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June 17, 1994

DEAR READER,

RE: Zortman/Landusky Mine Life Extension EIS - Public Scoping Issues Report

Zortman Mining, Inc. (ZMI) submitted to the Bureau of Land Management (BLM) and the Montana Department of State Lands (DSL) a proposed modification to the operating and reclamation plans for the Landusky Mine. This submission was in response to a decision by the BLM Montana State Director requiring modification of the existing plans under 43 CFR 3809.1-7(c) and in response to DSL requirements for modification per 82-4-337, MCA to address the development of acid rock drainage (ARD) at the Landusky Mine.

After analyzing the modifications in a Supplemental Environmental Assessment (SEA) [see SEA, Landusky Mine Operating and Reclamation Plan Modifications, Acid Rock Drainage Control and Remediation (EA# MT065-063-93)], the agencies decided to immediately implement certain interim operating, control and reclamation measures to address the existing acid rock drainage (ARD) situation. Approval of final, long-term reclamation and closure designs for ARD prevention, control and treatment was withheld pending further environmental review in a combined Zortman-Landusky Environmental Impact Statement (EIS).

This report is an up-to-date compilation of issues related to the Landusky Mine reclamation and operating plan modification proposal. Issues have been identified by DSL and BLM based on agency and public input received on the original Zortman extension proposal, agency and public comment obtained during scoping for the Landusky SEA, comments received on the Landusky SEA itself, and ongoing comments received during preparation of the combined Zortman-Landusky draft EIS. This report, together with the public scoping issues report prepared for the original Zortman extension proposal, constitute the official scoping document for the Zortman/Landusky Mine Life Extension EIS.

SUMMARY OF COMPANY PROPOSED ACTIONS AT LANDUSKY MINE:

The proposal has two main components: 1) modification in the existing reclamation plan to address existing acid rock drainage from mine facilities, and 2) mining and processing an additional 10.6 million tons of ore. Reclamation plan modifications are proposed for all existing unreclaimed leach pads, containment dikes and waste rock piles and include resloping, capping and surface flow diversion. Existing ARD capture and pumpback systems would be re-sized to an appropriate design storm event and a water treatment plant would be installed. Active water treatment would be phased out as source controls and passive treatment methods such as limestone underdrains took effect.

The tonnage increase involves an additional 10.6 million tons of ore and 12 million tons of waste rock beyond that already permitted. Mining the additional material will result in disturbance of 20 additional acres. Waste rock would either be placed in existing pits or used in reclamation. Ore would be placed on the existing Mill Gulch/Sullivan Park leach pads. Additional mining at Landusky beyond this amount has not been proposed, but is reasonably foreseeable.

If you have any questions please contact either Jim Robinson (DSL) or Scott Haight (BLM)

ISSUE SUMMARY

The following summary shows, by issue category, the concerns and comments submitted by government agencies, special interest groups, and the general public during the scoping process for the Landusky component of the combined Zortman-Landusky EIS.

Water Resources

Issues raised include water quality degradation and identification of potentially effected users, the effectiveness of the existing water quality monitoring program, and impacts to water quantity and availability. Issues associated with water resources are summarized below:

- Is there any threat to beneficial use of the waters from acid rock drainage? Could domestic wells be affected?
- What has been the record of water quality violations?
- What enforcement actions have been taken by the agencies to resolve the current water quality violations?
- How should water monitoring be changed to better characterize the existing environment? Will the frequency of monitoring be sufficient to reflect the effectiveness of reclamation measures?
- What water monitoring is in place? What additional monitoring is needed to assure that the remedies proposed are effective?
- Are there any objective, or quantitative standards to which the mining operator will be held to ensure that the acid drainage problem has been satisfactorily resolved?
- Would a state and/or federal testing program for area wells, water supplies, streams, etc., which would include the involvement of the Fort Belknap Water Quality Program and local concerned citizens, be appropriate as a means of determining impact?
- How will water monitoring protect reservation lands?
- Would allowing ZMI (or their consultants) perform water quality monitoring affect the accuracy and completeness of the results?
- If and when the mine shuts down, will monitoring still take place? How long would it continue?
- Are there enough data to adequately characterize past and present surface and groundwater quality?
- Are the existing contingency ponds leaking into groundwater, or surface water, and can they be repaired?
- Will the puncturing of the heap liners at closure cause the release of acid rock drainage to surface and ground waters?
- Is the mine located in a high precipitation zone which could worsen the problem and lead to environmental damage off the permit area?
- Has an accurate water balance been prepared?

- Will diversion of waters away from the facilities decrease the flow available to downstream users?
- What are the effects of clay capping on stream flow and ground water recharge?

Acid Rock Drainage/Geochemistry

Issues identified include causes and sources of acid rock drainage, effectiveness of various treatment methodologies, contingency plans and the adequacy of the mine waste characterization program. Major ARD/Geochemistry issues are summarized below:

- What is the cause of acid rock drainage and how long will it persist? Why did it develop?
- What are all the potential sources of ARD for each of the affected discharges?
- What environmental problems are associated with the release of acid rock drainage?
- What is the scope of the existing environmental situation and is it contained within the permit area?
- Which facilities are affected by acid rock drainage problems?
- What environmental effects could occur as changes in the reclamation plan are implemented?
- How have the agencies reassessed the mine waste characterization for the waste generated at the Landusky operation?
- How effective is the mine waste characterization program just recently activated?
- What else could be done to better characterize mined material?
- What geologic units are being analyzed for reactive constituents? What are the parameters of concern?
- What is being done to better characterize the reactivity of waste materials?
- What are the predicted performance of the control measures compared to specific goals?
- What is the basis for determining the success or failure of any of the ARD source controls.
- What contingencies are available if goals are not attained?
- What are the benefits of water treatment?
- What is the plan for dealing with acid generation from the leach pad foundations?

Wildlife

Identified issues primarily centered on effects to fisheries. Concern was expressed for other types of wildlife as well. Major wildlife issues are summarized below:

- Are there local fisheries being affected by the acidic drainage?
- What effect could acidic drainage have on aquatic biodiversity?
- Could the fishery in King Creek be effected?

- Could impacts to fish and wildlife become significant in the future?
- Would diversion of surface flows negatively impact stream flows and thus riparian habitat?

Procedural Issues

Identified process issues include bonding adequacy, adequacy of agency regulation, future clean-up responsibility, and consistency the requirements of other regulatory agencies such as the state Water Quality Bureau. Major planning and policy issues are identified below:

- Is bonding adequate to assure that beneficial uses of waters are not endangered by problems with acid rock drainage?
- Does a trust fund need to be established to treat water and maintain facilities need to be established?
- How can the agencies consider permitting a sulfide expansion when existing acid drainage problems cannot be controlled?
- What future problems could also occur as a result of erroneous assumptions? How can these problems be resolved?
- When will final reclamation occur? If pollution is found in the distant future, who will clean it up?
- For the No Action Alternative, what is the responsibility and liability of ZMI, concerning ARD and the environment, should this alternative be chosen and mining ceased?
- Has the regulatory oversight, enforcement and monitoring been adequate at the mines?
- Is the mining plan modification under review consistent with remedial measures required by the Montana Department of Health and Environmental Sciences, Water Quality Bureau?

Engineering/Reclamation

Identified engineering and reclamation issues include the effects of excess water on the stability and erodibility of the waste dump and leaching facilities, liner integrity under ponds and leach pads, capping standards, adequacy of existing capture and pumpback systems and design of surface diversion facilities. Major issues are summarized below:

- Are there areas of the existing waste repositories where stability has been compromised due to an increase in their respective water balance?
- Are the heap leach pads reaching capacity due to the high rates of precipitation recently experienced at the mine site?
- What is the integrity of the liner under the heap leach facilities?
- Are the current pumpback systems functional and adequate? Are they designed to the correct size storm event?
- What problems are associated with use of tailings as a liner shield?
- Are the proposed surface drainage diversion facilities adequately sized?

- Will the drainage diversion facilities require maintenance in perpetuity?
- Will the capping sequence be able to resist erosion? Will tree roots penetrate the geofabric? Would the capillary break be compromised?
- Could large precipitation events that move coarse gravel downstream also move mine material off newly reclaimed slopes into adjacent streams?
- Have the proposed remediation and reclamation measures proposed in the agency modified alternative been used successfully elsewhere?
- What are the standards for capping and synthetic liners?

Socioeconomics

Identified socioeconomic issues center primarily on mine closure and health and welfare effects of continued operation on the Native American community. Major issues are summarized below:

- What would be the effects of mine closure on the local employment base?
- What will be the effects of the proposed operation on culturally significant lands and local community health?

REFERENCES

Zortman Mining, Incorporated: Revisions to the Reclamation Plan for Portions of the Landusky Mining Area, received July 27, 1993.

Zortman Mining, Incorporated: Revisions to Plans for the Landusky Mining Area, received March 25, 1994.

Montana Dept. of State Lands/U.S. Bureau of Land Management: Dear Reader letter, dated April 11, 1994.

_____ : Decision Record for the Landusky Mine Operating and Reclamation Plan Modifications, Acid Rock Drainage Control and Remediation, dated March 4, 1994.

_____ : Responses to Public Comments on the Supplemental Environmental Assessment for the Landusky Mine Operating and Reclamation Plan Modifications, dated March 2, 1994.

_____ : Supplemental Environmental Assessment for State Operating Permit 00095 and Federal Plan of Operations MTM-77779 - Landusky Mine Operating and Reclamation Plan Modification, Acid Rock Drainage Control and Remediation, dated November 1993.

_____ : Public Scoping Issues Report - Zortman Mine Expansion Environmental Impact Statement, dated October 1993.