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July 23, 2013

Via email

kconway@blm.gov

Bureau of Land Management
Attention: Kacey Conway
Environmental Surface Inspector
Grand Junction Field Office
2815 H Road
Grand Junction, Colorado 81506

RE: Sampling and Laboratory Analyses of Soil Samples – Maralex Resources, Inc. at Roan Creek Federal 25-3

Dear Kacey Conway

Environmental Services, Inc. (ESI) is pleased to present the reported laboratory results representing soil samples collected from two pits at a Maralex Resources facility identified as Roan Creek Federal 25-3 (Site).

SAMPLING

Characterization sampling was performed by ESI on April 25, 2013. During the field activities we were accompanied by Mr. Leland Clifton with Maralex. The Site's location was recorded with a Global Positioning System using the North American Datum 83. The Latitude was recorded at 39.32433 degrees and Longitude at 108.281114 degrees. Digital photographs are summarized in an attached Power Point presentation. Composite soil samples were obtained from two pits identified as:

- Calcium Chloride Pit: The security fence placed around the pit measured approximately 16 by 16 feet and 6 feet deep. The security fence was placed inside two-foot soil berms positioned at each side. Evidence of stormwater was not observed during our Site visit. This pit included a pipe that discharged material into the pit. Evidence of stained soil was not observed at a location under the pipe or within the pit. A grab sample, for characterization, was obtained from directly under the pipe.
- Separator Pit: The security fence placed around the pit measured approximately 24 by 24 feet and 6 feet deep. The security fence was placed inside two-foot soil berms positioned at each side. Evidence of stormwater was observed inside the pit during our

Site visit. We estimate the depth of the stormwater to have been approximately 2 feet deep. Evidence of a sheen was not observed on the surface of the stormwater at the time of our Site visit. Four aliquots were collected from the pond bottom and at elevations under the water. A composite sample for characterization was collected after draining the water.

SAMPLING AND COOLER PREPARATION

Surgical gloves were donned during sampling and sample preparation. The samples were immediately transferred into appropriate containers provided by the laboratory. The individual sample containers included completed labels that were secured with film tape. The samples were then placed into individual baggies, and immediately placed into a cooler with ice. The sample was logged and recorded under a Chain of Custody.

Additional ice was placed into doubled two-gallon baggies and placed on each side and on top of the sample sufficient to maintain an internal cooler temperature of less than 4 degrees Celsius. The Chain of Custody form was placed into an individual baggie and affixed to the underside of the cooler lid. Copies of the Chain of Custody forms have been retained in the ESI project file. The cooler included a signed and dated security label. The cooler lids were secured with reinforced packing tape and film tape. The coolers were delivered to FedEx in Parachute, Colorado for Priority Overnight Delivery to the Analytica Environmental Laboratory in Thornton, Colorado (Analytica). Copies of the FedEx Air Bills have been retained in the ESI project file and secured to a copy of the completed Chain of Custody.

LABORATORY ANALYSIS

The samples were received by Analytica. The Characterization soil sample was analyzed for Total metals Method SW6020/SW6010B, Mercury Method SW7471A, Sodium Absorption Ratio Method Sodium Absorption Ratio Method SW7471A, Diesel Range Organics, (DRO) Method 8015B, Semi-Volatile Organics (SVOCs) Method SW8270C, Gasoline Range Organics, (GRO) Method 8015B, Trivalent Chromium Method SM3500-CrD, Hexavalent Chromium Method SW7196A, Specific Conductance Method Specific Conductance, pH Method Ph, and BTEX Method Aromatic VOCs by GC/PID method 8021D.

LABORATORY DATA

The reported laboratory results representing the Characterization soil sample and background Arsenic soil Samples are summarized on the attached table (**Table1**). Based on the reported laboratory data the soil, at both the Calcium Chloride Pit and the Separator Pit met the COGCC Table 910-1 Concentration Levels with the following exceptions:

- Boron was reported at 13.6 and 9.7 mg/Kg in the Calcium Chloride Pit and the Separator Pit, respectively. The concentrations exceed the COGCC's Concentration Level of 2 mg/L.
- Arsenic concentrations from samples obtained at the pits and from the undisturbed location were reported at 0.9, 0.8, 1.4, 1.2 and 1.1 mg/Kg respectively, and exceed the

COGCC standard of 0.39 mg/Kg. We believe the reported Arsenic concentrations of represent background. Based on our experience, soils in Colorado commonly fail the State's standards for Arsenic.

- A Sodium Adsorption Ratio was reported in the Separator Pit at 107 and exceeds the COGCC Concentration of <12. Calcium, Magnesium and Sodium were reported at 0.44, 0.12, and 56.5 meq/L.

The laboratory data was previously submitted to Kacey Conway, Environmental Surface Inspector with the Bureau of Land Management (BLM) on approximately May 28, 2013. The BLM raised questions regarding the exceedances. A reply was jointly prepared by Analytica Environmental Laboratories of Thornton, Colorado and ESI. The response was distributed to Maralex Resources, Inc. and the BLM on June 6, 2013. A copy of the correspondence is attached.

Dr. John Huntington with Gateway Enterprises reviewed the laboratory data and provided the following comments regarding the reported concentrations of Barium, Boron, and Sodium Absorption Ratio:

The total analysis results indicate a fairly high level of barium and some boron in the soils. However, -02A (the saturated sample) has much more barium than -01A, indicating that the additional barium may be from the water. The much higher sodium in the saturated sample is consistent with the water being the main contributor of sodium in that sample, rather than the mineral matrix of the soil. Boron is a common element present in many minerals and the fact that the level is similar in the two samples suggests it comes mainly from the mineral matrix in this case.

The very high SAR occurs because the amount of soluble calcium is similar in magnitude for the two samples, but the very soluble sodium ion is present in the water phase at much higher levels than is derived from the soil matrix.

The naturally occurring salts in the vicinity of DeBeque could account for the high boron concentrations at the Site. These salts and the fact that a saturated soil sample was obtained from the Separator Pit and submitted to Analytica, along with the Site's soil being comprised of mainly clay size particles, could possibly account for the high Sodium Adsorption Ratio reported at the Separator Pit.

A hard copy of the reported laboratory results, including the Chain of Custody form, under the Analytica Work Order B1304160, and dated May 21, 2013 is attached. A copy of the COGCC Form 27 is also attached.

FINDINGS

Based on the reported laboratory data, and information provide by Dr. John Huntington, evidence of petroleum hydrocarbon contamination was not indicated at either the Calcium Chloride or the Separator Pits. Based on our observations and the reported laboratory data the Site's Calcium Chloride and Separator pits can be closed with No Further Action pending review by the BLM/COGCC. The security fences can be removed and the pits will be backfilled with material from the Site's berms and other onsite material.

LIMITATIONS

This report has been prepared in accordance with generally acceptable environmental engineering practices in the area to sample soil for the purpose of closing pits. The information submitted in this report is primarily based on the observations and the review of reported laboratory data. The soil samples and the reported laboratory data are indicative of conditions only at those locations. This assessment is based on information made available to ESI at the time of our investigation and provides an indication of the status at that time. A complete definition of Site soil conditions would require substantial testing and a more detailed investigation. Because of uncertainties related to subsurface conditions and the changing nature of soil conditions, it is not possible for ESI to provide guarantees with this assessment.

Should you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,

ENVIRONMENTAL SERVICES, INC.

By 
D. Craig Heydenberk
Environmental Consultant

Attachments: Digital Photograph Log, Table 1, Laboratory Reports Analytica Work Order B1304160, Correspondence with the BLM dated June 8, 2013, and COGCC Form 27

cc : Mr. Carlos Lujan – COGCC carlos.lujan@state.co.us
Mr. Jim Graves - Maralex Resources, Inc. mrinc20@qwestoffice.net
Mr. A. M. O'Hare - Maralex Resources, Inc. amohare@maralexinc.com
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