

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY Department of Natural Resources

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John W. Hickenlooper
Governor

Mike King
Executive Director

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Director

July 3, 2012

Mr. Bob Warneke
Natural Soda, Inc.
3200 CR 31
Rifle, CO 81650

Re: Nahcolite Project, Permit No. M-1983-194, Receipt of Complete 112 Hard Rock/Metal Mining Reclamation Permit Amendment Application Package, AM – 03, Preliminary Adequacy Review.

Dear Mr. Warneke:

The Division of Reclamation, Mining and Safety has begun the review process for the above referenced 112d3 permit amendment application. The amendment proposes to add 8150 acres to the existing 73 acres with a total of 260 acres maximum to be affected at one time. The permit amendment also addresses the requirements of Rule 6.4.21. A review of the application has revealed a few clarifications and issues that need to be addressed.

- 1) The Division of Reclamation Mining and Safety (Division) has determined that the Natural Soda, Inc. Nahcolite Project is a Designated Mining Operation (DMO) as defined in Rule 1.1(14) of the Hard Rock/Metal Mining Rules and Regulations of the Mined Land Reclamation Board (Rules). The basis for this determination is found in Rule 1.1(14)(b), which states mining operations will be designated if "toxic or acid forming materials will be exposed or disturbed as a result of mining operations." The Nahcolite Project exposes and/or disturbs toxic materials in the following two ways.
 - i) Drill holes used to inject processing solution and extract dissolved nahcolite from the target mining zone are drilled through the lower aquifer. Some zones within the lower aquifer are known to exhibit concentrations of certain toxic constituents that exceed human health and/or agricultural standards for ground water. The potential for comingling of poorer quality lower aquifer water with ground water of the upper aquifer if leakage were to occur along the cased and cemented production wells would make the wells Environmental Protection Facilities as defined in Rule 1.1(15).
 - ii) The heated and pressurized solutions injected into the saline zone for recovery of nahcolite are intended to dissolve only sodium bicarbonate. During this process the heated solution dissolves other minerals containing toxic elements such as boron, uranium, chloride, fluoride and TDS. It is reasonable to assume that toxic constituents documented to be dissolved in ground water in the lower aquifer may also be dissolved by the solution mining injection fluid. For the record, in the case of the Nahcolite Project, the Division's determination of the project as a DMO is *not* related to any concerns or considerations that the mineral nahcolite or the finished product baking soda are in any way toxic.
- 2) The proposed expansion of the mining operation to 260 acres maximum disturbance at any one time does not specifically state where the disturbance will take place. Please clarify where the proposed

disturbance will occur on a mine plan map. Also, provide an updated reclamation map that portrays the proposed final reclamation configuration.

- 3) Rule 6.4.21(6)(a) requires the applicant to specifically describe measures to be taken to prevent any unauthorized release of pollutants to the environment and include reclamation and closing practices for such designated chemicals. Also the operator is required to disclose how unauthorized discharges will be prevented. In this specific operation the baron and pregnant liquor that is injected and then recovered is the substance of primary concern. Please fully address the requirements of Rule 6.4.21(6)(a).
- 4) Per Rule 6.4.21(7)(d), please describe with maps and narrative, the monitoring systems, monitoring site locations, parameters sampled, frequency of sampling, report dates, media sampled, method of sampling and analysis employed or to be employed during mining and reclamation operations to evaluate the effectiveness of each environmental protection plan facility and activity.

This is a preliminary review. Other issues may arise from other agency comments, and as more information is supplied. This application cannot be approved until the issues brought forth are adequately addressed. Please submit a response to the issues as soon as possible, but no later than July 30, 2012 so the decision due date set for August 6, 2012 can be met. If your response or a written extension request are not received by July 30, 2012 this application may be denied.

If you need additional information, please contact me at the Division of Reclamation, Mining and Safety, Grand Junction Field Office, 101 S. 3rd St., Suite 301, Grand Junction, Colorado 81501, telephone no. (970) 241-2042.

Sincerely,



Travis Marshall
Environmental Protection Specialist

cc: Russ Means, DRMS

Paul Daggett
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Meeker, CO 81641

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