United States Department of Agriculture

Forest Service

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Montana Department of Environmental Quality

PO Box 200901
Helena, MT 59620-0901

File Code: 1950

Date: August 1, 2012

Dear Interested Party:

The Montana Department of Environmental Quality (DEQ), the Custer National Forest (CNF), and the Gallatin National Forest (GNF) have signed the Record of Decision (ROD) for the Final Environmental Impact Statement (EIS) for the Stillwater Mining Company's Revised Water Management Plans and Boe Ranch LAD. You may obtain electronic versions of these documents by accessing either the Montana DEQ's web site at http://deq.mt.gov/eis.mcpx or by accessing the Custer (http://www.fs.usda.gov/custer) or Gallatin (http://www.fs.usda.gov/gallatin) National Forest's web site. You may request a hard copy document or an electronic document by contacting either of the agency contacts below.

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The responsible officials for the Custer and Gallatin National Forests and Montana Department of Environmental Quality have decided to approve amendments of Stillwater Mining Company's existing Plans of Operations. They have selected all Agency Mitigated Alternatives (Alternatives 3A, 3B, and 3C), except with regards to the tailing impoundment capping scenarios. Based on the analysis disclosed in the FEIS, the responsible officials have decided to approve tailing impoundment capping scenarios as described in the Proposed Action Alternatives.

The Stillwater Mine and the East Boulder Mine are existing underground mines located near Nye, Montana, and south of Big Timber, Montana, respectively. Both mines produce platinum group metals. The Stillwater Mining Company (SMC) submitted applications in late 2000 to the DEQ, CNF, and GNF to amend its operation permits for these two mines. The purpose of SMC's proposed revisions are twofold: 1) to develop and implement closure and post-closure water management plans for adit water, tailings impoundments, and storm water for the Stillwater and East Boulder mines; and 2) to construct and operate a pipeline and land application disposal

(LAD) system at SMC's Boe Ranch property, if needed, to dispose of treated adit and tailings waters from the East Boulder Mine during operations and at closure.

Decisions based upon the Final EIS are described in the Record of Decision. The decision is subject to administrative review pursuant to the Notice, Comment and Appeal Procedures for National Forest System Projects and Activities found at 36 CFR 215. Timeframes for the administrative appeal period begins after publication of the legal notice of the decision in the papers of record for the Custer and Gallatin National Forests, the Billings Gazette and the Bozeman Chronicle, respectively.

Sincerely,

Mary C. Erickson, Forest Supervisor
Gallatin and Custer National Forests

Richard H. Opper, Director
Montana Department of Environmental Quality

enclosure

RECORD OF DECISION

for

STILLWATER MINING COMPANY'S

REVISED WATER MANAGEMENT PLANS AND BOE RANCH LAD

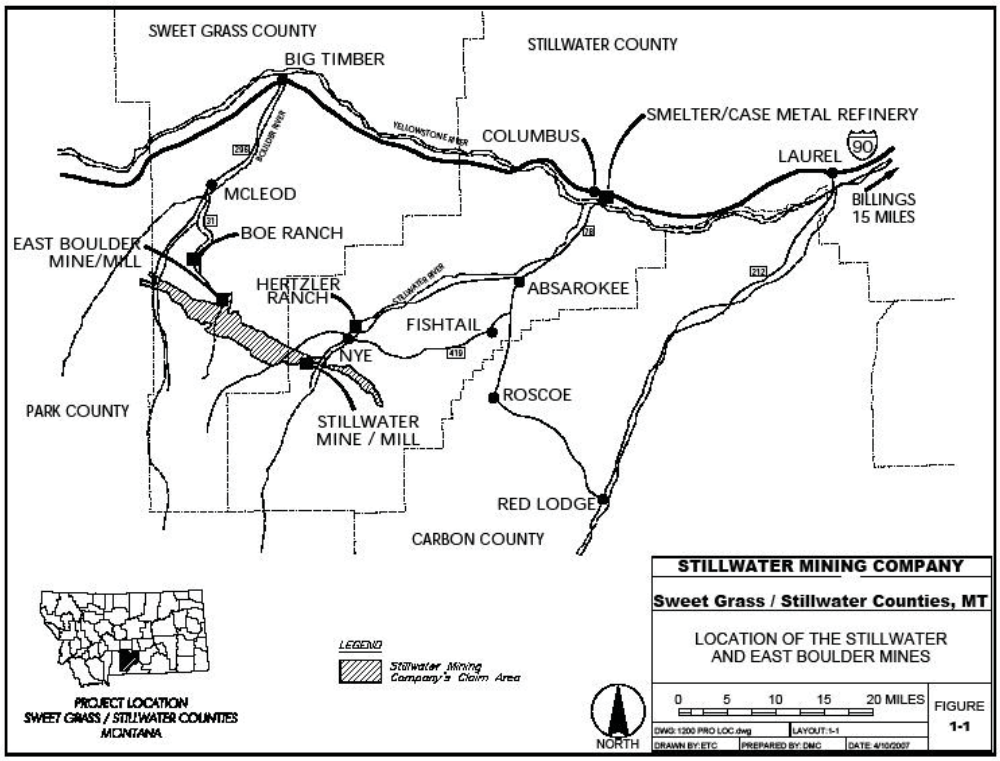
Stillwater and Sweet Grass Counties, Montana

JULY, 2012

Prepared by:	
U.S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE **CUSTER AND GALLATIN NATIONAL FOREST** **NORTHERN REGION**	**STATE OF MONTANA** **DEPARTMENT OF ENVIRONMENTAL QUALITY** **ENVIRONMENTAL MANAGEMENT BUREAU**
Responsible Officials:	
FOREST SERVICE DECISION BY: **MARY C. ERICKSON** **Forest Supervisor, Custer and Gallatin National Forests** **Date:** 7/31/12	**DEPARTMENT OF ENVIRONMENTAL QUALITY DECISION BY:** **RICHARD OPPER** **Director DEQ** **Date:** 8/1/12

Introduction and Background

Stillwater Mining Company (SMC) operates two underground mines in Montana. The Stillwater Mine is located near Nye, Montana, in Stillwater County, and the East Boulder Mine is located south of Big Timber, Montana, in Sweet Grass County. Mining at the Stillwater Mine began in 1985 and is conducted under Operating Permit No. 00118. Mining at the East Boulder Mine began in 1998 and is conducted under Operating Permit No. 00149.



Both mines produce platinum group ore. SMC upgrades the ore at each mine by crushing, grinding, flotation, and filtration to produce a concentrate. SMC then ships the concentrate by truck to the Stillwater Smelter and Base Metal Refinery in Columbus, MT for further upgrading. SMC subsequently ships the upgraded ore to New Jersey for final refining.

Every 100 tons of ore fed to the mill at each mine generates 99 tons of tailings. These tailings are pumped from the mill to underground sand and paste plants where the coarse sand fraction of tailings is separated from the slimes fraction (finest-sized particles). The coarse sand fraction is dewatered and cement may be added. About 58 percent of the tailings generated are used to backfill underground workings. The remainder of the tailings are pumped to the respective tailings impoundments at the Stillwater Mine and the East Boulder Mine. The tailings impoundment at the Stillwater Mine is used to balance water storage among facilities.

In 2000, SMC submitted applications to the Department of Environmental Quality (DEQ), and the Custer National Forest and the Gallatin National Forest (CNF/GNF) to amend the operating permits for the Stillwater and East Boulder Mines. SMC's applications include three separate proposals, one pertaining to the Stillwater Mine and two pertaining to the East Boulder Mine.

In its application to amend Operating Permit No. 00118 for the Stillwater Mine, SMC proposes a closure and post-closure water management plans for adit water, tailings impoundments, and storm water. SMC proposes to discharge water into the Stillwater River once adit and tailings waters have met Montana state water quality standards or have met applicable Montana Pollution Discharge Elimination System (MPDES) permit limits. Similarly, in its application to amend Operating Permit No. 00149 for the East Boulder Mine, SMC proposes closure and post-closure water management plans for adit water, tailings impoundments, and storm water. SMC proposes to discharge water into the East Boulder River once adit and tailings waters have met Montana state water quality standards or have met applicable Montana Pollution Discharge Elimination System (MPDES) permit limits. In addition, SMC also proposes to construct and operate a land application disposal (LAD) system, if needed, at its Boe Ranch Property to dispose of treated adit and tailings water from the East Boulder Mine during operations and at closure.

DEQ and CNF/GNF determined that amendment of the operating permits might significantly affect the quality of the human environment. As joint lead agencies, DEQ and CNF/GNF prepared an Environmental Impact Statement (EIS) pursuant to the Montana Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA). The Montana Department of Natural Resources and Conservation was a participating agency in preparation of the EIS. A draft EIS was issued in November of 2010 and a final EIS was issued in May of 2012.

The EIS analyzed the following proposed modifications to the reclamation and water management plans:

1. Changing reclamation cover requirements from an average of four to six feet to an average of two feet for all tailings impoundments;
2. Changing the reclamation cap design on the Hertzler Ranch and East Boulder tailings impoundments from a domed or convex configuration to a concave configuration with positive drainage following the deposited tailings gradient;
3. Evaluating the use of biological treatment systems for treatment of undiluted tailings waters at closure;
4. Evaluating the potential relocation of tailings slimes to alternative locations as necessary to expedite and facilitate the capping process;
5. Evaluating changes in post-closure water routing and channel design; and
6. Evaluating time requirements for closure and impoundment capping.

Agencies' Roles and Responsibilities

The DEQ and GNF/CNF are the lead agencies for this EIS. A December 11, 1989 Memorandum of Understanding between the State of Montana and the CNF/GNF provides for preparation of joint environmental analyses and sharing of information, personnel, and funds.

The DEQ and GNF/CNF are also responsible for regulatory oversight of effects to surface resources and establishing a reclamation bond. A reclamation bond is set and held jointly by the agencies. The bond is jointly determined by computing costs to the state and United Stated Forest Service (USFS) for reclaiming a site should the operator default. The joint bond can be used by either agency per their regulations.

Decision authority pertaining to private lands involved in the respective proposed actions lies solely with the Montana Department of Environmental Quality. Decision authority involving National Forest System Lands is jointly shared between the Montana DEQ and the Supervisor of the GNF and CNF.

Purpose and Description of this Record of Decision (ROD)

This ROD contains DEQ's and the CNF/GNF's decision on SMC's applications to amend its two existing operating permits. The ROD states the agencies' decisions, their rationale for the decisions, and all alternatives considered in reaching the decisions. The decisions are based on the environmental analysis set forth in the EIS and the applicable state laws and administrative rules, and federal laws, regulations, and policies.

Project Purpose and Need

The purpose and need for the proposed closure and post-closure water management plans for the Stillwater and East Boulder mines is to respond to the requirements of the Metal Mine Reclamation Act (MMRA), set forth in Section 82–4–301, *et seq,* MCA and to the requirements of the USFS regulations set forth in 36 CFR 228, Subpart A. These state and federal laws require each mine to have a reclamation plan that includes a water management plan that achieves water quality standards during and after reclamation. The agencies concluded that earlier analyses did not address the type and duration of water management and treatment with enough specificity, nor were they detailed enough to use in determining closure and post-closure reclamation bond calculations.

Second, the purpose and need for the proposed East Boulder Mine Boe Ranch LAD System is to provide additional operating flexibility, to provide options for treatment and disposal of adit and tailings waters during operations and closure, and to potentially allow mine waste waters to be beneficially used in an agricultural setting during the life of the mine and at closure. SMC's current WMP for the Stillwater Mine was approved on June 28, 1998, for land application disposal (LAD) of treated mine waters on National Forest System lands. SMC has proposed the Boe Ranch LAD system as an enhancement of the approved mine site LAD system, which will allow for storage of all mine discharge waters during the non-growing season with subsequent LAD of the water during the ensuing growing season.

Public Involvement

Scoping for the EIS began in July 2001 with distribution of a scoping document that informed readers of the agencies' intent to conduct an environmental analysis of SMC's Proposed Actions. The agencies mailed approximately 400 copies of the scoping document to individuals, agencies, organizations, and businesses that might be interested in, or affected by, the Proposed Actions and subsequent decisions. The scoping document solicited comments to assist the agencies in identifying specific issues and concerns to be addressed in the MEPA/NEPA environmental impact statement analysis.

The USFS published a notice of intent to prepare an EIS in the Federal Register. The DEQ and the USFS published public scoping notices in newspapers in the affected area, including the *Stillwater County News, Carbon County News, Billings Gazette, Big Timber Pioneer, Bozeman Daily Chronicle,* and *Helena Independent Record.*

The agencies held two public scoping meetings to discuss the proposed actions and to receive public comments. The first meeting was held on July 18, 2001, in Absarokee, MT, and 13 participants attended. The second meeting was held on July 19, 2001, in Big Timber, MT, and 47 participants attended. Representatives from the DEQ and the USFS described the Proposed Actions, and attendees were provided an opportunity to ask questions and submit comments at both meetings.

After public scoping meetings, the agencies and SMC hosted field trips at the Stillwater Mine, the East Boulder Mine, and Boe Ranch LAD area locations. Only one member of the public attended the Stillwater Mine field trip, held on August 9, 2001, and 13 people attended the East Boulder Mine and Boe Ranch LAD area field trip held on August 11, 2001.

Public meetings were held on December 1, 2010 in Absarokee, MT, and on December 2, 2010 in Big Timber, MT, to accept comments on the accuracy and adequacy of the draft EIS. Two comments were received at these meetings, both requesting an extension of the public comment period. Seven letters were received during the public comment period, which began on November 26, 2010 and was administratively extended for 45 days, ending on February 24, 2011. All public comments received on the DEIS, and response to comments, are included in Chapter 5 of the final EIS.

Consultation Coordination with Others

The Department of Environmental Quality and the US Forest Service consulted and coordinated with the following agencies and organizations throughout the MEPA/NEPA process: ACZ Laboratories, Knight Piésold Ltd. Consulting Engineers, Montana Department of Fish, Wildlife, and Parks, Montana Department of Natural Resources & Conservation, Montana Natural Heritage Program, Montana State Historic Preservation Office, Stillwater Mining Company, Sweet Grass County, US Fish and Wildlife Service, and the US Department of Agriculture - Agricultural Research Service. Consultation and coordination included both formal and informal consultation requirements as well as coordination with technical experts. Readers are referenced to table 1-2 in the final EIS for a further explanation of consultation and coordination.

Issue Identification and Management

In addition to attending and commenting at the public scoping meetings and participating in project-related field trips, nine individuals submitted written comments identifying potential issues and concerns.

Specific comments were arranged into groups of common concerns. The analysis of these comments identified 18 potential issues. Five issues were identified as significant or potentially significant because of the extent of their geographic distribution, the duration of their effects, or the intensity of interest or resource conflict. MEPA and NEPA direct agencies to focus environmental analyses on significant issues and to dismiss nonsignificant issues [ARM 17.4.615(2) (b) and (c) and 40 CFR 1500.4(b), (c), and (g)]. An issue's significance is different than and separate from any determination of significance of an environmental consequence evaluated in subsequent MEPA/NEPA environmental impact analyses.

Significant Issues

The following section presents significant issues identified for each of the three proposed actions. These issues define the scope of the MEPA/NEPA analysis and alternatives considered.

Issue 1: Water Quality and Quantity Project scoping identified concerns that implementation of the Proposed Actions might change the existing quality and quantity of water around the Stillwater Mine, the East Boulder Mine, and/or the East Boulder Boe Ranch LAD area.

Issue 2: Wildlife and Aquatic Resources Project scoping indicated that implementation of portions of the Proposed Actions might affect aquatic resources near both mines at closure and post-closure, as well as wildlife and aquatic resources on and near the Boe Ranch during operations and closure.

Issue 3: Irrigation Practices Concerns were identified related to implementation of the Boe Ranch LAD system. These concerns included changes in plant community composition under the LAD system in response to the increase in water and nutrients available to the plants during operation, as well as when the water is turned off; The spread of noxious weeds would likely occur during operations, closure, and post-closure; And instability and the potential would increase for mass wasting beneath and downgradient of the irrigation center pivots. LAD application disposal of mine waters could impact soils due to nitrogen and salt additions.

Issue 4: Cultural Resources Public and agency comments indicated that implementation of the Boe Ranch LAD system Proposed Action might adversely affect cultural resources on the property.

Issue 5: Stability of Boe Ranch LAD Storage Pond Public scoping revealed concerns associated with the construction and long-term use of the Boe Ranch LAD storage pond. Most of the comments questioned the stability of the pond embankment due to site geologic and seismic conditions, embankment stability should the pond liner fail, the ability of the pond to contain or pass a 100-year storm event and the effect of such an event on the drainage below the pond; and damage to private property.

Detailed information pertaining to significant issue identification is found in Chapter 2, Section 2.2.1 of the final EIS.

Non-Significant Issues

Twelve other preliminary issues identified during project scoping were not relevant to the Proposed Actions. Issues that were considered but dismissed were either beyond the scope of this environmental analysis or have been previously addressed by federal or state law, regulation, or policy. As discussed in final EIS Section 2.2, MEPA/NEPA analyses are intended to focus on potentially significant issues. The issues which appear below were considered but dismissed from further analysis.

Issue 6: Bonding
Issue 7: Incorporation of Operational Stipulations/Mitigations
Issue 8: Potential Water Quality Impacts from Boe Ranch LAD System Mist into the East Boulder River
Issue 9: Water Quality Effects Caused by Phosphates in Treated Adit and Tailings Waters
Issue 10: Storm Water Pollution Prevention Plan (SWPPP)
Issue 11: Wetlands and Riparian Zones
Issue 12: Tailings Impoundment Stability
Issue 13: Public Participation
Issue 14: MEPA/NEPA Process
Issue 15: Effects of Nitrates and Trace Metal Bioaccumulation on Ruminants
Issue 16: Effects of Nitrates and Trace Metals on Waterfowl
Issue 17: Effects of Trace Metal Accumulation on Plants and Soils
Issue 18: Potential for acid generation from tailings and waste rock and mobility of metals to surface and ground water

Detailed information pertaining to issues considered but dismissed is found in Chapter 2, Section 2.2.2 of the final EIS.

Alternatives Formulation

Section 102 of NEPA and Part 2 of MEPA require agencies to consider alternatives to Proposed Actions (42 USC § 4332 and MCA 75-1-201(1)(b)(iv)(C), respectively). Significant issues were identified to help the agencies establish the scope and provide the basis for identifying changes (alternatives and mitigations) that would be needed to avoid, eliminate, reduce, or minimize impacts. The scoping process involved both agency and public concerns. It also considered environmental and project design elements.

The agencies developed alternatives that address one or more of the significant issues. A range of alternatives must be considered (40 CFR 1508.25) and must provide a clear basis for choice among the alternatives for decision-makers and the public (40 CFR 1508.14).

Preliminary alternatives were screened for reasonableness, as required by the MEPA/NEPA process. The Council on Environmental Quality's (CEQ) 40 Most Asked Questions about NEPA (Question 2a) states, in part, "reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense…" (CEQ 1981). MEPA regulations require state agencies

"to consider only alternatives that are realistic, technologically available, and represent a course of action that bears a logical relationship to the proposal being evaluated" (ARM 17.4.603(2)(b)).

Finally, the agencies screened alternatives to ensure that they met the project purpose and need and addressed technical, environmental, and economic considerations. Each reasonable alternative must meet, at least partially, the purpose of and need for the project. Technical considerations include the feasibility of facilities construction and operation. Environmental considerations include potential for significant impacts and the feasibility of successfully mitigating them.

Unreasonable alternatives were dropped from detailed consideration. If an alternative did not pass the technical, environmental, and economic screening for feasibility or did not at least partially address the project's purpose and need, it was not considered further in the analysis

Alternatives Considered in Detail

Nine alternatives were considered in this MEPA/NEPA analysis, including the following: three No Action Alternatives, SMC's three Proposed Actions, and three Agency-Mitigated Alternatives. These alternatives are described below.

Table ROD-1 Alphanumeric Naming Convention of Alternatives

	No Action	Proposed Action	Agency-Mitigated
Stillwater Mine – Closure and Post Closure Water Management Plan	1A	2A	3A
East Boulder Mine – Closure and Post Closure Water Management Plan	1B	2B	3B
East Boulder Mine – Boe Ranch LAD System	1C	2C	3C

Due to the degree of detailed narrative and tabular descriptions for all alternatives considered in detail, the reader is referenced to Chapter 2 of the FEIS as follows;

Section 2.4.1 describes No Action Alternative 1A (Stillwater Mine Closure and Post-Closure Water Management Plan).

Section 2.4.2 describes Proposed Action Alternative 2A (Stillwater Mine Closure and Post-Closure Water Management Plan).

Section 2.4.3 describes Agency-Mitigated Alternative 3A (Stillwater Mine Closure and Post-Closure Water Management Plan).

Section 2.4.4 describes No Action Alternative 1B (East Boulder Mine Closure and Post-Closure Water Management Plan).

Section 2.4.5 describes Proposed Action Alternative 2B (East Boulder Mine Closure and Post-Closure Water Management Plan).

Section 2.4.6 describes Agency-Mitigated Alternative 3B (East Boulder Mine Closure and Post-Closure Water Management Plan).

Section 2.4.7 describes No Action Alternative 1C (East Boulder Mine - Boe Ranch LAD System).

Section 2.4.8 describes Proposed Action Alternative 2C (East Boulder Mine - Boe Ranch LAD System).

Section 2.4.9 describes Agency-Mitigated Alternative 3C (East Boulder Mine - Boe Ranch LAD System).

Alternatives Not Considered in Detail

Several preliminary alternatives were identified. Elements of some of these alternatives were incorporated into the Agency-Mitigated Alternatives. Others have been considered but dismissed as listed below.

1. Adit Plugging (Plugging to Prevent Discharge of Water)
2. Closure and Post-Closure Water Treatment Evaluations
3. Long-term Treatment of Adit Water and Runoff from the Tailings Impoundments before Discharge
4. Alternative Waste Rock and Tailings Disposal Methods
5. Boe Ranch LAD System MT Pollutant Discharge Elimination System (MPDES) Permit Alternative
6. Alternative Locations for the Proposed Boe Ranch LAD System

Rationale for not considering in detail these suggested preliminary alternatives is provided in Chapter 2, Section 2.4.10 the final EIS.

Decisions, Mitigation and Rationale

We, the Director of DEQ and the Forest Supervisor of CNF/GNF, have decided to approve amendment of SMC's operating permits for the Stillwater and East Boulder Mines. Specifically, we are selecting the Agency-Mitigated Alternative 3A (Stillwater Mine – Closure and Post Closure Water Management Plan), Agency-Mitigated Alternative 3B (East Boulder Mine – Closure and Post Closure Water Management Plan), and Agency-Mitigated Alternative 3C (East Boulder Mine – Boe Ranch LAD System) for implementation with one modification. Based on the analysis disclosed in the FEIS, we are modifying the Agency-Mitigated Alternatives 3A and 3B to require the tailing impoundment capping measures described in the Proposed Action Alternative 2A and Proposed Action Alternative 2B.

Mitigation Measures/Stipulations

Mitigation measures (stipulations) intended to prevent unnecessary or undue degradation, to reduce environmental impacts, and to improve the potential for long-term reclamation success have been incorporated into Agency-Mitigated Alternatives.

An additional stipulation will be attached to each Operating Permit/Plans of Operations which will require that within one year of the decision implementation date, SMC must submit to the agencies consolidated Plans of Operations. These Plans of Operations will incorporate and consolidate all previous operating, reclamation, mitigation/stipulations, and monitoring requirements into a single document for each mine. All other mitigations/stipulations previously attached to the Operating Permits/Plans of Operations remain in full force and effect. SMC is required to comply with all previous mitigations/ stipulations as they are enforceable provisions of the Operating Permits/Plans of Operations.

The Agencies have included in Appendix 1, previous mitigations/stipulations resulting from past environmental analyses and associated decisions, as well as new mitigations/stipulations resulting from this decision for the reader's convenience. Please refer to Appendix 1, attached to this document, in order to view the full suite of mitigations/stipulations required of each mining site.

Rationale for Decisions

Mine Closure and Post-Closure Water Management Plans

As described in the final EIS, two of the five significant issues (Table 2-1, FEIS) formed the basis of the documented analysis associated with the mine closure and post-closure water management plans for the Stillwater Mine and East Boulder Mine. These significant issues included Water Quality and Quantity and Aquatic Resources.

Stillwater Mine Closure and Post-Closure Water Management Plan

Water Quality and Quantity

Proposed Action Alternative 2A requires SMC to continue operating the Stillwater Mine treatment facilities during mine closure until water quality standards are met. The principle constituent of concern is nitrogen. There are also elevated levels of salts in both the adit and tailings waters. Adit and tailings water treatment could take up to 12 months. Once the adit and tailings waters are treated, the waters would be disposed of at the Hertzler Ranch LAD system, the east-side percolation pond, the Stillwater percolation ponds or the underground workings. During post-closure, no mine water treatment would be required and water would be routed to the percolation pond and then the Stillwater River. Agency-Mitigated Alternative 3A is the same, except adit and tailings water treatment could take up to 18 months.

Applicable surface and groundwater standards for nitrogen and salts would be complied with under Proposed Action Alternative 2A and Agency-Mitigated Alternative 3A. While under both Proposed Action Alternative 2A and Agency-Mitigated Alternative 3A a temporary exceedance of the Class 1 ground water standard for EC concentrations (a measurement for salts) would occur in a limited area

near the Hertzler Ranch tailings impoundment because of the presence of the Colorado Shale Formation, the EC concentration would be less than the ground water standard at the compliance point (HMW-10 monitoring well).

While applicable surface and groundwater standards would be complied with under Proposed Action Alternative 2A and Agency-Mitigated Alternative 3A, unforeseen circumstances could jeopardize treatment of all adit and impoundment waters in a 12-month period. An unusually wet growing season may prolong water treatment and disposal. In the event of bond forfeiture, treatment of all adit and impoundment water may not be completed within 12 months due to procurement requirements for obtaining the services of a reclamation contractor. In addition, allowing disposal of treated mine waters at closure over an 18-month period would include two LAD seasons, providing SMC with additional flexibility. Therefore, the Agencies are selecting Agency-Mitigated Alternative 3A.

Wildlife and Aquatic Resources

Adverse effects to aquatic resources in the vicinity of the Stillwater Mine and the Hertzler Ranch LAD system are not anticipated under any of the alternatives analyzed.

East Boulder Mine Closure and Post-Closure Water Management Plan

Water Quality and Quantity

Proposed Action Alternative 2B requires SMC to continue operating the East Boulder Mine water treatment facilities during mine closure until applicable water quality standards are met. As at the Stillwater Mine, the principle constituents of concern in the adit and tailings waters are nitrogen and salts. Adit and tailings water treatment could take up to 12 months. Once the adit and tailings waters are treated, the waters would be disposed to the following sites listed in preferential order: mine site percolation pond; LAD Area 6; LAD Areas 2, 3-Upper and 4; and the East Boulder River. During post-closure, no mine water treatment would be required and water would be routed to the percolation pond and then to the East Boulder River.

Agency-Mitigated Alternative 3B is the same except LAD Areas 2, 3-Upper, and 4 would be used prior to the percolation pond if disposal of mine waters through the percolation pond potentially violated nitrogen standards. Additionally, adit and tailings water treatment could take up to 18 months.

Applicable surface and groundwater standards for nitrogen and salts would be complied with under Proposed Alternative 2B and Agency-Mitigated Alternative 3B. When mine water treatment is no longer needed post-closure, up to 737 gpm of adit water could be directly discharged to the East Boulder River. A discharge of this volume in the East Boulder River would cause an increase in stream flow greater than 15 percent of the $7Q_{10}$ value. An increase in streamflow of this quantity would not be a nonsignificant change under Montana nondegradation rule ARM 17.30.715(1)(a). A stipulation placed in SMC's operating permit requires the adit water to be discharged to ground water if the adit flow rate would cause an increase in streamflow greater than 15 percent of the $7Q_{10}$ value.

While applicable surface and groundwater standards would be complied with under Proposed Alternative 2B and Agency-Mitigated Alternative 3B, unforeseen circumstances, may jeopardize treatment of all adit and impoundment waters in a 12-month period as discussed previously. In addition, disposal of mine waters at closure over an 18-month period could include two LAD seasons, providing additional flexibility in the disposal of mine water. Therefore, the Agencies are selecting Agency-Mitigated Alternative 3B.

Wildlife and Aquatic Resources

Adverse effects to aquatic resources in the vicinity of the East Boulder Mine not anticipated under any of the alternatives analyzed.

Boe Ranch LAD System

As described in the FEIS, effects to all five significant issues were pertinent to the Boe Ranch LAD system. These significant issues included Water Quantity and Quality, Wildlife, and Aquatic Resources, Irrigation Practices, Cultural Resources, and the Stability of the LAD storage Pond.

Water Quality and Quantity

Under Propose Alternative 2C, SMC would be authorized to construct and use the Boe Ranch LAD system, if needed, including a LAD storage pond, in conjunction with the East Boulder Mine. If it is constructed, the Boe Ranch LAD system would be SMC's preferred location for the disposal of treated adit and tailings waters during operations and at closure. The Boe Ranch LAD system would be operated similarly to the Hertzler Ranch LAD system in that it would maximize evaporation with about 70% of the water reaching the soil. Under 2C, the treated waters would be applied at agronomic rates and the Boe Ranch LAD system could be used for up to 12 months during closure to dispose of mixed treated adit and tailings waters.

Agency-Mitigated Alternative 3C would also authorize construction and use of the Boe Ranch LAD system, if needed, but with the following modifications. One of the center pivots would not be used and the area of two other center pivots would be reduced due to mass wasting concerns. The height of the LAD storage pond embankment at post-closure also would be reduced. SMC would be authorized to apply water at greater than agronomic rates, if needed, to flush salts from soil. Finally, the Boe Ranch LAD system would be available for up to 18 months during closure, if needed.

Both Proposed Alternative 2C and Agency-Mitigated Alternative 3C provide SMC with flexibility in the disposal of treated adit and impoundment waters, providing SMC an addition disposal site, if it is needed. Applicable surface and groundwater standards for nitrogen and salts would be complied with under Proposed Alternative 2C and Agency-Mitigated Alternative 3C. Agency-Mitigated Alternative 3C incorporates additional measures to minimize adverse effects associated with discharges of nitrogen and salts to soils, ground water and surface water. 3C also reduces the potential for mass wasting, LAD storage pond embankment instability, and high-hazard dam failure during post closure. See also the

rationale stated for selecting an 18-month disposal period, rather than a 12-month disposal period, as previously discussed. Therefore, the Agencies select Agency-Mitigated Alternative 3C.

SMC has many options available to manage water and the resultant nitrogen and salts loads as needed. It is not the Agencies' intent to be prescriptive and stipulate what SMC must do to comply with water quality and quantity standards. Rather, the Agencies' analysis of additional options for treated waters disposal was performance-based, recognizing SMC's need for flexibility in managing water to limit nitrogen and salts loads in surface and ground water and the resultant effects to soils and plant communities.

Wildlife and Aquatic Resources

As documented in Chapter 4 of the final EIS, no adverse effects to wildlife resources were projected. Short term increases in forage availability for wildlife resources were predicted in the event that SMC builds and uses the Boe Ranch LAD system. Forage production would increase above baseline production during operations until facility closure when there would be a reduction of forage. The fluctuation in forage availability is expected to change foraging patterns for big game species in the area. No adverse effects to species designated as Threatened or Endangered, or Species of Special Concern were projected.

Adverse effects to aquatic resources in the vicinity of the Boe Ranch LAD system are not anticipated under any of the alternatives analyzed. Based on comments provided on the draft EIS (DEIS), the agencies reviewed total dissolved solids (TDS) values in the East Boulder River in the vicinity of the Boe Ranch. Data indicate that current (no Boe Ranch LAD system) TDS values frequently exceed the value of 250 mg/L used in the draft EIS. (Please see Final EIS Chapter 5, Response 1-4, for more information.) Providing for 18 months of mine water treatment and disposal during closure will ensure compliance with TDS values.

Irrigation Practices

As discussed in Chapter 4 of the FEIS, implementation of the Boe Ranch LAD system would affect natural resources (e.g., alterations of natural plant communities, the spread of noxious weeds, and potential for mass wasting depending on the specific irrigation practices used during operations and closure). Long-term changes in plant composition and noxious weed populations would occur from applying adit and tailings waters over the life of the mine and at closure. Increased nitrogen and salts loads in soils would also occur. Soil productivity would be maintained due to annual flushing of salts from increased LAD application rates. Center pivot P10 would be eliminated, center pivots P4 and P9 would be operated with increased monitoring, and an 18-month closure period (to include two LAD seasons), would reduce the potential for mass wasting. Additional monitoring would be required to minimize effects to Boe Ranch natural resources. No additional mine-related effects would occur during post-closure.

Cultural Resources

Both the Proposed Action 2C and the Agency-Mitigated Alternative 3C would result in the same degree of disturbance to known cultural resources located on private lands owned by the Stillwater Mine Company (Boe Ranch). Effects to these resources would result from construction of the Boe Ranch LAD system access road and pipeline. Agency-Mitigated Alternative 3C provides for on-site monitoring by an agency-approved archeologist during construction as required mitigation.

Stability of LAD Storage Pond

In evaluating the stability of the Boe Ranch LAD storage pond, the agencies looked at 1) the stability of the storage pond, 2) impacts from a failure of the facility, and 3) mitigations to ensure performance as designed.

The stability of the Boe Ranch LAD storage pond was evaluated using commonly accepted industry practices and standards for the design of constructed embankments. The same design criteria and level of analysis were used in evaluating the stability of the tailings impoundment at the East Boulder Mine. Stability analyses for the Boe Ranch LAD storage pond were performed for static conditions (no external forces other than gravity) and for the effects from an earthquake. Under the loading conditions examined, the stability of the storage pond exceeds the minimum acceptable factors of safety used by the US Army Corps of Engineers in evaluating water-retaining structures. Based on the results of these analyses, the agencies believe the likelihood of a catastrophic failure of the Boe Ranch LAD storage pond is so remote as to be negligible.

Our decision would require SMC to manage and monitor the pond in a manner similar to its management of the East Boulder tailings impoundment. The operation of the Boe Ranch LAD storage pond would incorporate many of the same management procedures currently in place for the tailings impoundment such as visual inspection, down gradient well monitoring, and water balance calculations. These inspection and evaluation procedures will help assess whether the LAD storage pond is performing as designed. The Agency-Mitigated Alternative 3C has included an additional measure to ensure safe management of the facility during operations by requiring SMC to submit an Operations and Maintenance Plan and Emergency Preparedness Plan that meets all DNRC dam safety requirements. At closure the dam embankment would be reduced in height to eliminate its classification as a high hazard dam.

Based on the results of the stability analyses, and the monitoring and management requirements during operations and at closure, we believe the stability of the Boe Ranch LAD storage pond has been adequately addressed in the Agency-Mitigated Alternative 3C.

Impoundment Capping

A comparison of the tailing impoundment capping measures required under the Proposed Action Alternatives and the Agency-Mitigated Alternatives is set forth in the following table.

Tailing Impoundment Facility	Proposed Action Alternative Capping Measures	Agency-Mitigated Alternative Capping Measures

Stillwater Impoundment	**Alternative 2A** Total of **32"** consisting of; 24" Waste or borrow 8" Soil or borrow Swale Configuration	**Alternative 3A** Total of **50"** consisting of; 42" Soil or borrow 8" Soil Swale Configuration
Hertzler Impoundment	**Alternative 2A** Total of **48"** consisting of; 24" of borrow 24" of soil or sub-soils Swale Configuration	**Alternative 3A** Total of **60"** consisting of; 48" borrow 24" of subsoil 12" of soil Swale Configuration
East Boulder Impoundment	**Alternative 2B** Total of **52"** consisting of; 24" of waste rock/borrow 28" of soil or sub-soils Swale Configuration	**Alternative 3B** Total of **76"** consisting of; 48" of waste rock/borrow 28" of soil or sub-soils Swale Configuration

Our reclamation experience at the Stillwater Mine and the Hertzler Ranch LAD area indicates that capping (borrow and/or waste rock and soil) material identified for use under the Proposed Action 2A and Proposed Action 2B will provide appropriate growth medium for the establishment of desirable reclamation species. Our testing of the tailings geochemistry (potential to generate acid, and ability to liberate metals in a near neutral environment) has shown the tailings to be non-toxic. In the event differential settlement within the tailings mass were to take place and the tailings surface was exposed, no toxic effects are anticipated to the revegetation.

A reduction in overall capping thicknesses under Proposed Action 2A and Proposed Action 2B will not only provide an adequate growth medium (texture and depth) for sustaining vegetation, but will reduce the total volume of capping materials required. This minimizes additional new surface disturbances needed to develop capping material sources.

Implementation

These decisions are effective upon signing this ROD. SMC may implement surface disturbing activities after administrative appeal requirements, described below, have been achieved. Additionally, SMC must submit an acceptable reclamation bond to DEQ and USFS in the amount to be established by the

agencies. SMC must submit the required updated Plans of Operations and other final design plans within one year of publishing this ROD.

Other Rights and Permits

Approval of the permit amendment does not convey or create any real property rights or use rights.

SMC's Montana Pollution Discharge Elimination Permits were approved by DEQ for both mines: MTR–300017 for the Stillwater Mine and MTR–300226 for the East Boulder Mine. There are no changes to existing MPDES permits as a result of these decisions.

Montana Department of Natural Resources and Conservation issued an easement to Stillwater Mining Company for the purpose of an access road and buried waterline for activities associated with the East Boulder Mine specifically upon Sections 20 and 21, Township 3 South, Range 13 East. This action was pursuant to approval by the Montana State Board of Land Commissioners. Any change to the existing approved route of either the access road and pipeline as described in the easement, or expansion of property served, will require an amended application request and will subsequently be subject to a new approval by the State Board of Land Commissioners.

SMC holds Air Quality Permits #2459–13 for the Stillwater Mine and #2653–05 for the East Boulder Mine and must continue to comply with the permit requirements. No modifications to these permits have resulted from these decisions.

SMC is responsible for obtaining any property rights, easements, mineral rights, or water rights necessary to implement the selected alternatives. SMC is responsible for obtaining any other local, state, or federal permits, licenses, or reviews that might be necessary to implement the selected alternatives.

Any proposed change to the operating procedures, schedule, reclamation design, or mitigation measures will be reviewed by the agencies and accepted if the change would provide resource protection equal to or greater than the original requirement and would not result in significant impacts not identified in the EIS. Proposed changes that would not achieve the same level of resource protection, or would result in previously undisclosed significant impacts, would require supplemental analysis under the National Environmental Policy Act (NEPA) and the Montana Environmental Policy Act (MEPA) prior to determining their acceptability.

Findings Required by Laws, Regulations, and Policies

US Forest Service

National Environmental Policy Act

The NEPA declares a national environmental policy and promotes consideration of environmental concerns by federal agencies in decision-making. Procedures and regulations issued by the CEQ, as authorized under NEPA, direct implementation of NEPA by federal agencies. The CEQ's regulations are

promulgated at 40 CFR Parts 1500–1508. Also, the USFS direction pertaining to implementation of NEPA and CEQ's regulations is contained in Chapter 20 of USFS Handbook 1909.15 (Environmental Policy and Procedures). To meet the requirements under NEPA and their forest plans, the GNF and CNF have prepared the Revised Waste Management Plans and Boe Ranch LAD FEIS jointly with the DEQ.

National Forest Management Act (Forest Plan)

On March 23, 2012 the Department of Agriculture issued a final planning rule for National Forest System land management planning (2012 Rule). For the Custer and Gallatin National Forests, where the Forests Plans were developed under a prior planning rule, 36 CFR § 219.17 (c) of the 2012 Rule explains, "This part supersedes any prior planning regulation. No obligations remain from any prior planning regulation, except those that are specifically included in a unit's existing plan. Existing plans will remain in effect until revised." Except for the plan consistency provisions, none of the requirements of the 2012 regulations apply to projects or activities (36 CFR § 219.2(c)).

NFMA requires that projects and activities be consistent with the governing Forest Plan (16 USC 1604 (i)). SMC's patented claim block extends some 28 miles and is bordered by portions of both forests (CNF and GNF). The current surface expression of the Stillwater Mine is surrounded by the CNF, while the surface expression of the East Boulder Mine is surrounded by the GNF. This following discussion briefly discusses why the selected alternatives are consistent with management direction for both forests.

Custer National Forest Land and Resource Management Plan

The National Forest Management Act requires that all projects and activities be consistent with the Forest Plan [16 U.S.C. 1604(I)]. According to its 1986 Land and Resource Management Plan (CNF Forest Plan), the CNF must consider how other resources and impacts from mining would be mitigated to the extent possible through standard operating procedures. Additionally, the CNF can prescribe mitigation measures to the Plan of Operations, as necessary, to manage key surface resources. Mineral development cannot be precluded by these resource concerns within legal constraints. Efforts must be made to avoid or mitigate resource conflicts. If the responsible official determines that conflicts cannot be adequately mitigated, the conflict will be resolved in accordance with the management goal, and, if necessary, in consultation with affected parties.

The area under consideration for SMC's Stillwater Mine proposal falls within Management Area E, which emphasizes exploration, development, and production of mineral resources. The CNF Forest Plan did not analyze site-specific actions, such as SMC's current proposal. As an integrated management plan, it evaluated various alternatives for managing the CNF as a whole. The ROD for the CNF Forest Plan clearly states that a site-specific project, such as SMC's current proposal, must undergo additional analysis under NEPA. This FEIS documents the required analysis.

Decisions made in this ROD are consistent with both Forest-wide and management area specific requirements of the Custer National Forest Land and Resource Management Plan.

Gallatin National Forest Land and Resource Management Plan

According to its 1987 Land and Resource Management Plan (GNF Forest Plan) and the FEIS that accompanied it, USFS's responsibilities for minerals management includes the following: to make available mineral resources from the GNF and to administer their exploration and development. A thorough environmental analysis must be completed for each proposed mineral activity before it is approved.

The East Boulder Mine permit area falls within Management Area 8, which emphasizes production of timber. The GNF Forest Plan did not analyze site-specific actions, such as SMC's East Boulder Mine. As an integrated management plan, it evaluated various alternatives for managing the forest as a whole for a 10- to 15-year period. The ROD for the GNF Forest Plan clearly states that a site-specific project, such as SMC's current proposal, must undergo additional analysis under NEPA. This FEIS documents the analysis.

Decisions made in this ROD are consistent with both Forest wide and management area specific requirements of the Gallatin National Forest Land and Resource Management Plan.

Endangered Species Act

The US Fish and Wildlife Service (USFWS) were consulted as required by the Endangered Species Act. The USFWS provided a current list of threatened and endangered species for consideration during the analysis. Potential project effects on threatened and endangered species have been analyzed and documented in Chapter 4, Section 4.2.1.1 to 4.2.1.6 of the FEIS. Adverse effects to wildlife species listed as Threatened or Endangered are not anticipated.

National Historic Preservation Act

The National Historic Preservation Act's Section 106 regulations require consultation with Indian tribes to identify and resolve adverse effects to historic properties resulting from a federal undertaking. The Memorandum for the heads of executive departments and agencies entitled Government-to-Government Relations with Native American Tribal Governments, signed by President Clinton on April 29, 1994, outlines principles that federal agencies must follow when interacting with federally-recognized Native American tribes in deference to Native Americans' rights to self-governance. Specifically, federal agencies are directed to consult with tribal governments prior to taking actions that affect federally recognized tribes and to ensure that Native American concerns receive consideration during the development of federal projects and programs.

Compliance with the National Historic Preservation Act has previously been accomplished on lands previously approved for mining activities. Effects to cultural resources as disclosed in the final EIS would occur on private lands owned by the Stillwater Mining Company or managed in trust by the Montana Department of Natural Resources and Conservation. These lands are not subject to federal land management jurisdiction.

Executive Order 12898 (Environmental Justice)

No disproportionate impacts to minority and low-income populations are anticipated. The project area does not contain minority and/or low income groups who were excluded from the environmental

analysis and/or decision-making process, were not subject to a disproportionate impact from one or more environmental hazards, and will not experience a disparate implementation of environmental regulations, requirements, practices, and activities in their communities as a result of implementing any of the action alternatives.

All alternatives proposed or analyzed were based on the existence of proven mineral resources and lands available within a reasonable distance from these mineral resources to accommodate the management of mine waste water.

Roadless Areas

Approval and implementation of the decisions contained in this ROD will have no effects to USFS designated roadless areas as defined by the 1986 Custer National Forest Land and Resource Management Plan, Appendix C. These decisions would take place on private land owned by the Stillwater Mining Company or National Forest System Lands available for mineral development. There are no roadless areas involved or potentially affected by these decisions.

National Mineral Policy Act

The Mining and Minerals Policy Act of 1970 directs that public lands be managed in a manner that recognizes the Nation's need for domestic sources of mineral production. Under the Mining Law of 1872, claimants have a statutory right to develop their mineral deposits consistent with applicable environmental laws.

The selected alternatives provide for continued domestic mineral production of platinum and palladium resources from the Stillwater and East Boulder mines while complying with other applicable state and federal laws.

Montana Department of Environmental Quality

Montana Environmental Policy Act (MEPA)

MEPA requires DEQ to conduct an environmental review prior to making a permitting decision that may have a significant impact on the environment. MEPA and its associated administrative rules define the procedure to be followed when conducting the environmental review. In regard to SMC's application to amend its operating permits for the Stillwater and East Boulder Mines, DEQ engaged in a joint environmental review with the GNF and CNV, culminating in the issuance of the final EIS. The environmental review process that culminated in the final EIS complies with the procedural requirements of MEPA.

Metal Mine Reclamation Act

The MMRA requires lands disturbed by mining to be reclaimed consistent with the requirements and standards set forth in Section 82-4-336(2), MCA. Those relevant to SMC's application to amend its operating permits include the requirements that 1) disturbed land other than open pits and rock faces

be reclaimed to comparable utility and stability as that of adjacent areas; 2) a vegetative cover be established that is appropriate to the approved post-mine land use; and 3) that the reclamation plan provide sufficient measures to ensure public safety and to prevent the pollution of water and degradation of adjacent lands. As discussed in the rationale for the decision, the selected alternatives provide for the treatment and disposal of adit and impoundment waters in compliance with the Montana Water Quality Act, provide for appropriate capping of mine features that will support vegetation, and address public safety concerns.

Montana Water Quality Act

As discussed in the rationale for decision, the selected alternatives provide for the treatment and disposal of adit and impoundment waters in compliance with the Montana Water Quality Act. Methods of water routing, treatment, and disposal used in the selected alternatives are not prescriptive. That is, SMC can use any and all of its water management systems as needed to comply with water quality standards and limits set forth in its MPDES permits.

Montana Pollution Discharge Elimination System

An MPDES Permit is required for all discharges to surface water. Both mines hold site-specific MPDES permits for discharges to their respective streams (East Boulder MPDES Permit # MT-0026808; Stillwater MPDES Permit # MT-0024716). SMC holds two General Permit for Storm Water Discharge Associated with Mining (Permit MTR–300017and MTR–300226). SMC also has approved Storm Water Pollution Prevention Plans for both mines. Selected alternatives will comply with provisions of the Montana Pollution Discharge Elimination System permitting requirements.

Clean Air Act of Montana

SMC holds Montana Air Quality Permits #OP2459-03, and #2653-05. SMC previous emissions have been within air quality standards. Increased production of platinum and palladium ore is not proposed as a part of this Proposed Actions. Since the level of ore production and associated mining activity will not change under the selected alternatives, emission levels will continue to be within ambient air quality standards.

Montana Hard Rock Impact Act

The Stillwater and East Boulder mines have approved Hard Rock Impact Plans. Implementation of the selected alternatives will not substantially increase employment at either mine. The selected alternatives will comply with the existing SMC Hard Rock Impact Plans.

Private Property Assessment Act

Imposition of the Preferred Alternatives and the mitigations/stipulations described above will not have a takings or damaging implications. Any new disturbances which may result from these decisions will occur on lands owned by the SMC or managed in trust by the Montana Department of Natural

Resources and Conservation. There are no adverse effects to private property resulting from these decisions.

Reclamation Financial Guarantee

SMC is required to post and maintain a reclamation bond that will be jointly held by DEQ and USFS. The bond may not be less than the estimated cost to ensure compliance with SMC's state operating permits, federal plans of operations, and applicable state and federal laws, regulations and administrative rules.

The need to modify to Stillwater's operating permits was first identified during an annual bond review conducted by the agencies in February of 2000. The agencies determined that a '337' review was needed to address water management issues. Section 82-4-337(4), MCA, provides, in part, that a reclamation plan may be modified by the department, upon proper application of the permittee or after timely notice and opportunity for hearing when the previously adopted reclamation plan is impossible or impracticable to maintain. SMC subsequently submitted the applications to amend its operating plans to address closure and post-closure issues that are the subject of this decision. Given the modifications to SMC's operating permits reflected in this decision, DEQ has determined that an increase in SMC's bonding level may be necessary.

Therefore, DEQ is conducting a comprehensive bond review under Section 82-4-338(3)(a), MCA. The amount of the bond will be determined according to the procedure set forth in that statutory provision.

The bond calculations and supporting details will be on file and available at the DEQ and USFS upon request.

ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

US Forest Service

Copies of the Stillwater Mining Company's Revised Water Management Plan and Boe Ranch LAD FEIS are available for review at Absarokee High School Library, Billings Parmly Library, Carnegie Public Library in Big Timber, Montana State Library in Helena, Montana Technical Library in Butte,, Stillwater County Library in Columbus,, University of Montana Mansfield Library in Missoula, and the Custer National Forest offices in Billings and Red Lodge. It may also be accessed on the worldwide web through the Montana Department of Environmental Quality web page at http://deq.mt.gov/eis.mcpx ;the Custer National Forest website at http://www.fs.usda.gov/custer; and the Gallatin National Forest website at http://www/fs/usda.gov/gallatin

Additional printed or electronic (on compact disc) copies of this ROD and the FEIS and are available upon request. The supporting project record is available for review at the Forest Supervisor's Office for the Custer National Forest, 1310 Main St., Billings, Montana 59105 or from the Montana Department of Environmental Quality, Environmental Management Bureau located at 1520 East Sixth Avenue, PO Box 200901, Helena, MT. 59620-0901.USFS decisions documented in this ROD are subject to appeal pursuant to the regulations at 36 CFR 215. A written appeal must be submitted within 45 days following the publication date of the legal notice of these decisions in the *Stillwater County News, Carbon County*

News, Billings Gazette, Big Timber Pioneer, Bozeman Daily Chronicle, and *Helena Independent Record*. It is the responsibility of the appellant to ensure their appeal meets the content requirements and is received in a timely manner. The publication date of the legal notice of these decisions in the newspapers of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source.

Paper appeals must be submitted, or delivered in person between 7:30 a.m. to 4:00 p.m., to either of the following locations:

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
P.O. Box 7669
Missoula, Montana 59807

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
200 East Broadway
Missoula, Montana 59802

If an appellant chooses to file an electronic appeal, it must be submitted to appeals-northern-regional-office@fs.fed.us. In electronic appeals, the subject line should contain the name of the project being appealed, in this case, Stillwater Mining Company's Revised Water Management Plans and Boe Ranch LAD FEIS. An automated response will confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word, WordPerfect, or rich text format (RTF).
It is the appellant's responsibility to provide sufficient project or activity-specific evidence and rationale, focusing on the decision, to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, the appeal must meet the content requirements of 36 CFR 215.14, and include the following information:

• The appellant's name and address, with a telephone number, if available,

• A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal),

• When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request,

• The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision,

•The regulation under which the appeal is being filed.

•Any specific change(s) in the decision that the appellant seeks and the rationale for those changes,

•Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement,

•Why the appellant believes the Responsible Official's decision failed to consider the substantive comments, and,

•How the appellant believes the decision specifically violates law, regulation, or policy.

Implementation

If no appeal is received, implementation of the decisions may occur on, but not before, five business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the fifteenth business day following the date of the last appeal disposition.

For additional information concerning these decisions or the USFS appeal process, contact Pat Pierson, Geologist, Supervisor's Office, Custer National Forest, 1310 Main Street, Billings, MT, 59105, 406-255-1441 or Peter Werner at the Gallatin National Forest, P.O. Box 130, Bozeman MT 59771, 406-587-6962.

DEQ

Under Montana state law, this record is subject to court appeal by the applicant and other parties for 90 days after issuance of the operating permit amendment. An applicant for a permit amendment may request an administrative hearing on a denial of the application within 30 days of written notice of the denial. An action alleging failure to comply with the Montana Environmental Policy Act must be brought within 60 days after issuance of this ROD. Notice of permit amendment issuance will be published in *Stillwater County News, Carbon County News, Billings Gazette, Big Timber Pioneer, Bozeman Daily Chronicle,* and *Helena Independent Record*.

For additional information concerning these decisions or the DEQ appeal process, contact Kristi, Ponozzo, Director's Office, DEQ, 1520 E. Sixth Avenue, Helena, MT, 406-444-2813.

Stillwater Mine

Mitigation/ Stipulation Source	Mitigation/Stipulation	Status	Resource
1985 Stillwater EIS and 1986 ROD	SMC will annually report to the DEQ and USFS the results of crown pillar testing in stopes not mined by cut-and-fill stoping, including such remedial actions taken, if necessary, to provide post mining support to prevent surface subsidence. SMC will submit such crown pillar data to an independent company for review and comment if requested to do so by the Agencies.	Ongoing	Geo-Tech Stability
1985 Stillwater EIS and 1986 ROD	SMC will provide USFS specific design information for the relocated sections of FAS 419 and FR 846 for review and approval prior to undertaking construction of the relocated roadways. SMC will grant USFS right-of-way for the relocated sections.	Completed	Roads/ Transportation
1985 Stillwater EIS and 1986 ROD	SMC will enter into a road maintenance agreement with Stillwater County for that portion of FAS 419 which is to be used by any ore haulage trucks and with the USFS for that portion of FR 846 similarly used.	Road maintenance agreements completed. Maintenance ongoing.	Roads/ Transportation
1985 Stillwater EIS and 1986 ROD	SMC will provide USFS with engineered plans and typical cross-sections for the design of adit site yard areas and new adit site access roads on NFS land for review and approval prior to road or yard area construction.	Ongoing	Roads/ Transportation

1985 Stillwater EIS and 1986 ROD	SMC will implement an employee busing or van/car pooling program with a target of reducing the traffic on FAS 419 by 1/3 of the number of vehicle trips that could be expected if each worker commuted individually to the workplace. The results of this program will be reported annually to the USFS and the DSL. In the event that the targeted reduction in traffic levels on FAS 419 is consistently not achieved by the busing and car/van pooling program for any year of mine operations, and the DSL and USFS determine that additional mitigation measures are necessary, SMC will undertake additional mitigation directed toward achieving the targeted traffic reduction goal.	Employee or van/car pooling program was developed but further review has found that the Agencies do not have administrative authority to restrict use by SMC employees.	Roads/ Transportation
1985 Stillwater EIS and 1986 ROD	SMC will refertilize all seeded areas one year after initial seeding, if necessary, and will restrict domestic animal grazing to the extent possible on lands owned or controlled by SMC on reclaimed areas for at least two years after initial revegetation.	Ongoing	Soils/ Reclamation
1985 Stillwater EIS and 1986 ROD	SMC will take measures to reduce the visibility of project operations by planting mixed conifer shelterbelts along the west side of FAS 419 and along the northern boundary of project operations. SMC will use natural poles and insulators in constructing the electrical transmission line between the mill substation and the shaft site, and paint mine buildings earth tone colors.	All items completed except painting mine buildings Stillwater Tan.	Visuals
1985 Stillwater EIS and 1986 ROD	SMC will prepare for DEQ and USFS approval a water quality compliance monitoring plan. The plan will specify monitoring sites, sampling frequency, parameters, sampling and analytical methods and reporting procedures that will be used to analyze ground and surface water potentially affected by the project. SMC will implement the plan in accordance with a schedule outlined in the plan. The initial phase of the monitoring	Plan completed. Monitoring and analysis superseded by subsequent decisions. Implementation Ongoing	Water Quality and Quantity

	program will be implemented concurrently with the beginning of mine development activity undertaken with the Operating Permit and approved Plan of Operations. If monitoring shows any changes in water quality, SMC is required by state law to take corrective action.		
1985 Stillwater EIS and 1986 ROD	SMC will prepare for DEQ and USFS approval a spring flow monitoring program to collect hydrologic data designed to ascertain the effects of mine development on nearby springs to be monitored, monitoring method, and frequency of monitoring and reporting requirements. The initial phase of the monitoring program will be implemented concurrently with the beginning of mine development activity undertaken with the Operating Permit and approved Plan of Operations.	Plan is completed, Implementation is ongoing	Water Quality and Quantity
1985 Stillwater EIS and 1986 ROD	SMC will submit a detailed engineering report, including plans and specifications pertaining to the proposed tailings impoundment , to the DEQ and USFS for review and approval prior to initiating construction of the tailings impoundment: a) fully describe SMC plans for construction of the mine site tailings disposal impoundment (Nye) for the planned life of the impoundment, including specific design criteria b) demonstrate the properties for available materials for embankment construction are adequate to meet design requirements c) demonstrate the proper construction practices will be used to ensure: d) Outline a tailings impoundment embankment and foundation monitoring program to provide for detection of potential instability problems. e) Outline a tailing impoundment spill contingency plan describing leak detection and spill control procedures. f) Demonstrate that the tailing embankment is being built to design standards by providing a schedule for	a) Completed b) Completed c) Completed d) Ongoing e) Ongoing f) Completed	Geo-Tech Stability

	performing regular inspections of the material to be used in embankment construction and for reporting the results of the inspections annually to the DSL and USFS.		
1985 Stillwater EIS and 1986 ROD	SMC will salvage soils from the tailing impoundment area and other disturbed areas as feasible, in two lifts and stockpile subsoil and topsoil separately to the extent practical. Two lift soil salvages will be undertaken when there is a clear distinction between topsoil and subsoil.	Completed	Soils/ Reclamation
1985 Stillwater EIS and 1986 ROD	SMC will carry out an employee education program about the adverse effects of disturbance on bighorn sheep and discourage nonessential entry into bighorn sheep range during winter months.	Ongoing	Wildlife
1985 Stillwater EIS and 1986 ROD	SMC will periodically survey employees as to their recreation usage patterns in the Stillwater River basin and provide such data to the Department of Fish, Wildlife and Parks for assessment of fishing pressure and use of fishing access sites.	Completed - Discontinued in MR08-003	Fisheries
1985 Stillwater EIS and 1986 ROD	SMC will increase the seeding rate specified in the Application for Operating Permit for portions of high altitude (above 5300 feet) land disturbed by mining. Herbaceous groundcover and woody plant survival will be evaluated and if excessive bare ground or erosion is observed, the ground will be reseeded.	Ongoing	Soils/ Reclamation
1985 Stillwater EIS and 1986 ROD #6 and DEQ Amendment 005-001	SMC will prepare for DEQ and USFS approval a plan to monitor the effects of mine development and operation on the Stillwater bighorn sheep herd. The plan will describe the objectives, methods, cooperative work schedules and reporting requirements for undertaking such studies and will outline a bighorn sheep impact mitigation contingency plan. The plan shall be submitted for agency review prior to initiating mine development activity undertaken under the Operating Permit and approved Plan of Operations. Initial research activity specified in the plan such as vehicular traffic monitoring	Plan is completed, Implementation is Ongoing	Wildlife

	along FAS 419 in the area of the bighorn sheep wintering range will be implemented prior to mine development. Approval of the full monitoring and impact mitigation contingency plan will be obtained from the DSL and USFS within 90 days of the date of approval of the Plan of Operations by the USFS.		
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Traffic Reduction**. The relief requested by SMC in meeting traffic reduction goals will not be granted, however, vehicles coming from 2 miles or less will not be used in figures for monitoring this requirement. The intent of this mitigation measure is to minimize conflicts of recreation traffic and private residences along access routes to the mine. Commuter mine traffic within 2 miles of the mine would have little effect on recreation traffic and private residences. SMC will complete an analysis exploring additional opportunities for further use of vans for their employees. This analysis will be submitted to the Agencies by April 1, 1989 with an action plan for averaging three riders/vehicle by January 1, 1990. If this mitigation measure is not reached by January 1, 1990, SMC will implement mandatory measures to their employees to average three riders/vehicle immediately.	Further review has found that the Agencies do not have administrative authority to restrict use by SMC employees.	Roads/ Transportation
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	If any cultural values are observed during any phase of the construction/rehabilitation operation, they will be left intact and the District Ranger, Beartooth Ranger District, and DEQ, will be notified. The Agencies would then conduct an evaluation of the cultural values to establish suitable mitigation measures.	Superseded by 1992 2000 TPD EIS/ROD; Amendment 008-012	Cultural Resources

1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS and DEQ Amendment 005-002	**Traffic reduction**. SMC will complete an analysis exploring additional opportunities for further use of vans for their employees. This analysis will be submitted to the Forest service and DEQ by April 1, 1989 with an action plan for averaging three riders/vehicle by January 1, 1990.If this mitigation measure is not reached by January 1, 1990, SMC must implement mandatory measures to their employees to average three riders/vehicle immediately.	Further review has found that the Agencies do not have administrative authority to restrict use by SMC employees.	Roads/ Transportation
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Reduction in Visual Impact**. SMC will be required to use earth tone "Jersey" barriers on the switchback road which leads to the mine adits, where earth tone rock berms cannot be constructed.	Ongoing	Visuals
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Reduction in Visual Impact.** SMC will be required to eliminate the "ad hoc" parking area which exists on the east side of County Road 419 and reclaim that area to a more natural timber /grass area. It is recognized that the need (exists) for some type of parking area near the mine/mill change house but outside the mill area proper. The Forest Service will work with SMC to relocate a site better suited for this need.	Completed	Visuals

1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. SMC will cooperate with federal and state agencies and private landowners to develop and implement a winter range management plan, and by other means, if necessary, to compensate for the winter range area lost to development. This plan would ensure coordination, implementation, and long term monitoring of mitigation measures on bighorn sheep. Specific actions to be taken are as follows: a) The Forest Service would implement a seasonal road closure on Forest Service Roads #400 at Forest Boundary and Road #846, and an area closure on identified bighorn sheep winter range. This closure would be implemented from December 15-April 15, and would preclude any use of these roads unless access is needed for an existing permitted use. In addition, Forest Service would work with Stillwater County in obtaining agreement to close Forest Service Road #400 approximately one mile to the south or road junction #846 and # 419.	Completed. Road closure attempted and discontinued.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. The Stillwater Mining Company would begin to utilize a dirt road for access to Beartooth Ranch during the closure period. This will lessen the impact ad overall disturbance to bighorn sheep since this road is located on the border of the bighorn winter range. In addition, SMC will take measures to reduce overall traffic to the Beartooth Ranch by carpooling whenever possible.	Completed. Road closure attempted and discontinued.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. The Forest Service and the Stillwater Mining Company will institute a program of interseeding and fertilization of Forest Service and private lands surrounding and including the Beartooth Ranch in order to improve overall vegetative conditions. Fertilization and interseeding will be accomplished in 1989 and 1990.	Completed.	Wildlife

	Fertilization will continue until such time as range production, trend, and vigor have improved to a level acceptable by the Forest Service and DEQ.		
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. SMC will take action to reduce the amount of horse use on lands which they control. This reduction will amount to approximately 50% and will be implemented in conjunction with a pasture rotation plan. The overall number of horses will be reduced from 45 to 25 head on rotated pastures.	Completed. Superseded by Annual Bighorn Sheep Monitoring and Mitigation Committee. Grazing ongoing.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. SMC in cooperation with Montana Fish, Wildlife and Parks Department will begin a medicated feed program to reduce the lungworm disease problem in the sheep. This program will be a short-term mitigation measure until other mitigation actions have shown to benefit the sheep population.	Completed.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	**Compensation for losses of bighorn sheep habitat**. SMC will initiate an internal and external education program to advise their employees and the public about the existing problems with the bighorn sheep. As part of this program, signing will be done along Highway #419 to educate the public to problems relating to disturbance of bighorn sheep while on their winter range. In addition, a sign explaining the reason for road closures will be developed.	Ongoing.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	SMC along with other cooperating agencies will be required to pull any road-kill fauna and remove from the road surface the carcass from Highways 419 and 420 and Forest Service Roads 846 and 400 from November to April of each year.	Ongoing	Wildlife

1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	SMC personnel should be instructed about the nature of the various wildlife species, especially raptors, which inhabit the area, and the potential impacts to these species.	Completed.	Wildlife
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	SMC will be required to take measures to minimize the disruption of underground water flows. These measures may include grouting and packing of fractures, or other measures applicable to a specific condition.	Ongoing	Water Quality and Quantity
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	SMC has committed to and is mandated under the Metal Mine Reclamation Act to replace lost water rights with water of comparable quality and quantity.	Directed by State Law, Regulation, and Policy and will not be tracked as mitigation.	Water Quality and Quantity
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	The ongoing water quality monitoring plan will continue to determine any effects of the mining operation on water quantity within the area.	Plan development completed. Implementation ongoing.	Water Quality and Quantity
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	SMC will be required to drill ahead of tunnel construction systems (either the TBM or conventional methods) in order to attempt to locate and avoid underground acquired systems.	Ongoing	Water Quality and Quantity
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	Impacts to water resources could be reduced by minimizing the area of disturbance to that absolutely necessary for the construction and operation of mining activities and reclaiming these areas as soon a possible. A detailed erosion control, revegetation, and rehabilitation plan is contained in the application for permit.	Ongoing	Water Quality and Quantity

1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	State-of-the-art design of the double-pipe system and emergency spill containment pond with an alarm to insure detection of any leaks will be utilized reducing chance of discharge into the Stillwater River. This emergency spill containment pond has a capacity of 6 hours of maximum discharge from pipeline leakage. (East Side Operation Bridge Crossing)	Plan development completed. Implementation ongoing.	Water Quality and Quantity
1989 EA, FONSI & Decision Notice East Side Amendment 005 USFS	Water compliance monitoring plan in the permit will be continued to ensure any changes in water quality can be detected. SMC is required by State law to take immediate corrective action if monitoring shows any changes in water quality.	Plan development completed. Implementation ongoing.	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-001	The compliance point for ground water quality will be the limits of the mixing zone granted by the DHES. If a mixing zone is not granted, the agencies would use the permit boundary as the ground water compliance point.	Ongoing	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-001	No hazardous wastes may be generated from this treatment and disposal of waste must comply with all applicable state and federal law.	Ongoing	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-001	SMC must submit an updated water management plan, for agency review and approval, which reflects the standards established by the BHES, within 6 months of the BHES decision. If such plans involve the disturbance of additional acreage, then additional soils, cultural resource and wetlands inventories must be completed for the proposed disturbance areas not previously surveyed.	Plan Completed; Implementation ongoing; Superseded by 2012 WMP EIS / ROD	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-001	The water management plan must explain: how SMC will dispose of excess adit water; how the new and enlarged source will be treated; and how that treatment will meet the requirements of ARM 16.20.631 and the Water Quality Act.	Plan Completed; Implementation ongoing; Superseded by 2012 WMP EIS / ROD	Water Quality and Quantity

1992 2000 TPD EIS and ROD Amendment 008-001	Implementation of the plan through construction of water treatment plants, emergency storage impoundments or other facilities may not disturb more than 5 additional acres and must be located in an area west and north of the mill building.	Completed.	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-002	All water quality data must be submitted to the agencies as hard copy and in an electronic format compatible with the agencies data management system, as per each individual agency's needs.	Ongoing	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-002	The water resources monitoring plan must be updated and submitted for agency approval within 6 months of the BHES decision to: incorporate lower detection limits, where appropriate and achievable. The current practice of using EPA approved analytical procedures must be maintained; ample Stillwater Valley Ranch (SVR) monitoring wells (MW 12A, 13A, 14A, and 15A) monthly during the period of the year when the percolation ponds are in use. The parameters to be sampled monthly include nitrite plus nitrite, ammonia, and total dissolved solids (TDS); add additional surface water and ground water monitoring locations within all major land application areas, down gradient of the SVR percolation ponds, near the compliance boundary (see preceding modification), and where the ground water intercepts the river. These locations must be approved by the agencies; design the ground water plan to assure that the effect of the existing and enlarged west side drain field is monitored. An annual evaluation of monitoring data must include analysis of phosphorus and nitrogen loading; submit an updated groundwater map including the east and west side, upon completion of additional wells and collection of data. The frequency of monitoring and the number of parameters analyzed may be reduced if, after consultation with the agencies, these parameters	Plan Completed; Implementation ongoing; Superseded by 2012 WMP EIS / ROD	Water Quality and Quantity

	are considered redundant. The number of currently existing sites which are monitored may also be reduced if, after consultation with the agencies, these sites are considered redundant. All water quality data must be submitted to the agencies as hard copy and in an electronic format compatible with the agencies data management system, as per each individual agency's needs.		
1992 2000 TPD EIS and ROD Amendment 008-004	SMC must submit an updated map delineating LAD areas for agency approval. This will be included with the updated water management plans as described in stipulation 1 above. This map must include the LAD ground water monitoring well locations and soil types based on the most recent soil survey information. Each soil type must be sampled at two locations annually for soil pH, cation exchange capacity (CEC), and appropriate trace elements. Samples must be taken 0 to 6 inches, 6 to 12 inches and greater 12 inches. SMC must maintain soil pH greater than 6.5. Additional sites with the capacity for SMC to land apply mine discharge must be incorporated into SMC's permit area. Results of the soils sampling must be included in SMC's annual report.	Superseded by 1998 Hertzler EIS/ROD; Amendment 010-004	Water Quality and Quantity
1992 2000 TPD EIS and ROD Amendment 008-005	Maintenance of the percolation ponds is necessary until mine discharge meets acceptable water quality limits. Once the water quality reaches acceptable limits, the ponds must be breached and reclaimed and mine drainage must be channeled through a perennial stream to reach a natural drainage course. For bonding purposes, SMC must submit a 5-year maintenance plan for the ponds. A perennial stream channel design must be submitted 12 months prior to closure.	Completed. Superseded by 2012 WMP EIS and ROD	Soils/ Reclamation

1992 2000 TPD EIS and ROD Amendment 008-006	**Tailings Impoundment Reclamation.** An updated reclamation plan must be submitted within 12 months for agency review and approval. The updated plan must include: • reclamation of the tailing embankment slope to 2:1; • placement of a mosaic of rock armor asymmetrically across the slope to break slope length to 150 feet or less and to increase soil to rock ratios; • an evaluation of volumes of glacial till and alluvium with a coarse fragment content of 50 percent or less, using existing soil survey information, and ; • incorporation of till and alluvium as a subsoil layer in the revegetation plan so that soil replacement depths on all disturbed acres approximate pre-mining depths; • revision of the revegetation plan for final reclamation which incorporates forbs, shrubs, and trees into the existing native grassland mix. The objective of the mix is to increase biological and visual diversity and maximize visual screening.	Completed. Superseded by 2012 WMP EIS and ROD	Soils/ Reclamation
1992 2000 TPD EIS and ROD Amendment 008-007	**Tailing Capping Plan.** SMC must conduct field test prior to closure of the in-place tailing, at sufficient grid spacing and depth to define the range of impounded tailing materials properties and submit the results to the agencies for review and approval. As a result of the field and lab testing, SMC must determine the degree of consolidation and settlement, including: • an estimation of the amount of settlement that may results from primary consolidation;	Completed. Superseded by 2012 WMP EIS and ROD	Soils/ Reclamation

	• an estimation of the amount of settlement that would occur due to the addition of the waste rock and soils at the time of reclamations, and; • An estimation of the long-term secondary consolidation. The information acquired from the testing must then be used to plan the depths and volumes of reclamation cap fill that will be required to achieve post-settlement gradients. Consolidation data and plans for fill must be submitted for agency approval prior to completion of capping.		
1992 2000 TPD EIS and ROD Amendment 008-008	**Waste Rock and Tailing Monitoring**. SMC must sample the waste rock from geologic structures with significant quantities of iron sulfides and tailing and must conduct acid base analysis once a year to test to verify the lack of acid-producing potential in the waste rock and tailing mass. Results must be submitted to the agencies annually with volumes of material that each test is representing.	Ongoing	Soils/ Reclamation
1992 2000 TPD EIS and ROD Amendment 008-009	**Wildlife**. SMC must use the information from the cooperative palatability studies to undertake offsite habitat improvements designed to encourage bighorn sheep to graze areas other than the toe dike. Habitat improvements must be undertaken in consultation with the Coordinated Bighorn Sheep Management Committee. Plans must be submitted for agency approval and the results of these efforts must be monitored annually and submitted to the agencies and the sheep committee.	Completed. Superseded by Annual Bighorn Sheep Monitoring and Mitigation Committee.	Wildlife
1992 2000 TPD EIS and ROD Amendment 008-010	**Aesthetics**. SMC must submit for agency approval a visual management plan, within 6 months of this decision, which addresses the following: • the establishment of a complex land form on the	Plan is completed. Impoundment reclamation plan is superseded 2012 WMP EIS and ROD	Visuals

	tailings embankment based on available construction materials and site characteristics at the time of final reclamation; • use of boulders (singly or in groups), and random massing of large and small native shrubs, and large and small native tree specimens to interrupt the flat line formed by the top of the dam. Establishment of shrubs or trees on the impoundment should only be undertaken at final reclamation.		
1992 2000 TPD EIS and ROD Amendment 008-011	**Traffic**. Employees living within 10 miles of the mine are exempt from the 3.0 passengers per vehicle bussing mitigation measure established under prior approvals. Data collection and reporting to DSL and the CNF for verification of achievement of this measure are required in March and September of each year.	Further review has found that the Agencies do not have administrative authority to restrict use by SMC employees.	Roads/ Transportation
1992 2000 TPD EIS and ROD Amendment 008-012	**Cultural Resources.** If any previously unidentified cultural resource site is encountered, SMC must notify the District Ranger, the DEQ's Hard Rock Bureau, and the State Historic Preservation Office and not proceed until the agencies give approval.	Ongoing	Cultural Resources
1992 2000 TPD EIS and ROD Amendment 008-013	**Wetlands**. The EPA, the DEQ, and the CNF, must be notified if impacts to wetlands or riparian areas not otherwise predicted in the EIS are likely to occur and obtain appropriate permits.	Completed. Directed by Federal and State Law, Regulation, and Policy and will not be tracked as mitigation.	Water Quality and Quantity

1992 2000 TPD EIS and ROD Amendment 008-014	**Documentation.** Whenever in the Stipulations, SMC is required to develop a study, plan, specification, design, or other document, that study, plan, design, specification, or other document must be submitted to the DEQ and CNF for approval. if approval is not granted, the study, plan, design, specification or other document may not be implemented and no other action, aside from revision and resubmitted, may be undertaken pursuant to the study, plan, design, specification or other document, or if approval, or approval with modification is granted, SMC must conduct its operations in accordance with the study, plan, design, specification or other document as approved and amended. Wherever in SMC's application or mitigation measures, size, volume, height, tonnage, or other measurable units or rates have been used as a basis for environmental analysis, such measurable units or rates are considered, to the extent practicable, the maximum allowable under this permit. Exceptions will be granted only after written documentation to the agencies that the exceedances are within the intent and understanding of the original approximations and analyses.	Ongoing	Compliance
1992 2000 TPD EIS and ROD Amendment 008-015 DEQ	**Permit Consolidation.** Within 12 months of the BHES Decision, SMC must submit a consolidated permit reflecting, in one set of volumes, the currently approved plans and activities for Operating Permit 00118. This means that the approved portions of the permit document for this amendment, for preceding amendments, and for the original permit must be consolidated.	Completed. Superseded by 2012 WMP EIS and ROD	Compliance

1992 2000 TPD EIS and ROD Amendment 008-016 DEQ	**Increased Bond**. Prior to implementation of any water management plan approved by the agencies, SMC must submit additional bond amount in the amount set by DEQ.	Directed by Federal and State Law, Regulation, and Policy and will not be tracked as mitigation.	Compliance
1992 2000 TPD EIS and ROD Amendment 008-003	**Land Application Disposal (LAD) and Monitoring**. SMC must submit an updated map delineating LAD areas for agency approval. This will be included with the updated water management plans as described in stipulation 1 above. This map must include the LAD ground water monitoring well locations and soil types based on the most recent soil survey information. Each soil type must be sampled at two locations annually for soil pH, cation exchange capacity (CEC), and appropriate trace elements. Samples must be taken 0 to 6 inches, 6 to 12 inches and greater 12 inches. SMC must maintain soil pH greater than 6.5. Additional sites with the capacity for SMC to land apply mine discharge must be incorporated into SMC's permit area. Results of the soils sampling must be included in SMC's annual report.	Completed. LAD on east-side discontinued.	Water Quality and Quantity
1996 DEQ EIS ROD Underground Valley Crossing, Amendment 009-002	SMC must adopt comparable crown pillar design standards, monitoring, and mitigation for all ore recovery which occurs under any area overlain by or crossed by the West Fork of the Stillwater River, Cathedral Creek, and Nye Creek. Replacement pages, reflecting this standard must be incorporated into SMC's plan of operations on file at the DEQ and the CNF within 30 days of permit (amendment) issuance	Ongoing	Geo-Tech Stability

1996 DEQ EIS and ROD Underground Valley Crossing Amendment 009-001	SMC may not, at any time, remove rock from the crown pillar under the Stillwater River.	Ongoing	Geo-Tech Stability
1998 Hertzler EIS and ROD #Amendment 010-009	SMC shall extend the first lift of the approved Hertzler tailing impoundment to the full footprint so that the outer slopes can be reclaimed once and not be redisturbed during construction of the second lift. SMC shall be required to submit a replacement page for the Mine Waste Management Plan showing the revised stage I, II, and III embankment in the next annual report.	Completed	Soils/ Reclamation
1998 Hertzler EIS and ROD Amendment 010 #10	SMC shall limit revegetated slopes to 150 feet in length or less before being intercepted by a rocky zone. This rocky zone or armor shall be placed to produce a natural appearing slope and reduce potential soil erosion.	Superseded	Soils/ Reclamation
1998 Hertzler EIS and ROD Amendment 010-001	Under the Metal Mine reclamation Act (MMRA) and USFS approval, SMC shall submit a Quality Assurance/Quality Control (QA/QC) Plan to ensure that the Hertzler impoundment foundation meets the minimum permeability requirement of 1x10-6 cm/sec. This plan shall be submitted for agency review and approval at least 60 days prior to commencing construction and shall include testing protocols. SMC shall also submit monthly construction QA/QC reports which include liner test results no later than 30 days after the end of the month. If testing shows that the material does not meet the minimum permeability requirement of 1x10-6 cm/sec, SMC shall remove and replace the in-place material with material which meets	Completed	Water Quality and Quantity

	these construction specifications.		
1998 Hertzler EIS and ROD Amendment 010-002	Under the MMRA and USFS approval, SMC shall conduct additional stability modeling and analysis on the Colorado Shale Unit for deep foundation failures. This analysis must then be incorporated into SMC's final design work. In addition, SMC shall utilize a professional engineering geologist and/or appropriate specialist to observe the excavation of the Hertzler Ranch impoundment foundation and borrow areas to determine if any geomorphologic features were exposed that would indicate ancient mass failure. A report on the geomorphologic features shall be submitted within 30 days of the completion of impoundment excavations. If ancient mass failure features are observed, then SMC shall develop a plan and schedule for a detailed drilling program and analysis prior to completion of the impoundment structure. The drilling and analysis plan is subject to agency review and approval prior to implementation. If the analysis indicates it is necessary. SMC shall develop changes to the design of the impoundment and submit the revised design to the agencies for review and approval.	Completed	Geo-Tech Stability
1998 Hertzler EIS and ROD Amendment 010-003	Under the MMRA and USFS approval, SMC shall submit an engineering report to the agencies re-evaluating the applicability of paste technology, identifying economic and technologic feasibility for use in tails disposal at the Stillwater mine after 5 years of operations of the pilot past plant. The report shall recommend whether or not paste technology can be reasonably and feasibly applied to the SMC operation to reduce the volume of tails stored on the surface for the long-term or reduce other impacts. The report shall be submitted to the DEQ and	Completed	Soils/ Reclamation

	CNF no more than 6 years after paste pilot plant operations have been initiated. Within 1 year of submittal, the agencies will review the report and determine whether or not SMC should apply paste technology.		
1998 Hertzler EIS and ROD Amendment 010-005	SMC shall purchase, and have in place, a backup generator adequately sized to ensure the pipeline leak detection sensor continues to operate effectively during power failures or partial power outages.	Ongoing	Water Quality and Quantity
1998 Hertzler EIS and ROD Amendment 010-006	SMC shall submit the tailing slurry pipeline wear data it collects, as a specified in the approved plan of operation, with its annual report. After 2 years, the agencies will, based on their review of pipeline monitoring data, determine appropriate future pipeline testing needs in order to ensure the integrity of the tailing slurry and water pipeline system.	Ongoing	Water Quality and Quantity
1998 Hertzler EIS and ROD Amendment 010-007	SMC shall work with the Stillwater Valley Bighorn Sheep Management Committee to explore the use of prescribed fire in order to improve the quality and quantity of forage in the project area, thereby minimizing forage competition between bighorn sheep and mule deer.	Completed. Superseded by Annual Bighorn Sheep Monitoring and Mitigation Committee.	Wildlife
1998 Hertzler EIS and ROD Amendment 010-008	SMC shall, within 2 years of permit amendment approval, identify grass species, if they exist, to potentially replace creeping meadow foxtail with a more palatable native species, as effective in the uptake of nitrates, in the reclamation seed mix for the LADs. SMC shall then modify its seed mix for the next planting season.	Completed	Wildlife

1998 Hertzler EIS and ROD Amendment 010-011	The agencies will encourage SMC to develop incentives for employee car pooling within 5 months of permit issuance.	Completed	Roads/ Transportation
1998 Hertzler EIS and ROD Amendment 010-012	SMC shall have a professional archeologist present during construction of the pipeline and embankments for the first lift of the Hertzler impoundment in areas of known or suspected cultural resources or when nearing adjacent identified and potential cultural sites. The archeologist shall be responsible for identifying any cultural materials that might be exposed during construction. In the event a site is exposed, SMC shall cease operations until the agencies have been contacted and an appropriate evaluation and mitigation plan developed and implemented.	Completed	Cultural Resources
1998 Hertzler EIS and ROD Amendment 010-013	SMC shall abate dust problems whenever one or both of the impoundments is not in use or is inactive.	Directed by Federal and State Law, Regulation, and Policy and will not be tracked as mitigation.	Air Quality
1998 Hertzler EIS and ROD Amendment 010-004	Under the MMRA and USFS approval, SMC shall submit, with its next annual report, a biological monitoring plan for agency review and approval. If groundwater quality data at downgradient monitoring wells at the Hertzler site show increases in nitrate + nitrite above 2 mg/L, or show the presence of constituents indicative of tailings water seepage, then SMC shall conduct biological monitoring of periphyton and macroinvertebrates in the Stillwater River above and below the site in accordance with the approved monitoring plan. SMC shall also initiate monitoring of nearby downgradient residential wells if the owner wishes, that could potentially be affected by facility discharges. SMC shall submit a plan for agency review	Plan Completed and Implemented Ongoing	Water Quality and Quantity

	and approval within 60 days of its identification of elevated constituents to take appropriate operational measures to reduce nitrate concentrations in groundwater below 2 mg/L or take appropriate remedial measures to ensure it remains in compliance with its permits. If groundwater quality at downgradient monitoring wells at the Stratton site show increases in nitrate + nitrite above 2 mg/L, then SMC shall initiate monitoring of nearby downgradient residential wells if the owner wishes, that could potentially be affected by facility discharges. SMC shall submit a plan for agency review and approval within 60 days of its identification of elevated constituents to take appropriate operation measures to reduce nitrate concentrations in groundwater below 2 mg/L, or take appropriate remedial measures to ensure it remains in compliant with its permits.		
2012 WMP EIS and ROD Amendment 011	SMC shall be responsible for monitoring of ground water and surface water quality according to approved water monitoring plans and as long as MPDES permit would be in place during post-closure	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC would be required to annually monitor and report to the agencies the volume of tailings supernatant water. Annual monitoring would address estimated densities, tailings grade, and volume of supernatant water. Formal tailings consolidation study would be conducted every 5 years. Annual monitoring of tailings grade would be used to determine the exact location of seepage outlet structure.	Pending	Soils/ Reclamation

2012 WMP EIS and ROD Amendment 011	SMC would be required to submit all final storm water channel and shaft mine water discharge channel designs by the date of the first annual report if amendment is approved.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall be required to conduct operational and closure monitoring of tailings impoundments function and structural integrity.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall submit a revised water monitoring plan for Hertzler Ranch LAD system which shall include sampling for nutrients, salts, and biomonitoring.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall be responsible for monitoring of shaft water quality and elevation starting at closure (three times per year) and annually thereafter. At post-closure, SMC shall be responsible for monitoring shaft water elevation, twice a year until mine water exits the shaft.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall be responsible for monitoring ground water and surface water quality according to current approved water monitoring plans and as long as MPDES permit would be in place during post-closure.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall be responsible for monitoring of post-closure tailings impoundment function and structural integrity. This would occur annually for the first 5 years and then once every 5 years. Seepage outlet structures and discharge channels function would be monitored annually for the first 5 years and then once every 5 years.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall be responsible for post-closure monitoring of Hertzler Ranch surface and ground water resources with regards to nitrogen, nutrients, and salts concentration trends.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD Amendment 011	SMC shall conduct quarterly monitoring of water quality at Hertzler Ranch impoundment underdrain outlets during operations and closure.	Pending	

Amendment 002-001 9/3/86; Sand Borrow Area	Permanent benchmarks must be established to identify where and how much topsoil is stockpiled.	Completed.	Water Quality and Quantity
Amendment 002-002 9/3/86; Sand Borrow Area	The topsoil stockpile can be slightly mounded above ground level.	Completed.	Soils/ Reclamation
Amendment 002-003 9/3/86; Sand Borrow Area	When the sand has been removed and the borrow area filled with topsoil, it will be seeded as per seeding recommendations in the December 1985 EIS.	Completed.	Soils/ Reclamation
Amendment 003-001 Second Sand Borrow Area 1/8/87	Bond shall not be released until the borrow area has attained the same quality and quantity of vegetation as is currently present.	Completed.	Soils/ Reclamation
Amendment 006, Temporary Sand Pipeline	Installation of an automatic flush system in order to prevent the line from sanding up.	Completed and Discontinued.	Water Quality and Quantity
Amendment 006, Temporary Sand Pipeline	A 36" diameter sleeve in the portion of the line that crosses the Stillwater River at the present bridge location. The intent of the sleeve is to contain any spill and direct the flow to the East Side Emergency Spill Containment Pond.	Completed and Operations Discontinued.	Water Quality and Quantity
Amendment 006, Temporary Sand Pipeline	Installation of a leak detection system as specified and approved in the Environmental Assessment for the East Side Adit. This will consist of pressure transmitters and capacitance probes connected to an electric control module which shall be tied to an alarm system located in various portions of the mining operation.	Completed and Discontinued.	Water Quality and Quantity
Amendment 006, Temporary Sand Pipeline	Construction of emergency spill containment ponds located on the east side of the Stillwater River. The capacity of this pond will be designed to hold a minimum of 250,000 gallons of material, which translates to 6 hours of containment capacity at projected pumping	Completed and Discontinued.	Water Quality and Quantity

	levels.		
Amendment 006, Temporary Sand Pipeline	Stillwater Mining Company will ensure that this Sand fill line is periodically inspected to insure safe operation.	Completed and Discontinued.	Water Quality and Quantity
MR97-002-001	SMC must submit a detailed program for impoundment water draw down, taking care to outline and identify procedures, processes, and equipment used in impoundment draw down. Existing land application is to be utilized. Plan for use in the event that tailings water would rise above the 5107 level.	Completed and superseded by MR008-003.	Water Quality and Quantity
MR97-002-002	If water inflow from a major storm event causes the water level in the impoundment to rise above the 5107' level faster than pumps can accommodate, SMC must draw down the impoundment to below 5107' within 30 days	Completed and superseded by MR008-003.	Water Quality and Quantity
MR97-002-003	SMC must submit the appropriate replacement pages and diagrams reflecting these changes in the operating plan within 30 days of receipt of this letter.	Completed and superseded by MR008-003.	Water Quality and Quantity
MR04-003-001	SMC requests a 4-foot freeboard on the Nye impoundment year round for three years until the tailings level can be lowered by dredging. SMC must maintain a 6-foot freeboard level during the non-windy months of May through September for those three years.	Completed	Water Quality and Quantity
MR05-001	Upgrade to the Domestic Wastewater Treatment System. July 5, 2006 letter: The Environmental Management Bureau will require certain analyses to be performed on a quarterly basis. **Cannot insert table**	Ongoing	Water Quality and Quantity
MR06-001-001	The vent raise (Wet Fork Breakout) will need to be backfilled 120 feet instead of the 50 feet being proposed.	Ongoing	Geotechnical Stability
MR06-001-002	The Dow claim boundary (17.97 acres) will be included in the permit area. About one acre within this boundary will be disturbed with construction of the vent raise	Completed. Depicted on Annual report mapping	Compliance

	(West Fork Breakout). The new area will need to be included in future maps (an insert in a larger map would be acceptable).		
MR06-001-003	To preclude most wildlife potentially in the area from entering the adit, openings in the security structure should be a minimum of 2 inch square. If this size does not serve SMC's needs, 4 inch square openings would be acceptable. The Forest wished to preclude preventing entrance to the mine for wildlife or avian species.	Completed. 2" security wire installed	Wildlife
MR06-001-004	Prior to plugging the West Fork Breakout at mine closure, please survey the adit to ensure that no wildlife or avian species are present.	Ongoing	Wildlife
MR09-001	SMC must provide, within 30 days, a plan for soil testing of Hertzler Ranch to evaluate salt loading.	Completed; Superseded by 2012 WMP EIS/ROD	Soils/Reclamation
MR09-003	**Hertzler Stage II Underdrain Modification**. Please provide semi-annual monitoring of the Hertzler Ranch tailings impoundment underdrain TDS, EC, and nitrogen.	Completed; Superseded by 2012 WMP EIS/ROD	Soils/ Reclamation
MR10-001	Hertzler Nitrogen Corrective Action Plan (UIC Injection Wells). SMC will conduct analysis for nitrite as denitrification forms nitrite as an intermediate product. If SMC would prefer to analyze for nitrite-N + nitrate N, that would also be acceptable.	Completed	Water Quality and Quantity

East Boulder Mine

Mitigation/Stipulation Source	Mitigation/Stipulation	Status	Resource

2012 EIS and ROD	SMC shall be responsible for ongoing ground water and surface water quality monitoring during operations, closure and post-closure according to approved water monitoring plan until bond is released. For the adit monitoring frequency of monitoring during closure shall occur 3 times per year. At post-closure adit monitoring shall occur twice a year. For the tailings impoundment underdrain monitoring shall occur quarterly during operations and closure. For tailings impoundment seepage through the cover, monitoring shall occur quarterly during closure.	Pending	Water Quality and Quantity
2012 EIS and ROD	During operations and closure SMC shall annually monitor and report to the agencies the tailings impoundment supernatant water volume, estimated tailings density, and tailings grade. Annual monitoring of tailings grade would be used to determine the exact location of seepage outlet structure during closure.	Pending	Soils/ Reclamation
2012 EIS and ROD	SMC shall be required to continue ongoing operational monitoring of tailings impoundment function and structural integrity. For five years after closure a visual inspection of the impoundment shall be conducted annually, and after five years then once every fifth year.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD	SMC must discharged adit water to ground water if the adit flow rate would cause an increase in streamflow greater than 15 percent of the $7Q_{10}$ value.	Pending	Water Quality and Quantity
1992 EIs and 1993 ROD	a) SPGMR must submit plans and specifications for the sewage treatment facilities to the DHES, Water Quality Bureau, for approval, prior to initiation of any mine-related construction. The sewage treatment system and any other related disturbances must be reclaimed in accordance with the standards established in the plan of operations. b) SPGMR must submit plans, specifications, and design criteria for the water treatment plant to the DHES,	a) Completed b) Completed c) Ongoing	Water Quality and Quantity

	Water Quality Bureau, for approval prior to initiation of mine-related disturbance. c) No hazardous wastes, as defined under the Resources Conservation and Recovery Act (RCRA), may be generated from this treatment facility and disposal of waste must comply with all applicable state and federal rules.		
1992 EIs and 1993 ROD	a) Final portal closure for the main adit must provide for drainage through the plug, directing the drainage to the percolation ponds or other facilities approved by the agencies. b) The percolation ponds must be maintained until the adit discharge meets state and federal water quality standards. SPGMR must submit a revised plan, based on the data collected during monitoring, to direct discharges to the East Boulder River through an established stream channel (or through wetlands if appropriate), once these water quality standards are met. These revised plans must be submitted to the GNF, DHES and the DSL for approval at least 12 months prior to closure.	a) Completed b) Superseded by 2012 WMP EIS and ROD	Water Quality and Quantity
1992 EIs and 1993 ROD	At least 12 months prior to closure, SPGMR must submit the final design for established stream channels for permanent mine drainage, that take into consideration the flow data collected during mining. The final designs must direct surface runoff away from the tailing impoundment.	Superseded by 2012 WMP EIS and ROD	Water Quality and Quantity
1992 EIs and 1993 ROD	All final designs for surface water control must include the site-specific operational best management practices to be used for sediment control and include a supporting narrative which describes how best management practices would be implemented to control runoff and runon within and adjacent to disturbed areas.	Completed	Water Quality and Quantity
1992 EIs and 1993	SPGMR must leave a 200-foot crown pillar/buffer	Ongoing	Water Quality and

ROD	between stopes and surface water resources. The agencies may reduce this buffer if SPGMR demonstrates that flows of surface water resources would be minimally affected.		Quantity
1992 EIs and 1993 ROD	SPGMR may not reduce water levels in the East Boulder River below the 5 cfs minimum historic low flows.	Ongoing	Water Quality and Quantity
1992 EIs and 1993 ROD	a) The final designs for the tailing impoundment reclamation must include 2:1 slopes and must be submitted for agency review and approval at least 6 months prior to the proposed date of initiation of construction. b) A combination of rock armor/resoiled and vegetated slopes must be planned for reclamation. Vegetation must be reestablished by development of random, soiled slope lengths not greater than 150 feet, which are supported by rock armor slopes. This revision must be submitted with the final impoundment design identified above in 7a. c) SPGMR must conduct field tests prior to closure of the in-place tailings, at sufficient grid spacing and depth, to define the range of impounded tailing material properties and must submit the results to the agencies. As a result of field and lab testing, SPGMR must determine the degree of consolidation and settlement, including: an estimation of the amount of settlement that may result from primary consolidation; an estimation of the amount of settlement that would occur due to the addition of waste rock and soils at the time of reclamation, and; an estimation of the amount of the long-term secondary consolidation.	a & b) Completed c) Superceded by 2012 WMP EIS and ROD	Soils/ Reclamation

1992 EIs and 1993 ROD	a) Final siting of breakouts (adits, vents, raises, and shafts) must be approved by GNF and DSL before their construction. The final siting of vents, adits and raises must avoid cultural resources and threatened and endangered species unless a survey is completed providing documentation that significant impact would not occur and providing appropriate mitigation plans for agency approval. b) SPGMR's proposed reclamation plan for adits, vents and raises sited in the Placer Basin area must be updated at the time a final siting decision for each structure is made. Updated plans must be developed based on field assessments conducted in cooperation with the agencies. These individual plans must reassess key efforts including; soil savage, storage, redistribution, and revegetation particularly appropriate seed mix selection	a & b) Ongoing	Visuals
1992 EIs and 1993 ROD	The placement of powerline towers and mine breakouts must avoid wetlands and riparian areas of possible. If SPGMR cannot avoid wetlands and/or riparian areas, SPGMR must contact the agencies (DSL, GNF, Environmental Protection Agency [EPA], and the Corps of Engineers, [COE]) and develop and receive approval for disturbance and mitigation plans in compliance with Executive Order 11990 before any wetlands/riparian areas are disturbed. No dredging or filling of wetlands or riparian areas is allowed without first obtaining permission and permits from the appropriate agencies.	Ongoing	Water Quality and Quantity

1992 EIs and 1993 ROD	a) As the availability to revegetate with native species increases, revegetation and planting mixes must be updated at the time of reclamation to use commercially available site-adapted native species; including nursery-developed dominant and subdominant grasses, forbs, shrubs and trees available to that time. The mix must be based on availability of native seed and must continue to balance rapid establishment and erosion control with long-term reclamation objectives. Species selection must promote biological diversity and visual screening ability. Planting mixes must be submitted for approval by the agencies. b) The seed mix used for final reclamation, as approved above, must also be used on interim reclamation of disturbances, such as soil stockpiles, in order to test mixes for appropriateness and to develop data to modify final revegetation mixes over the life of the mine. c) Within the permit area and along FS Road 205, disturbed areas near roads must be seeded with plant species which are largely unpalatable to big game.	a & b) Ongoing c) Completed	Soils/ Reclamation and Wildlife
1992 EIS and 1993 ROD	a) SPGMR must locate staging areas for workers and materials at a reasonable distance from the residences on the East Boulder Road and identify these staging locations when information becomes available. b) Deliveries to the mine are restricted to daylight hours, except for emergency conditions.	a & b) Ongoing	Road Use

1992 EIS and 1993 ROD	a) Roads constructed or upgraded within the permit area, which serve no beneficial post-mining purpose, must be ripped, recontoured, soiled, and seeded using updated seed mixes identified above. b) Use of unimproved roads for power lines development is prohibited during wet periods when soils are subjected to rutting and erosion. Such temporary roads must be promptly revegetated when construction is complete. c) SPGMR shall prevent on-shift employee parking outside the East Boulder permit area boundary on USFS managed lands and roads. d) If chemical dust suppressants are to be used on permit area roads, SPGMR must provide a list of the dust retardants to be used. Application of dust suppressants must be made only in amounts sufficient to suppress dust, and the application must be made by a trained applicator meeting all State of Montana requirements for application of the type of dust suppressants being used. e) At full development, Forest Service Road 205 will be improved to a double-lane gravel travel way. If site specific design survey indicates a need, right-of-way to accommodate road improvements would be acquired during the development stage of the mine operation. Actual final design and specifications of the road would be approved by the Forest Service prior to construction.	a, c & d) Ongoing b & e) Completed	Engineering

1992 EIS and 1993 ROD	a) SPGMR must align access roads, power lines, and other comparable facilities as far from established recreational facilities as practicable. b) SPGMR must conduct employee surveys, beginning the first year of construction activities and continuing every third year until maximum employment is reached, of recreation use patterns and submit the results to the DSL and the GNF. The agencies may authorize a reduced or increased frequency of surveys if analysis of the data indicates the need for change. c) SPGMR will provide a 3-5 vehicle parking area near the Dry Forks for public recreationists and will also provide snow plowing of this parking area as needed in the winter. Site selection and design of this parking area will be approved by GNF prior to any construction of the facility. d) The GNF will be granted a trail easement for the existing Graham Creek trail across existing patented mining claims belonging to SPGMR.	a, b, c & d) Completed	Recreation
1992 EIS and 1993 ROD	a) SPGMR must conduct geotechnical testing under the south corner of the impoundment and make an assessment which addresses the potential for water from the adjacent percolation ponds to liquefy or "grease" impoundment base materials and thereby reduce stability. If the data indicates the potential for reduce stability exists, SPGMR must either revise its permit to relocate the percolation pond or must augment the impoundment design to compensate for the leakage from the percolation pond. This assessment must be provided for agency review and approval with the final impoundment design at least 6 months prior to the proposed date of construction of that phase of the impoundment which would encroach on the area of concern (FEIS, pages 2-24 to 2-26, 4-43). Groundwater	a) Completed b) Ongoing	Geo-Tech Stability

	levels must be monitored in the upgradient tailing dam. If monitoring indicates a flow path between the percolation pond and the tailing impoundment that could create a failure boundary, barriers or groundwater drains must be installed to redirect flow around or well under the impoundment, the percolation pond must be moved, or the impoundment redesigned to avoid failure. b) If a tailings impoundment failure occurs, SPGMR must immediately implement best available technology to mitigate impacts to water quality, fisheries, and downstream users from impacts attributed to, or increased by, the failure of the impoundment.		
1992 EIS and 1993 ROD	a) SPGMR must notify the agencies at least 48 hours in advance of permitted construction activities that would result in significant surface disturbance or that may have a temporary or permanent impact on wildlife or aquatic resources. b) SPGMR must conduct a creel survey of the East Boulder River, using MDFWP standards, the third year of production and submit the results to the agencies and to MDFWP. c) A fence adequate to prevent intrusion of big game must be installed around the tailing impoundment prior to operation. Details of the fence design will be submitted and approved by the agencies. d) SPGMR may not conduct low-level helicopter flights in the spring and summer along areas in use by peregrine falcons nor in winter along bald eagle feeding or roosting areas of the East Boulder River. These areas and months of avoidance must be identified in coordination with GNF and MDFWP biologists. SPGMR must ensure helicopter pilots are fully informed of unacceptable flight paths. e) Roadside carrion will be removed to prevent any	a & e) Ongoing b,c,d & e) Completed	Aquatics and Wildlife

	mortality of bald eagles. This program will be coordinated with the MDFWP. f) All power lines will be designed and installed using the "Rural Electric Association Approved Raptor Proof Design."		
1992 EIS and 1993 ROD	SPGMR must insure that color texture and line of developments will blend, to the extent possible, with natural features and must insure that terrain features and visual screening will be used to reduce visual impacts where practicable. Site specific plans for mine facilities will be reviewed and approved by GNF staff trained in visual resource management. These plans will be reviewed in relation to their ability to meet visual quality parameters listed above prior to construction.	Ongoing	Visuals
1992 EIS and 1993 ROD	SPGMR must install and maintain muffling systems on all dedicated facilities construction and operation equipment to minimize noise levels. Ventilation fans on the East Boulder Plateau must be installed in noise insulated enclosures or at depths that provide a comparable degree of muffling. Radar-detector back-up beepers must be used on company or long-term contract equipment used on the East Boulder Plateau to minimize the effects of noise on wilderness areas.	Ongoing	Noise
1992 EIs and 1993 ROD	SPGMR must assure that if the tailing impoundment were to fail, the East Boulder River would not be dammed, creating a hazard for downstream residents.	Ongoing	Health and Safety
1992 EIS and 1993 ROD	If previously undiscovered cultural resources are encountered, SPGMR must notify the district ranger, SHPO and the DSL immediately and must not further disturb the resource until the agencies give permission. Sites 24SW113, 223, 227, 231, 237, and 248 must be avoided during powerline and road construction. If these sites cannot be avoided, SPGMR must submit for agency review and approval additional protective measures.	Ongoing	Cultural

1992 EIS and 1993 ROD	a) Whenever in the requirements SPGMR is required to develop a study, plan, specification, design, or other document, that document must be submitted to DSL and GNF, with copies to DHES, as appropriate, for approval. Wherever approval is required, this approval requirement means: (1) If approval is not granted, the study, plan, design, specification, or other document may not be implemented and no other action, aside from revision and resubmittal, may be undertaken pursuant to the study, plan, design, specification or other document. (2) If approval, or approval with modification, is granted, SPGMR must conduct its operations in accordance with the study, plan, design, specification or other document, as approved and amended. b) Wherever, in SPGMR's application or the above mitigations, size, volume, height, tonnage, or other measurable units or rates have been used as a basis for environmental analysis, such measurable units or rates are considered the maximum allowable under this permit, except where such numbers apply to estimations of natural conditions. Exceptions will be granted only after written documentation to the agencies that the exceedances are within the intent and understanding of the original approximations and analyses. c) The agencies must be notified and approve of any change in reagents or concentrations employed in the milling process. d) Wherever in the above requirements SPGMR is required to submit a final design, it must incorporate the preliminary design and provide only additional detail. If the final design, which incorporates additional site-specific information, deviates from the preliminary design, a request for approval of the final design must	a, b, c & d) Ongoing	Admin conditions

	be submitted and SPGMR may not implement the final design until the agencies have approved it.		
1992 EIS and 1993 ROD	As stated in the Montana Department of State Lands Record of Decision, SPGMR may not commence activities until the East Boulder Impact Plan is approved pursuant to 90-6-307, MCA.	Completed	Hard Rock Impact Plan
1992 EIS and 1993 ROD	SPGMR will be required to a post reclamation bond with the Montana Department of State Lands prior to any construction activities. The bond amount will be determined jointly by the agencies and will be payable to both agencies.	Ongoing	Bonding
1992 EIS and 1993 ROD	a) The company will restrict and monitor access to the project site 24 hours per day. A locked gate or security monitoring will be suitable to restrict access. b) All food on site will be made unavailable to bears, and garbage will be stored in bear-resistant containers until removed from the area. c) The company will continue its policy of not allowing firearms on the project site. d) A fire plan will be required that follows all state laws and meets all requirements as determined by the state fire season. e) Use of prescribed fires for disposal of slash or other debris will be coordinated through the Big Timber Ranger District.	a) Completed b, c, d &e) Ongoing	Health and Safety
1992 EIS and 1993 ROD	SPGMR must monitor the volume of mine inflows and seepage from the mine on a monthly basis and submit that data to GNF, DHES and DSL quarterly. Final closure plans must take into account the volume of mine inflows.	Superseded by 2012 WMP EIS and ROD	Water Quality and Quantity

SPGMR 1992 and 1993 ROD	All water quality and quantity data must be submitted as hard copy and in an electronic format compatible with the DHES/DSL data management system. Appropriate detection limits must be used and a data analysis protocol must be instituted to test for seasonality and serial correlation. Results must be submitted to the agencies quarterly unless monitoring results indicate, and the agencies concur, that it is appropriate to decrease the frequency. An annual evaluation of the quarterly data must be submitted with the annual report. Water quality monitoring and reporting discontinued during the current inactive phase of operations must be reinstated at least 6 months prior to project initiation. Additional specific surface and ground water monitoring requirements are described below and must be incorporated into SPGMR's water monitoring plan. The revised plan must be submitted 6 months prior to initiation of mine-related construction. a) At lease 6 months prior to the proposed date of initiation of construction, SPGMR must submit a revised surface water quality monitoring plan which incorporates the requirements below (b-d) for agency review and approval. The plan must be designed to detect potential changes in water quality and quantity in both time and space in a statistically robust manner. Sample stations must be located at historic monitoring points unless logistics make them impossible to reach. Additional monitoring points must be located upstream and downstream of any significant tributary and downstream of any compliance point approved by the BHES. Monitoring must also be conducted in the tributary itself. Monitoring must also be performed on the waste stream on both sides of any treatment facility. Results must be included in the monthly report. All	a & e) Ongoing b & f - k) Completed c & d) Superseded by 2012 WMP EIS and ROD	Water Quality and Quantity

	constituents presently being tested in the baseline studies must continue to be monitored. Indicator parameters must be measured monthly, while the remaining constituents must be tested on a seasonal basis. Indicator parameters include, but are not limited to, pH, specific conductivity, total dissolved solids, sulfate, orthophosphate, nitrate + nitrite, and chromium (FEIS, pages 3-4 to 3-13). See also (c) below. If future monitoring indicates some constituents are no longer appropriate to monitor, SPGMR may provide written documentation and request parameters be dropped. b) During the 5-year construction period suspended sediment, turbidity, and bedload sediment investigations must be performed every other year beginning the first year of site disturbance and submitted to the agencies for review with the appropriate annual report. These investigations will be conducted above and below the mine site in the East Boulder River and at the depositional area in the East Boulder River near the Forest Boundary. In the years in which they are conducted; measurements will be taken weekly from April 15 to July 15 with the frequency increasing to twice weekly during the two week period of peak snowmelt runoff, which usually occurs in early June. Sampling intensity should be sufficient to provide a statistically usable correlation between sediment and discharge, to compare pre and post project water quality conditions. This data will be reviewed by agency water quality specialists to monitor the effectiveness of mitigation measures to insure compliance with applicable standards. c) Surface water flow monitoring must be conducted concurrent with surface water quality sampling, monthly, at all locations. In addition, data must be		

	collected from a calibrated continuous stream gage installed at EBR 5.2. Results must be included in the quarterly reports. d) In addition to natural surface waters, SPGMR must sample and analyze the quality of the tailing decant water on a quarterly basis. Given the low concentrations of inorganic constituents found in both adit water and "background" locations, procedures using the lowest achievable detection limits for these parameters must be used for all analysis (FEIS, pages 4-33 to 4-34). Results must be submitted annually to GNF, DHES, and the DSL. e) SPGMR must maintain percolation ponds to prevent or minimize clogging and to maximize the utility of the ponds. If maintenance cannot prevent clogging and infiltration is therefore not possible, new ponds must be constructed in a location approved by GNF, DHES and the DSL. f) At least 6 months prior to the proposed date of initiation of construction, SPGMR must submit a revised groundwater monitoring plan which incorporates the requirements below (g-j) for agency review and approval. The plan must be designed to detect potential changes in groundwater quality in both time and space in a statistically robust manner. g) Groundwater monitoring must include the paired well approach to assess statistically significant differences between upgradient and downgradient wells at the percolation ponds, the sewage system, and the tailing facility. h) Groundwater must be analyzed for all water quality variables sampled in baseline monitoring as well as nitrates and other operational pollutants. If future monitoring indicates some constituents are no longer		

	appropriate to monitor, SPGMR may provide written documentation and request parameters be dropped. i) Samples must be taken quarterly to ensure samples are representative and the data generated must be submitted in the quarterly report. j) Tailing impoundment leachate must be collected from the underdrains and leachate quantity and quality must be monitored quarterly. Monitoring results must be submitted quarterly and, if concentrations of compounds in the leachate would result in violation of standards set by the BHES at the compliance boundary, the leachate must be pumped from the collection sump to a treatment system or recycled in the mining and milling process until such time as it can meet applicable water quality standards. k) Springs and seeps that could reasonable be effected by mine workings and mine facilities must continue to be monitored for quantity and quality during construction and operations. The area of survey must be reported to the agencies.		
SPGMR 1992 and 1993 ROD	SPGMR must sample and analyze, annually, the acid producing potential of waste rock from high sulfur content zones and other geologic zones where mobilization of metals, increased TDS, or reduced pH of stormwater and snowmelt runoff from the waste rock piles could result. Sampling must take place during development and operations and must occur prior to placement of materials on the waste rock piles. particular attention must be given to waste rock from faults and lithologic contact zones. An effort must be made to correlate the acid-producing potential of all geochemical rock types with a total sulfur value. The data and correlations must be submitted with the annual report and must include the rock types sampled.	Ongoing	Water Quality and Quantity

	If waste rock that may generate acid drainage is encountered, SPGMR must submit a plan within 6 months of receipt of the lab data, which assures that metals are not released to the environment.		
SPGMR 1992 and 1993 ROD	SPGMR must monitor fish and wildlife as described below and monitoring reports must be submitted to the DSL, GNF and MDFWP annually unless otherwise specified. Changes in the monitoring program will be made as required to accommodate changed conditions during the project life. a) Fine stream sediment (< 6.3 mm) will be monitored during the base flow period every year beginning the first year of site disturbance through the 5-year construction period. Monitoring sites to be sampled include spawning gravels in areas representing typical trout spawning habitat, such as pool tailouts in the East Boulder River. The core sediment data will be submitted to the agencies annually to be used in conjunction with the water quality monitoring (see Surface Water Quality Monitoring Plan) of suspended and bedload sediment to determine whether predictions of sediment delivery are correct and to calculate the actual amounts of delivered and routed sediment. Core samples will be collected through the construction phase during the summer/fall low flow period at sites on the East Boulder River above and below the mine facilities (EBR-3.2 and EBR 5.2, as shown in the EIS on page 3-6) and at the Forest Boundary. b) Benthic macroinvertebrate species diversity and relative abundance will be measured in stream reaches of the East Boulder River of similar habitat type above	a, b & c) Completed; d - i) Ongoing	Aquatics and Wildlife

	and below the mine site through the 5- year construction period. Sampling will be twice a year (prior to snowmelt runoff and during fall baseflow) and in combination with surface water monitoring using protocols equivalent to EPA Rapid Bioassessment technique. Samples will be collected in the same locations each year. Data collected by this monitoring will be reviewed by GNF fisheries biologists on an annual basis to determine what, if any, effects the project is having on aquatic life and to make adjustments in mitigations or monitoring measures as appropriate. c) In order to establish a baseline condition of metals concentrations in East Boulder River fish above and downstream from the mine site area, SPGMR will conduct a sampling and analysis of select species of fish. Fish species to be monitored include the following salmonoids: brown, rainbow, brook, and/or cutthroat trout and mountain whitefish. Fish tissue analysis would be preformed to assess levels of certain metal species, including mercury, prior to mine operation, and every other year thereafter, unless the agencies determine that a more or less frequent program is warranted. d) SPGMR will be required to educate all employees on the identification of bald eagles, gray wolf, peregrine falcon, and grizzly bear. New employees that are hired at any time during the mine life will also receive prompt training on the identification of the above species. Observations of any of these species, made during daily work situations, will be forwarded to the Big Timber Ranger District. e) Bald eagles will be monitored by SPGMR to determine distribution trends in the East Boulder River drainage. The area to be monitored will include from one-half mile upstream from the East Boulder Mine site		

	downstream to the confluence of the East Boulder and Main Boulder River. Throughout the year, new observations of bald eagles will be documented and forwarded to the Big Timber Ranger District within 48 hours. In addition, the winter prior to initiating any ground disturbing activities, SPGMR must monitor bald eagle wintering populations and continue monitoring annually to determine their distribution in the above mentioned area. Methods for monitoring will follow the "Montana Mid-Winter Bald Eagle Survey" established by the National Wildlife Federation and the U.S. Fish and Wildlife Service. The Mid-Winter Survey is normally held between January 1 and January 15, with target dates of January 8 and 9. SPGMR will be required to select a day during this period in which to run the survey. These monitoring efforts will be coordinated with the Big Timber Ranger District and results submitted by January 21 of each year. f) Peregrine falcons will be monitored by SPGMR during April and May within the East Boulder project area where suitable nesting habitat (cliffs) exists. Monitoring will be conducted in conjunction with regularly scheduled flights of SPGMR. Monitoring of the original hack site and other potential nesting sites both in and out of the project area will be conducted by Forest Service personnel. Flight paths used by SPGMR will be located at least one mile away from the peregrine hack site. Because nest site disturbance could result, no special attempt will be made by a pilot to get close to any suspected nest site for positive identification. Any employee seeing a peregrine falcon anywhere in the area should report observation. All information should be submitted to the Big Timber Ranger District within 48 hours of a reported sighting. In addition to the above,		

	Forest Service personnel, trained in the recognition of peregrine falcons, will periodically monitor both in and outside the project area for establishment of new nesting sites and other peregrine activity. g) Grizzly bear observations made by SPGMR in the project area should be reported to the Big Timber Ranger District within 48 hours. This will enable District personnel to contact the Interagency Grizzly Bear Study Team in a timely manner. In addition, Forest Service personnel will periodically monitor both in and outside of the project area for the presence of grizzly bear. h) Grey wolf observations made by SPGMR employees in the project area should be reported to the Big Timber Ranger District within 48 hours. In addition, Forest Service personnel will periodically monitor both in and outside of the project area for the presence of the gray wolf. i) Any encounters with a threatened or endangered species that result in injury to a person, property, or to the animal must be reported to the Big Timber Ranger District as soon as possible.		
Amendment MR 08-001 1	Establish approved seedling at similar stocking density, to replace the saplings that are removed from the site, at final reclamation.	Ongoing	Soils/ Reclamation
Amendment MR 08-001 2	Limit the use of the Lewis Gulch road for access of equipment to this project. They should go through the existing laydown area below the topsoil piles.	Ongoing	Roads/Transportation
Amendment MR 08-001 3	Post appropriate warning signs on the Lewis Gulch road, if the public is in danger from traffic or debris rolling on to it.	Ongoing	Soils/ Reclamation
Amendment MR 08-001 4	Preserve the trees outside of the disturbed area boundary towards the Lewis Gulch road and East Boulder road to mitigate visual impacts of the project.	Ongoing	Visual

Amendment MR 06-001 & 002-001	07/25/2006 (MR06-001 & 002-001) : Segment 1 of the proposed tailings storage facility wildlife fence is defined as starting at the Gate located on the very north end of the stage 2 tailings facility and going southwest along the Lewis Gulch Road and finishing where the fence line leaves the Lewis Gulch Road and travels south through a plantation.	Completed	Wildlife
Amendment MR 06-001 & 002-002	07/25/2006 (MR06-001 & 002-002) : Segment 2 is defined at the area between where the fence line leaves the Lewis Gulch Road and travels south to the Gate adjacent to the concentrator facility.	Completed	Visuals
Amendment MR 06-001 & 002-003	07/25/2006 (MR06-001 & 002-003) All trees to be cut along the fence line corridor will be designated by authorized Forest Service personnel prior to cutting.	Completed	Visuals
Amendment MR 06-001 & 002-004	07/25/2006 (MR06-001 & 002-004) For the portion of segment 1, trees will be whole tree yarded to a landing designated by an authorized Forest Service official. At the designated landing all limbs will then be removed from the boles of the tree. Limbs will be piled separately from the boles of the trees. Boles will be stacked in a pile in the same direction	Completed	Visuals
Amendment MR 06-001 & 002-005	07/25/2006 (MR06-001 & 002-005): For the portion of segment 2, trees will be felled and limbed outside of the fence line corridor. Boles will be cut into lengths of no greater than 6 feet long. Where existing slash or created slash exceeds 2 feet in depth then material will be either hand piled or scattered to a depth no greater than 2 feet in height. If slash is piled then pile dimensions will be no greater than 6 feet tall and 10 feet wide. Piles will be located no closer than 10 feet from residual timber.	Completed	Visuals
Amendment MR 04-001	Brownlee Vent Raise construction weed and fire inspections for equipment, and route authorization.	Completed	Roads/Transportation

Amendment MR 00-003-001	The 6350 bench temporary explosives lay down area cut slope must be reclaimed as soon as it is completed. Soil must be salvaged from the entire 3.5 acres and must be placed on the cutslope as soon as it is completed. It must be covered with the total subsoil and topsoil depths as per the approved reclamation plan and seeded as soon as completed. Any timber slash cut in the salvage operations should be used to help control erosion on the steep slope.	Completed	Soils/Reclamation
Amendment MR 00-001	Reclaim Boe Ranch pipeline manholes per Forest Service and Sweetgrass County standards in FS Road 205 upon abandonment.	Ongoing	Roads/Transportation
Amendment 001	1. Land application of excess adit water through irrigation, snow making, or percolation ponds are restricted to water that does not contain nitrate unless the discharge is authorized through an approved MPDES permit. Land application of nitrate enriched water from incidental blasting associated with the tunnel-boring machine is allowed as long as the nitrate concentration in groundwater does not become elevated above background levels. 2. While pivot #1 is in use, spring SP-11 must be monitored on a monthly basis If changes in water quality are detected in the spring, use of pivot 1 must be discontinued unless the discharge is authorized through an approved MPDES permit.	1 & 2 Ongoing	Water Quality and Quantity

Boe Ranch LAD

Mitigation/Stipulation Source	Mitigation/Stipulation	Status	Resource

2012 WMP EIS and ROD	SMC must submit an updated water management plan, for agency review and approval, which incorporates additional lysimeters, soil moisture probes to be installed under each center pivot and down gradient of the snowmakers. SMC would use this ground water monitoring data to verify mine water application rates so that ground water would not exceed the nitrogen and salts action level.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD	SMC must conduct monthly monitoring of downgradient seeps and springs above the Mason Ditch during irrigation season until flow ceases. This information must be submitted to the agencies in the annual report.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD	SMC shall develop and submit to the agencies, a plan that incorporates expanded soils and vegetation sampling to assess fate and transport of nitrogen and salts. The plan must account for action limits related to total concentration of nitrogen and salts and identify any subsequent actions SMC would take should those levels be reached.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD	SMC shall monitor the flow rate of the East Boulder River during the irrigation season so that the LAD application rate could be adjusted as needed to prevent nitrogen exceedances in surface water.	Pending	Water Quality and Quantity
2012 WMP EIS and ROD	Slope stability during operations and closure, SMC shall conduct monthly monitoring of soils susceptible to slumping or mass wasting around center pivots.	Pending	Irrigation Practices
2012 WMP EIS and ROD	During operations, SMC must expand Boe Ranch climatic/weather monitoring. This information is essential to appropriate LAD applications. All monitoring equipment must be protected from grazing cattle	Pending	Water Quality and Quantity