

SCOPING DOCUMENT

STILLWATER MINING COMPANY'S

**EASTBOULDER MINE BOE RANCH LAND APPLICATION
DISPOSAL (LAD) ALTERNATIVE, REMOVING THE PRODUCTION
CAP AT EAST BOULDER MINE, AND POST-CLOSURE
WATER MANAGEMENT PLAN AT THE STILLWATER AND
EAST BOULDER MINES**

Prepared by-

Montana Department of Environmental Quality
U.S. Forest Service, Custer National Forest
and Gallatin National Forest

Prepared for-

EIS Scoping Meetings
Absarokee and Big Timber, MT

July 2001

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EAST BOULDER MINE BOE RANCH LAND APPLICATION DISPOSAL (LAD)
ALTERNATIVE, REMOVING THE PRODUCTION CAP AT EAST BOULDER MINE,
AND POST-CLOSURE WATER MANAGEMENT PLAN AT THE
STILLWATER AND EAST BOULDER MINES

The Stillwater Mining Co. (SMC) has submitted proposed amendments to its operating permit #00118 for the Stillwater Mine located outside of Nye, Montana, in Stillwater County and operating permit #00149 for the East Boulder Mine located south of Big Timber in Sweet Grass County. Because these amendments would be major revisions of the operating permits and plans of operations, an environmental analysis of the proposal must be prepared. This analysis will be presented for public disclosure, review, and comment in an environmental impact statement (EIS).

The first phase in completing an EIS is to conduct "scoping." The purpose of scoping is to identify the environmental issues associated with the project. This scoping document will acquaint you with the proposed East Boulder Boe Ranch Land Application Disposal (LAD) Alternative, Production Cap Removal, and Post-Closure Water Management and the EIS and decision-making processes. This Proposed Action would include environmental analysis and decision-making at both the East Boulder and Nye Mine locations. The agencies will welcome your comments on the issues that you believe should be addressed in the EIS.

These may be submitted at the public meeting in Absarokee, Montana on July 18, 2001 (at Cobblestone School, 7 p.m.) and in Big Timber, Montana on July 19, 2001 (at

the Big Timber High School, 7 p.m.) or mailed by August 20, 2001, to one of the following people:

Patrick Plantenberg
Montana Department of Environmental of
Quality
PO Box 200901
Helena, MT 59620-0901

Pat Pierson
Beartooth Ranger District, Custer National
Forest
HC49, Box 3420
Red Lodge, MT 59068

Lars Halstrom
Big Timber Ranger District, Gallatin
National Forest
PO Box 1130
Big Timber, MT 59011

Tom Hughes
Montana Department of Natural Resources
and Conservation
PO Box 201601
Helena, MT 59620-1601

THE PROPOSED ACTION – EAST
BOULDER MINE BOE RANCH LAND
APPLICATION DISPOSAL (LAD)
ALTERNATIVE, REMOVING THE
PRODUCTION CAP AT EAST BOULDER
MINE, AND POST-CLOSURE WATER
MANAGEMENT PLAN AT THE

STILLWATER AND EAST BOULDER MINES

Description of Proposed Facilities/ Operations

Overview:

The Montana Department of Environmental Quality (DEQ) and the U.S. Forest Service (USFS) received an application for Amendments from SMC to Operating Permits #00118 and #00149. The Stillwater Mine is located approximately 5 miles southwest of Nye, Montana (see Figure 1) and the East Boulder Mine is located approximately 30 miles south of Big Timber (see Figure 2).

SMC proposes to 1) construct and operate a land application system (LAD) and associated pipeline for treated mine water coming from the East Boulder Mine to its Boe Ranch property. Currently, part of the pipeline has been approved and constructed on Gallatin National Forest Management System Lands and private lands in the East Boulder Road right of way (FS Road 205 and Sweet Grass County Road 31).

The new pipeline construction would take place from the East Boulder Road right of way, north to the Boe Ranch, in a new bench road for a distance of approximately 3 miles; 2) remove the 2000 tons per day production cap for the East Boulder Mine; and, 3) develop a post-closure adit and tailings impoundment water treatment and management plans for both the Stillwater and East Boulder mines.

Once adit and tailing impoundment discharge waters have met State water quality standards, SMC proposes to discharge this water into either the East Boulder River (for the East Boulder Mine)

or the Stillwater River or Mountain View Creek (for the Stillwater Mine). Treatment, management, and eventual discharge of these waters would use constructed structures and conveyances, existing percolation ponds, and new overflow channels to final discharge points. The proposed actions would include construction of a new bench road for access from the East Boulder Road to the Boe Ranch LAD site. The adit water would be stored on the Boe Ranch LAD site in a constructed storage pond approximately 32 acres in size. This stored water would be applied using one of three different disposal methods: 1) distribution through a center pivot irrigation system; or, 2) using enhanced evaporation sprayers around the storage pond; or 3) using snow makers upstream of the storage pond.

In addition, the ore production cap of 2,000 tons of ore per day at the East Boulder mine would be removed. This proposal is intended to enable SMC to more efficiently respond to changing market conditions in order to determine optimal production rates.

Lastly, a post-closure water management plan for the East Boulder and Stillwater Mines would be developed that would describe how mine water will be managed until it meets non-degradation standards and can then be either percolated to groundwater or conveyed and discharged into the East Boulder River and Mountain View Creek or the Stillwater River.

East Boulder Mine Boe Ranch LAD Alternative. Stillwater Mining Company's current Water Management Plan was approved on June 28, 1998 for land application disposal (LAD) of treated mine waters on Gallatin National Forest lands. SMC's new proposal would transport treated

mine water through a constructed pipeline in the East Boulder to its Boe Ranch property, approximately seven miles to the north. SMC believes the new location would be better suited for a LAD system because of its windier, drier, and warmer environment that would increase evaporation of the treated mine water through an irrigation system and through evapotranspiration and use by rangeland plants. The purpose of this action is to provide additional operating flexibility, optimize treatment and disposal options, and allow mine water to be beneficially used in an agricultural setting.

Removing the Production Cap East at the Boulder Mine. SMC's current permitted production cap is 2,000 tons of ore per day at the East Boulder Mine. SMC believes that removal of the production cap would have no environmental impact to other surface resources. The extent of surface disturbance at the East Boulder Mine would still be controlled by other permit constraints and requirements such as those currently in place for air quality, water quality, water treatment capacity, and impoundment capacity and size.

If an increase in production triggers a change in employment levels, an amendment to SMC's East Boulder Hard Rock Impact Plan would have to be approved before the action could be put into place. The purpose of this action is to allow SMC flexibility in production as changes occur in the market and grade of the ore encountered.

Post-Closure Water Management. Previous Environmental Analyses for Stillwater's Nye and East Boulder operations have analyzed, disclosed, and approved operational water management plans during the life of the mine. However,

long-term, post-mine closure water management plans have not been previously considered. When post-closure adit discharge water no longer requires treatment in order to meet water quality non-degradation standards, it is proposed that adit water will be discharged into the East Boulder River and Mountain View Creek or the Stillwater River through the use of constructed structures and conveyances. Tailings impoundment waters would be discharged to groundwater through percolation ponds at both sites.

It is anticipated that adits at the East Boulder and Stillwater mines will continue to drain intercepted groundwater from the underground workings after closure. Although the current reclamation plan identifies the need to construct and maintain percolation and/or diversions to dispose of this water, to date no studies or plans have identified and addressed long term treatment prior to disposal. The quality of the mine water at closure will initially be similar to operational discharges, and will require treatment prior to discharge. However, within a relatively short period after closure, the effects to water quality from blasting and mining activities are anticipated to diminish and the quality of the adit water is expected to improve dramatically and meet State standards. This will ultimately eliminate the need for treatment prior to discharge.

Mining Methods. SMC uses cut-and-fill, sublevel, and ramp-and-fill stoping methods. All methods incorporate the backfilling of mined out workings with sandfill (sand component of the tailings) and/or mine waste rock. The backfill material is placed on a worked out area and creates the floor for mining the next level of ore, and provides ground support for adjacent working areas, minimizing the risk of

subsidence. Backfilling also reduces surface storage requirements for the tailings and mine waste rock. Approximately 58 percent of the tailings created during the milling process are returned underground as backfill for mined out areas. Additionally, as required by mitigation measures resulting from the Stillwater Mine Revised Waste Management Plan and Hertzler Tailing Impoundment EIS, SMC is exploring the use of paste tailing technology for use in backfilling the Stillwater Mine and eventually the East Boulder Mine.

SMC is not proposing to change these mining methods, although it will continue to make improvements to ensure safe and efficient mining of the ore body.

East Boulder Production Volume. SMC is currently permitted to process 2,000 tons per day of ore at the East Boulder Mine. The concentrating facilities at the mill can be adapted to accommodate in excess of 3,000 tons per day with minor modifications to the facility without additional surface disturbance. Peak production rates of 3,000 to 5,000 tons per day are possible at the East Boulder Mine.

The ore production cap at the Stillwater Mine has been previously lifted as proposed, disclosed, and approved within the Stillwater Mine Revised Waste Management Plan and Hertzler Tailing Impoundment EIS and associated Record of Decision in 1998.

Waste Rock Production and Management. Under current approved operations, most waste rock from mine operations is used for mine backfill or to construct mine portal pads, roads, and other mine-related uses such as tailings impoundments. Excess waste rock is placed in one of three areas permitted for mine waste rock storage.

SMC does not propose to modify this practice.

Pipeline System. The new pipeline system is anticipated to be approximately 2 miles in length and would follow the proposed Bench Road route through the Boe Ranch property to the Boe Ranch pump/valve house, with about 4,000 feet of the alignment going through State of Montana land. The pipeline would run from the East Boulder Road right-of-way to the Boe Ranch Adit water storage impoundment.

The pipeline system consists of a single line buried approximately 6.5 feet deep (below the frost line). The pipeline is designed for water flows of up to 1200 gpm. Approximately 47% of the pipeline will be 10 inch diameter HDPE (high density polyethylene) pipe of varying wall thickness, with the remaining 53% constructed from 10 and 8 inch diameter Schedule 20 steel pipe, with appropriate corrosion protection coatings.

There will be a number of local peaks and valleys in the pipeline profile since the pipeline must follow the road profile for most of its length, and there is little opportunity for hydraulically optimizing the pipeline grade. These points will be equipped, where appropriate, with air/vacuum valves at the high points and drain valves at the low points. Valves will be located in watertight manholes which can be locked to maintain security and assure that the pipeline valves are tamper proof.

The manholes would be constructed from pre-cast concrete with joint seals between the pre-cast concrete sections to minimize groundwater seepage. The manhole covers would be specified to carry traffic loads and

prohibit the inflow of surface runoff water into the manhole.

Should there be a sudden loss of line pressure within the pipeline or any interruption of flow at the valve house, an automatic trigger would shutdown the valve controlling the feed pond discharge and activate an alarm. Should a leak be discovered the pipeline would be drained into tanker trucks and disposed of into the LAD storage pond prior to the line being excavated and repaired. Visual inspections of the pipeline would be conducted routinely and inspections of the manholes, flow control valves, air/vacuum valves, and terminal pump house will be conducted at least quarterly.

Workforce Requirements/Socioeconomics. Present economic indicators and estimated ore reserves suggest that the operational life of the East Boulder and Nye mines could be 25 years. Workforce requirements for both operations depend on ore production levels and the mining method used. SMC's current Hard Rock Impact Plan for Sweet Grass and Stillwater Counties require that the current Hard Rock Impact Plans be amended should workforce levels exceed 15 percent of those projected in its 1988 plan amendment; this revision level is 525 employees. It is projected that implementation of this proposed revision would increase employment at the East Boulder Mine to approximately 600-1,000 workers. This increase would trigger a revision to SMC's Hard Rock Impact Plan. However, SMC anticipates that future expansion of underground production would be accompanied by a shift toward mechanized mining and sublevel extraction which is less labor intensive than conventional cut and fill methods. These potential shifts in mining methods would not be expected to reduce

present workforce requirement but may reduce the need for expanding the workforce as mine production increases.

Water Quality. Stormwater containment measures and sampling follow the currently approved Stormwater Pollution Prevention Plan (SWPPP) which is on file with the agencies. In the event of a stormwater discharge to surface waters, SMC would sample and report the discharge as required by the approved SWPPP.

The Stormwater Pollution Prevention Plan (SWPPP) would have to be amended to cover the road building and pipeline construction activities.

No Montana Pollution Discharge Elimination System (MPDES) permit would be required at the East Boulder Mine for the Boe Ranch LAD as it is proposed to be operated such that water is applied at agronomic rates. This would eliminate a discharge. SMC has proposed water monitoring and instrumentation of the LAD systems to ensure that water is applied at agronomic rates.

Reclamation

No changes to the existing reclamation plans at either East Boulder or Stillwater Mine facilities are proposed or anticipated as a part of these proposed actions.

New facilities which would result due to approval of the proposed action, or an alternative to the proposed action that would require reclamation are further explained below.

Pipeline System. The surface disturbance along the pipeline would be reclaimed immediately after pipeline installation.

Twelve inches of salvaged soil would be placed over the compacted fill above the pipe. The surface would then be revegetated with an approved seed mix in areas where the existing vegetation has been disturbed.

Following closure of the East Boulder Mine, the inspection ports and manholes would be removed; the surface would then be regraded, topsoiled with 12 inches of soil, and revegetated. The pipelines would remain buried in the ground.

Bonding

Reclamation bonds are determined by the agencies and are held jointly by DEQ and the USFS. The bonds are determined by computing costs to the state and the USFS for reclaiming a site should the operator default. The state is required to review all active permitted mine bond amounts a minimum of every 5 years. If a bond is determined to be insufficient, it is recalculated and the company is required to submit the additional amount. SMC's current bond for the Stillwater Mine is \$8,760,000. SMC's current bond for the East Boulder Mine is \$3,680,000.

If these amendments are approved, the additional bond would be calculated using the approved and permitted amendment specifications and stipulations. The bond would include costs for long-term maintenance of water treatment facilities such as percolation ponds and diversion ditches, demolition of buildings and other facilities, earth movement and soil replacement, seedbed preparation, and revegetation.

AGENCY RESPONSIBILITIES

The Montana Department of Environmental Quality (DEQ) is the lead agency for this project. Custer National Forest (CNF) and Gallatin National Forest are the cooperating agencies for this project. Jan Sensibaugh, Director of DEQ, Rich Inman, Gallatin National Forest acting Forest Supervisor and Nancy Curriden, Custer National Forest Supervisor, are the responsible decision-making officials for the proposed project. A December 11, 1989, Memorandum of Understanding (MOU) between the State of Montana and the U.S. Department of Agriculture, Forest Service, promotes efficiency and effectiveness in administration and regulation of locatable mineral activities under the agencies' respective authorities and responsibilities. This MOU provides for preparation of joint environmental analyses, sharing of information, personnel, and funds.

Procedures governing the decision-making process on state and private lands in Montana are defined in administrative rules implementing the Montana Environmental Policy Act of 1971 (MEPA). This law requires that if any action taken by a state agency may "significantly affect the quality of the human environment," an environmental impact statement (EIS) must be prepared. The National Environmental Policy Act of 1969 as amended (NEPA) has a similar decision-making process requirement for federal agencies when a proposed project that may "significantly affect the human environment" would be located on federal lands.

Decision-making Authority. DEQ administers the Montana Metal Mine Reclamation Act (MMRA) (Title 82, Chapter 4, Part 3, MCA) and its regulations

(ARM 26.4.101 et seq.), under which SMC has applied for an amendment to its operating permit #00118. CNF regulates SMC's current plan of operations, which correlates to the state's operating permit, and any amendments or revisions to the approved plan under the Forest Service's authority to regulate all activities and uses of National Forest System lands (Organic Administration Act of 1897 and 36 CFR 228). After the final EIS has been issued, DEQ, DNRC, GNF and CNF will make a decision regarding SMC's permit amendment request. This decision will be documented in a Record of Decision (ROD). The process will lead to one of the following possible decisions: (1) approval of the proposed amendment of the approved permit/plan of operations, (2) approval of an agency alternative to the proposed amendment, (3) approval of an action alternative subject to identified stipulations, or (4) denial of the proposed amendment. The proposal, if approved, must comply with all applicable state and federal air and water quality laws and regulations.

A finding that the mining or reclamation plans would violate laws administered by DEQ, would be grounds for DEQ to deny the permit amendment (82-4-351, MCA). A permit also may be denied if a person, or any firm or business association of which that person was a principle or a controlling member, has a bond forfeited (82-4-360, MCA) and has failed to reclaim an operation within 2 years after the completion or abandonment of operations on any segment of a permit area, unless otherwise specified by the department (82-4-341(7), MCA).

The USFS is mandated to encourage the exploration, development, and protection of mineral resources on all National Forest System lands open to mineral entry (the

Mining and Mineral Policy Act of 1970 and a number of executive orders). According to the Custer National Forest's 1986 Land and Resource Management Plan, the CNF must "consider other resources and impacts [from mining] will be mitigated to the extent possible through standard operating procedures. ... Energy/mineral development will not be precluded by these resource concerns within legal constraints. Efforts will be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated she/he will resolve the conflict in accordance with the management goal and, if necessary, in consultation with affected parties" (1986 Forest Plan, page 58).

THE PERMITTING AND ENVIRONMENTAL IMPACT STATEMENT PROCESS

Completeness Review of Application.

When DEQ, the USFS, and other cooperating state and federal agencies review an application for revising or amending the approved permit/plan of operations they jointly review it to determine if it is complete. DEQ has not yet declared SMC's application complete. After reviewing the application, the agencies have requested clarification of components of the proposal and other additional information. When the agencies have determined that all the required information has been submitted, DEQ will declare the application complete. SMC has submitted responses to the agencies' first set of completeness questions. The first set of questions and responses are usually the most detailed and the most likely to result in modifications to the company's proposal. Subsequent completeness questions usually include requests for further clarification rather than requests to

modify the proposal or submit new data or plans.

The EIS Process. The lead agency may initiate the EIS process either during the review for completeness or after completeness has been determined. The EIS process for SMC's proposed revision was begun before the application was declared complete. Additional questions regarding the adequacy of baseline information or the proposal may arise after completeness is declared or at any time during EIS preparation. Any information necessary to complete the environmental analyses must be submitted by SMC. All information submitted by SMC for either completeness or adequacy are available for public review at the lead agencies' offices during business hours.

Scope of the Environmental Analysis. The environmental analysis phase of the EIS process will begin after scoping. Scoping is the collection of written and verbal comments from the public, which helps the agencies identify environmental issues associated with the project. The EIS will present an analysis of the issues as they relate to the physical, biological, social and economic effects of the proposed project and various alternatives. The EIS also will include analysis of the impacts of the project in combination with other past, present, or reasonable foreseeable activities in the project area. The analysis will focus on significant and substantive issues identified during scoping.

Environmental issues initially identified by the agencies are listed at the end of this document. The list of issues will be revised to include additional issues submitted by the public at the scoping meeting, or by mail.

The agencies will develop alternatives in response to the significant and substantive issues identified during scoping. Reasonable alternatives will be developed to provide a clear basis for choice among options by the decision makers and the public (40 CFR 1502.1). Mitigation measures will be identified to avoid, minimize or reduce the magnitude or intensity of the proposed adverse impacts. The agencies also will analyze the "no action" alternative which is used as the basis for comparisons. The "no action" alternative assumes existing situation and trends continue.

Public Participation. DEQ and the USFS encourage your participation in the EIS process. You may submit oral or written comments at the public scoping meeting or mail scoping comments to the agencies.

After publication and distribution of the draft EIS, the agencies will solicit public comment on the environmental impact analysis. A final EIS will address all substantive public comments.

DETAILED INFORMATION AVAILABLE

A copy of the mine permit application can be reviewed at:

Montana Department of Environmental Quality, Helena, MT;

Gallatin National Forest, Big Timber Ranger District, Big Timber, MT;

Custer National Forest, Beartooth Ranger District, Red Lodge, MT; and

If you have any questions, please contact Pat Plantenberg, DEQ at (406) 444-4960; Lars

Halstrom, GNF at (406) 932-5155; Pat Pierson, CNF at (406) 446-2103; or Tom Hughes, DNRC at (406) 444-5484; or at the addresses listed at the beginning of this document.

POTENTIAL ISSUES

The Forest Service, DEQ and Department of Natural Resources and Conservation Interdisciplinary Team (IDT) have preliminarily identified two potential issues to consider in the environmental analysis. These issues have been identified due to the possibility that the existing environmental conditions may change as a result of the proposed activities. The potential issues include long-term surface and groundwater quality and long-term surface and groundwater quantity. Aspects related to these issues that likely will be considered in the analysis are:

- Operation and maintenance of the long-term water management system;
- Effectiveness of long-term water treatment;
- Management and monitoring systems (including LAD) to avoid violations of water quality standards;
- Modifications to existing Montana Pollutant Discharge Elimination Systems (MPDES) at Nye and East Boulder sites;
- Long-term discharge from tailings impoundment under drains and from tailings impoundment caps;
- Length of required long-term treatment to meet water quality standards;

- Maintenance of water system pipelines at the Hertzler and Boe Ranch sites; and
- Effects (e.g., shorter mine life, employment level changes, Hard Rock Impact Plan amendment, and impoundment Stages 2 thru 5 construction schedule) of lifting the production cap at the East Boulder site.

Preliminary Alternatives.

- No Action
- Proposed Action
 - An alternative to the Boe Ranch proposal would be the use of the permitted proposals for water treatment entirely on the Gallatin National Forest as originally planned and leaving the production at 2,000 tons of ore per day.
- Proposed Action with Appropriate Mitigation.