will be submitted if evidence of impact is encountered at shallower depths. The confirmation sample will be submitted for DRO analysis to define the vertical extent of impact as necessary.

Soils were observed to consist of clays, silty clays, and silts at the time of the March 2014 site assessment and August – September 2014 skim pits excavation. It is expected that we will be able to hand auger to a depth of 8 feet bgs based on previous work on site. If for some reason Olsson is not able to achieve a depth of at least 8 feet bgs, we will need to re-evaluate and either return to the site with a power auger, a hydrovac, or contract with a Geoprobe operator to complete the delineation of the impacts on the northwest corner of the Oliver Warren skim pits excavation.

In August - September 2014 CM had Ridgeline Excavating prepare the land treatment area by removing the top soil, laying down plastic, and using the top soil as a berm around the E&P waste stockpiled soil. As we discussed CM would like to remove the plastic and landfarm the E&P soil stockpiles by thin spreading, tilling, and treating in place. According to the Division of Water Resources the depth to groundwater for permitted water wells in the area is between 175 feet and 200 feet bgs. The soils at the site are predominantly clays and silty clays, and the hydrocarbon impacts are in DRO range which do not leach.

James

James W. Hix, PG| **Olsson Associates**

4690 Table Mountain Drive, Suite 200 | Golden, CO 80403 | [jhix@olssonassociates.com](mailto:jhix@olssonassociates.com)

TEL 303.237.2072 | DIR 303.374.3139 | CELL 303.589.1572 | FAX 303.237.2659

