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February 13, 2015

COGCC  
Attn: Carlos Lujan  
796 Megan Avenue, Suite 201  
Rifle, Colorado 81650

Certified Mail No. 7012 3050 0001 0695 3743 & via email carlos.lujan@state.co.us

Re: Roan Creek Evaporation Pond, Location ID 391314, Pit Facility 116525

Dear Mr. Lujan,

This letter is providing the written response requested in the letter to Maralex from the COGCC dated January 16, 2015.

Of the options provided by the COGCC in the above referenced letter, Maralex Disposal elects to pursue the first, provided that the COGCC will be reasonable in its requirements to permit the facility. In the above referenced letter the COGCC failed to take into account the findings and recommendations of the Expert Engineer that was hired by Maralex as directed by the COGCC. As a result, the COGCC reached some false conclusions regarding the condition of both the pond and the leak detection system. R.K. Frobrel & Associates – the Expert Engineer, has outlined in his technical reports/memorandums previously submitted to the COGCC, and reiterated in the Technical Memorandum that is dated February 11, 2015 and attached to this letter, a reasonable option to permit the facility that meets the COGCC's rules and regulations.

Maralex Disposal, LLC is, therefore, respectfully requesting that the COGCC approve this reasonable approach to permitting this facility.

A handwritten signature in black ink, appearing to read 'A. M. O'Hare'.

A. M. O'Hare, P.E.

Managing Member - Maralex Disposal, LLC

**R. K. FROBEL & ASSOCIATES**  
**Consulting Engineers**

Mr. A. M. O'Hare  
Maralex Resources, Inc.  
P. O. Box 338  
Ignacio, CO 81137

February 11, 2015

RE: Technical Memorandum.  
Review of COGCC Letter dated January 16, 2015  
Roan Creek Evaporation Pond

I have reviewed the January 16 Letter from the COGCC and find the recommendations extremely restrictive and costly to Maralex Resources in consideration of a requested 5 year extension of the existing permit. The COGCC has provided only two options to move forward on the Roan Creek Evaporation Pond:

1. Comply with current regulations, upgrade the pond at great expense to Maralex and apply for a new permit. This is not a reasonable option for a proposed 5 year plan.
2. Close the evaporation pond, remove the liner and remediate site. This option will not provide a current short term solution for Maralex but may be an option after 5 years of re-use of the existing Roan Creek pit.

In my opinion, there is still a much more cost effective and reasonable 3<sup>rd</sup> option – reuse the existing Roan Creek pond for a short period of time not to exceed 5 years.

Again, as I have stated in previous correspondence, the current pond was designed and built and approved for use on BLM land under 1999 O & G regulations. The 40 mil HDPE liner is still in relatively good condition and with repairs will provide an operative evaporation pond for at least the next 5 years. At the end of 5 years the liner will be re-evaluated and at that time will probably be rebuilt to current COGCC standards with a double lined system and intermediate leak detection.

The existing liner will not be designated to provide long term use and it is in this context that evaluation, repairs and use of the liner should be re-considered by the COGCC. Again, based on TRI Environmental testing, the antioxidant package is nearly depleted. However, the liner physical/mechanical properties are still fully acceptable and should be re-evaluated after 5 years as suggested by TRI. HDPE repair of all current defects, holes and replacement of Panel No. 15 will be in accordance with standard industry practice by a licensed and approved installation contractor. Again, all repairs will be by thermal fusion welds or extrusion welded patches and QC tested by vacuum box or pressurized air channel as required.

Although soils testing at the site has indicated no measurable contaminants, Maralex will sample soils under the liner at known hole locations and provide a report to COGCC prior to any repair work on the existing liner. Sampling locations will be repaired with

**R. K. FROBEL & ASSOCIATES**  
**Consulting Engineers**

conventional extrusion welded patches and QC tested by vacuum box. Soil subgrade at sampling locations and under Panel No. 15 will be compacted smooth prior to repair. Once the existing liner is repaired, the entire lining system will be tested by electrical leak location methods for a final CQA test requirement. The lining system will then be approved for limited use by a Licensed Professional Engineer.

Again, as I have stated previously, it is my professional opinion that the existing 40 mil HDPE liner can be repaired, QC tested and put back into service for a limited time period of 5 years. At the end of the 5 year period, it is recommended that the liner system again be evaluated and perhaps at that time reconfigured as a secondary liner with leak detection/collection geonet and new 60 mil Primary liner to comply with existing COGCC standards.

If you have any questions on this technical memorandum, give me a call at 303-679-0285 or email [geosynthetics@msn.com](mailto:geosynthetics@msn.com).

Sincerely Yours,

*R. K. Frobel*

Ronald K. Frobel, MSCE, PE

References:

1. COGCC Letter with Recommended Options dated January 16, 2015

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REQUIRE

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