

**Record of Decision**  
**ROCK CREEK PROJECT**



*Visual Simulation of Tailings Paste Facility*



**Prepared By**

**U.S. Forest Service**  
**Kootenai National Forest**

**June 2003**



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Kootenai National Forest  
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June 27, 2003

2003 Record of Decision for the Rock Creek Project

Dear Reader:

This document is the Kootenai National Forest's (KNF) new 2003 Record of Decision (ROD) for the 2001 Final Environmental Impact Statement (FEIS) on Sterling Mining Company's Plan of Operations for the Rock Creek Project and the associated evaluation adit.

A joint ROD was issued by the KNF and the Montana Department of Environmental Quality (DEQ) in December 2001. However, as a result of the withdrawal of the United States Department of the Interior Fish and Wildlife Service's (FWS) Biological Opinion (BO) on the Rock Creek Project, the Kootenai subsequently withdrew their 2001 ROD because the Kootenai no longer had the documentation required by the Endangered Species Act (ESA) to make a decision. However, because DEQ's decision was and is independent of the FWS's BO, their 2001 decision remains in effect.

On May 9, 2003, the FWS issued a new BO; therefore, allowing the KNF to review applicable information to render a new ROD for the Rock Creek Project. This ROD of June 2003 summarizes my decision, rationale for the decision, and alternatives considered in reaching the decision. Additionally, this ROD documents the KNF's and DEQ's requirements that must be met by the project proponent (Sterling Mining Company) in order for mining permits and approvals to be granted at a future date.

My decision to select Alternative V, as modified in my decision, approves Sterling's Plan of Operation. My decision will result in ground disturbing activities encompassing approximately 140 acres of National Forest System (NFS) lands. Ground disturbing activities include road reconstruction/construction, mill, evaluation adit, and tailings facility construction, and if needed, ventilation adit construction.

This decision is the culmination of sixteen years of analysis, agency, Tribal and public participation. To date, approximately 6300 individuals, groups, organizations, Tribal entities, and agencies have provided comments and suggested resolution of project related concerns and issues. This input has allowed the KNF to develop a sound alternative for this proposal that allows the project to proceed, as required by law, while protecting the environment and addressing a majority of the public's concerns and issues.

We wish to thank the participating agencies, Tribal Governments, and the public for their comments, input and reviews. If you have any questions, please contact the project coordinator, John McKay, Kootenai National Forest Supervisors Office at (406) 293-6211.

Sincerely,

Bob Castaneda  
Forest Supervisor  
Kootenai National Forest

**Table Of Contents**

I	Introduction .....	1
II	Project Background .....	2
III	KNF Decision Summary .....	3
IV	Scope Of Project .....	9
V	Purpose And Need Of The Decision .....	9
VI	Public, Agency And American Indian Participation .....	11
VII	Issues Considered And Addressed .....	18
A	Issues Considered In FEIS .....	18
	Issue 1: Effects On Quantity And Quality Of Montana And Idaho Surface And Ground Water Resources .....	18
	Issue 2: Effects on fish and wildlife and their habitats and current and proposed threatened and endangered species .....	19
	Issue 3: Stability Of The Tailings Impoundment/Paste Facility .....	20
	Issue 4: Impacts To Socioeconomics Of Surrounding Communities .....	20
	Issue 5: Effects On Old Growth Ecosystems .....	20
	Issue 6: Effects On Wetlands And Non-Wetland Waters Of The U.S. ....	20
	Issue 7: Effects On Public Access And Traffic Safety .....	22
	Issue 8: Effects On Aesthetic Quality, Including Noise, Scenic, And Wilderness Experiences .....	22
B	Changes In FEIS Relative To Issues .....	23
C	Changes Suggested By EPA, Other Agencies, And The Public, And Agencies' Response After Completion of FEIS .....	24
D	Incorporation Of The Biological Opinion Dated May 9, 2003 .....	28
E	Comments And Reviews After KNF's Withdrawal of the 2001 ROD .....	42
VIII	Alternative Development .....	47
A	Alternatives Considered In Detail .....	47
	Alternative I: No Action Alternative .....	48
	Alternative II: Proposed Action .....	58
	Alternative III: The Proposed Project With Modifications and Mitigation .....	58
	Alternative IV: Modified Rock Creek Project With Mitigation .....	59
	Alternative V: Rock Creek Project With Tailings Paste Deposition and Alternate Water Treatment .....	60
B	Alternatives Eliminated From Detailed Consideration .....	61
C	Environmentally Preferred Alternatives .....	62
IX	DEQ Decisions .....	62
X	KNF's Decisions And Rationale For The Decision .....	64
A	KNF Decision and Rationale .....	65
	Decision .....	65
	Rationale.....	66
	a. Does the project comply with federal and state laws and/or regulation and policy mandates? .....	66
	b. Does the project meet the objectives of the Forest Service's Minerals Program Policy of 1995? .....	76
	c. Does the project meet the direction in the Kootenai National Forest LRMP? .....	77
	d. How well does the project address the public's concerns and/or expectations? .....	79
B	Alternatives Not Selected And The Decision Maker's Rationale .....	80
	Alternative I: No Action Alternative .....	80
	Alternative II: Proposed Action .....	81
	Alternative III: The Proposed Project With Modifications and Mitigation .....	82
	Alternative IV: Modified Rock Creek Project With Mitigation .....	83

C	Bonding .....	85
D	Summary of Decision Rationale .....	87
XI	Implementation .....	87
XII	Appeal Provisions .....	88
A	Appeals Of The USFS Decisions .....	88
B	Contact Person .....	89

**List Of Tables**

1	Public Meetings, Notices, Announcements On The Proposed Rock Creek Project .....	12
2	Tribal Involvement Summary .....	14
3	Agency Alternatives Versus Issues .....	49
4	Rock Creek Project Action Alternative Comparison .....	50
5	Rock Creek Project Reclamation Comparison .....	54

**List Of Figures**

1	Location Map .....	5
2	Alternative V Project Area Map .....	6

**Attachments**

- 1 Table Of Approved Stipulations
- 2 Revised Appendix K: Agencies' Revised Conceptual Monitoring Plans
- 3 Monitoring Report Requirements
- 4 Clarification Terrestrial Threatened And Endangered Species Mitigation Plan
- 5 Reclamation Bonding Calculations Forms
- 6 Rock Creek Project Final Environmental Impact Statement Errata
- 7 Rock Creek Project Road Closure Segments

## LIST OF ACRONYMS AND ABBREVIATION

ac	acre		
AG	acid generating	IDEQ	Idaho Department of Environmental Quality
AIFRA	American Indian Religious Freedom Act	IDT	Interdisciplinary Team
ANILCA	Alaska National Interest Lands and Conservation Act	INFS	Inland Native Fish Strategy
ARD	acid rock drainage	KNF	Kootenai National Forest
ARM	Administrative Rules of Montana	kV	kilovolt
ASARCO	ASARCO Incorporated	LRMP	Land and Resource Management Plan (Forest Plan)
BA	Biological Assessment	MA	management area
BLM	US Bureau of Land Management	MCA	Montana Codes Annotated
BMP	best management practices	MEPA	Montana Environmental Policy Act
BO	Biological Opinion	mi	mile
CFR	Code of Federal Regulations	ML	metal leaching
CMW	Cabinet Mountain Wilderness	MMRA	Montana Metal Mine Reclamation Act
COE	US Army Corps of Engineers	MPDES	Montana Pollution Discharge Elimination System
cy	cubic yards	NAG	non-acid generating
dBA	decibels, A scale	NEPA	National Environmental Policy Act
DEQ	Montana Department of Environmental Quality	NFS	National Forest System
DPS	distinct population segment	non- ML	non-metal leaching
DSL	Montana Department of State Lands	PAG	potentially acid generating
E. O.	Presidential executive order	ROD	Record of Decision
EIS	environmental impact statement	ROW	right-of-way
EPA	Environmental Protection Agency	RPA	reasonable and prudent alternative
<i>et seq.</i>	and the following	RPM	reasonable and prudent measures
FDR	Forest Development Road	Sterling	Sterling Mining Company
FWS	United States Fish and Wildlife Service	TMDL	total daily maximum load
HB	House Bill	USC	United States Code
hwy	highway	USFS	United States Forest Service

**RECORD OF DECISION**  
**ROCK CREEK PROJECT**

**I. INTRODUCTION**

This document is the Kootenai National Forest's (KNF) 2003 Record of Decision (ROD) for the Final Environmental Impact Statement (FEIS) on Sterling Mining Company's Plan of Operations for the Rock Creek Project and the associated evaluation addit. A joint ROD issued by the Kootenai National Forest and the Montana Department of Environmental Quality (DEQ) has previously been issued (Record of Decisions, Rock Creek Project, Montana Department of Environmental Quality and the U.S. Forest Service Kootenai National Forest, December 2001; hereinafter referenced as the 2001 ROD). However, as a result of the withdrawal of the United States Department of the Interior Fish and Wildlife Service's (FWS) Biological Opinion (BO) on the Rock Creek project, the Kootenai subsequently withdrew their decision for the project because the Kootenai no longer had the documentation required by the Endangered Species Act (ESA) to make a decision.

A new BO was issued by FWS on May 9, 2003; therefore, allowing the KNF to review applicable information to render a new ROD for the proposed plan. The 2001 ROD issued by DEQ and the KNF remains in effect for DEQ. Specifically, DEQ's decision was and is independent of the FWS's biological opinion and therefore was not withdrawn.

This ROD of June 2003 states my decision and rationale for the decision, and all alternatives considered in reaching the decision. It also includes a discussion of preferences among alternatives based on relevant factors, and how those factors were balanced by the agencies in reaching the decision. This ROD also documents KNF's requirements and DEQ's requirements (as listed in the 2001 ROD) that must be met by the project proponent (Sterling Mining Company) in order for mining permits to be issued by DEQ and approvals to proceed by KNF, to be granted at a future date.

In the early stages of the planning process, the KNF and DEQ determined that the project might significantly affect the quality of the human environment. As a result, these two agencies, as state and federal lead agencies, along with the U. S. Army Corps of Engineers (COE) as a cooperating agency, prepared an EIS pursuant to the National Environmental Policy Act of 1969 (NEPA) and the Montana Environmental Policy Act of 1971 (MEPA). A draft EIS was released in October 1995 and a supplemental draft EIS was released in January 1998. The supplemental EIS included a new alternative (Alternative V), additional baseline data for wildlife and threatened and endangered species, a revised Biological Assessment (BA) that included bull trout, a revised draft Montana Pollutant Discharge Elimination System (MPDES) permit, and a revised 404 showing. The FEIS was released on September 14, 2001 and the Notice of Availability (NOI) for the FEIS was published in the Federal Register on September 21, 2001.

The FEIS merges information and analyses from the draft EIS and the supplemental EIS. The FEIS includes responses to comments on the draft and supplemental EISs and incorporates changes based on those responses. The FEIS describes the proposed action and a number of alternatives to the proposed action. All action alternatives meet the purpose and need for the project. The purpose is to construct, operate, and reclaim all facilities necessary to mine, remove, and transport economically mineable minerals from the Rock Creek deposit. These metals are used for a variety of purposes, ranging from industrial and medical purposes to personal items such as jewelry. It also describes the potentially affected environment and discloses the potential environmental consequences of implementing the proposed action or alternatives to the proposed action. The FEIS is on file and available at the KNF Supervisor's offices in Libby, Montana, the Cabinet Ranger District office in Trout Creek, Montana, and

## Kootenai National Forest Rock Creek Record Of Decision

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DEQ and COE offices in Helena, Montana, as well as numerous local libraries in the vicinity of the proposed project. The FEIS is located on the following web-sites: DEQ web page at <http://www.deq.state.mt.us/eis.htm>. KNF web-site: <http://www.fs.fed.us/r1/kootenai>.

The FEIS was prepared pursuant to the rules and regulations of the NEPA (40 CFR 1500-1508) and MEPA (ARM 17.4.601 through 17.4.725), the National Forest Management Act (36 CFR 219), Forest Service locatable mineral regulations (36 CFR 228, Subpart A), the 1897 Organic Administration Act (30 Stat. 11), the 1970 Mining and Mineral Policy Act (P.L. 91-631), the Montana Metal Mine Reclamation Act, (82-4-301 *et seq.*, MCA), the Montana Water Quality Act (75-5-101 *et seq.*, MCA), the Montana Clean Air Act (75-2-101 *et seq.*, MCA), and other applicable state and federal statutes.

My decision is made pursuant to the rules and regulations of 36 CFR 228 Subpart A and meets the requirements of the above mentioned state and federal laws as well as address the requirements of the 1872 Mining Law, (17 Stat. 91, the 1980 Alaska National Interest Lands and Conservation Act (94 Stat. 2457), the Wilderness Act of 1964, and the 1955 Multiple Use Mining Act (69 Stat. 368, as amended).

DEQ decisions (2001 ROD) were made pursuant to the rules and regulations of the Montana Metal Mine Reclamation Act (82-4-301 *et seq.*, MCA) for the exploration license and hard rock permit applications, the Montana Water Quality Act (75-5-101 *et seq.*, MCA) regarding the MPDES permit application, and the Montana Clean Air Act (75-2-101 *et seq.*, MCA) for the air quality permit application. More detailed information on DEQ's decision rational and compliance with these and other State related regulations can be found in the 2001 ROD.

The proposed action will affect both privately owned and National Forest System (NFS) lands within the Rock Creek drainage. Sterling owns 99 patented lode mining claims (1,686 acres within the Cabinet Mountain Wilderness (CMW) and 123 acres outside but adjacent to the CMW (Figure 2 page 6). Sterling has a patent only to the mineral estate within the CMW with the federal government retaining the surface estate. For the 123 acres of patented land outside the wilderness, Sterling owns the entire surface and mineral estate. Sterling also controls 189 unpatented lode mining claims and/or mill sites as of June 2001 and owns 754 acres of private land within the proposed project area. Unpatented mining claims are lands where title still rests in the United States, but the claimants may hold a real property interest. Forest Service decision authorities apply only to NFS lands and do not extend to private lands within or adjacent to the National Forest. The DEQ's authority applies to state, federal, and private lands inclusively.

## II. PROJECT BACKGROUND

On May 6, 1987, ASARCO Incorporated (ASARCO), the original applicant, submitted to DEQ, formerly Montana Department of State Lands (DSL)<sup>2</sup>, a Plan of Operations pursuant to a Hard Rock Operating Permit. The KNF received the same Plan of Operations and a request for approval for that plan on May 8, 1987. This multi-volume document was intended to meet the requirements of 36 CFR 228.4 for the USFS and 82-4-337(1)(d)(iii) and 75-1-201(1)(b), MCA, for DEQ. The permit application contains environmental baseline information and operation and reclamation plans. Descriptions of proposed mining and milling methods, engineering designs, surface facilities, waste disposal practices, erosion and pollution control systems, reclamation methods, and environmental monitoring procedures are included. The application was initially deemed complete by KNF and DSL on November 17, 1989. In July 1992,

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<sup>2</sup>The Reclamation Division of the Department of State Lands was merged with portions of the Department of Natural Resources and Conservation and portions of the Department of Health and Environmental Services on July 1, 1995, to create the Department of Environmental Quality (DEQ).

## Kootenai National Forest Rock Creek Record Of Decision

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ASARCO submitted an application to KNF and DSL for the development of an evaluation adit<sup>3</sup> for sampling the orebody and for exhaust ventilation during mining. DEQ determined the exploration license application to be complete on July 26, 1993. KNF determined the Plan of Operations for the evaluation adit to be a connected action and therefore included it in the Plan of Operations for the mine. DEQ determined that the Plan of Operations for the evaluation adit is a connected action for analysis purposes and made separate decisions for the exploration adit and the mine permit applications (2001 ROD).

Sterling Mining Company acquired ASARCO's Rock Creek property and unpatented mining claims on October 14, 1999. The hard rock permit application/plan of operations and the exploration application for the evaluation adit as well as the MPDES and air quality permit applications, and the application to the COE for a 404(b)(1) permit and KNF proposed Plan of Operations were then transferred to Sterling.

Sterling proposes to construct, operate, and reclaim all facilities including the evaluation adit, necessary to mine, remove, and transport economically mineable minerals from the Rock Creek deposit. The Rock Creek Mine will consist of an underground copper/silver mine and mill/concentrator complex in northwestern Montana with a mine life of approximately 30 to 37 years. The project is in Sanders County, Montana (Figure 1 page 5) and will encompass 1,560 acres of which 749 acres are private and 811 acres are National Forest lands. The combined potential area of disturbance will be 482 acres of which 140 acres will be on National Forest lands. The proposal and agency alternatives to the proposal include land within Sections 25 and 35 of T27N and R32W (the evaluation adit), and Sections 3, 10, 15, 21, 22, 27, 28, 32, and 33 T26N and R32W. The associated rail loadout facility has been analyzed to occur in Section 19 or 29, T26N and R32W. The Rock Creek ore deposit is located beneath and adjacent to the CMW in the Kaniksu National Forest. The mill and other facilities would also be primarily located within the Kaniksu National Forest in Sanders County. The Kootenai National Forest (KNF) administers the Kaniksu National Forest (within Montana).

In December 2000, the KNF received a final BO from the FWS stating the proposal could jeopardize grizzly bear, and adversely affect bull trout, which are listed under the Endangered Species Act. The FWS stipulated reasonable and prudent measures to minimize project effect and avoid jeopardizing the grizzly bear. The KNF and DEQ incorporated FWS's findings and requirements into the FEIS. The FEIS was issued in September 2001.

Various interest groups filed an appeal of the KNF's ROD. A suit was also filed against the FWS over the adequacy of the 2000 BO. FWS withdrew its BO in March 2002 to settle the litigation. Since the KNF's ROD was predicated on having a viable BO, the KNF's portion of the 2001 ROD was also withdrawn. The Montana DEQ's decisions in the 2001-ROD was unaffected the KNF's withdrawn ROD and the status of the BO. DEQ's approval and issuance of State permits remain current and are as described in its portion of the 2001-ROD document.

For the purposes of this ROD the term agencies refers to KNF and DEQ unless otherwise stated.

### III. KNF DECISION SUMMARY

I the Kootenai National Forest Supervisor have decided to approve Sterling's Plan of Operations consistent with Alternative V of the FEIS, and as modified by this ROD. My decision is based on the review of the FEIS, project file information, review of public concerns received on this project and on

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<sup>3</sup>The purpose of the evaluation adit is to evaluate the ore zones and structures, to obtain rock mechanics data, and to obtain a bulk ore sample for additional metallurgical testing.

## Kootenai National Forest Rock Creek Record Of Decision

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how well the selected alternative meets the stated purpose and need, protects resources and addresses the public's concerns and is consistent with applicable State and Federal laws, plans and policies.

Alternative V, as modified by this ROD, is the most environmentally preferred action alternative. It incorporates into the Plan of Operations modifications, mitigation, and monitoring plans that will avoid, reduce, minimize, or mitigate adverse environmental impacts, including those that are either significant or potentially significant, to a greater extent than any of the other action alternatives. Please see Attachment 1 to this ROD, which specifies the modifications or mitigation that can be required by each agency hereby required as part of this ROD.

Alternative V (see Figure 2 page 6) is fully described in Chapter 2 of the FEIS. This alternative is a modified version of the proposed plan of operations (Alternative II) and includes portions of Alternatives III and IV as described in the draft and supplemental EISs, and includes additional alternative specific agency-developed mitigation and monitoring plans. Additionally, I am incorporating changes, adding more detail to some mitigation or adding some new mitigation developed through consultation with other agencies and public comment since the FEIS was released.

The approved Plan of Operations consistent with Alternative V will be implemented in two phases. The first phase is the evaluation adit construction, development, and data collection. The second phase will be mine construction, operation and reclamation. The ROD approves a Plan of Operations consistent with Alternative V presented in Chapter 2 of the FEIS and as modified by the ROD of each agency.

Figure 1: Location Map

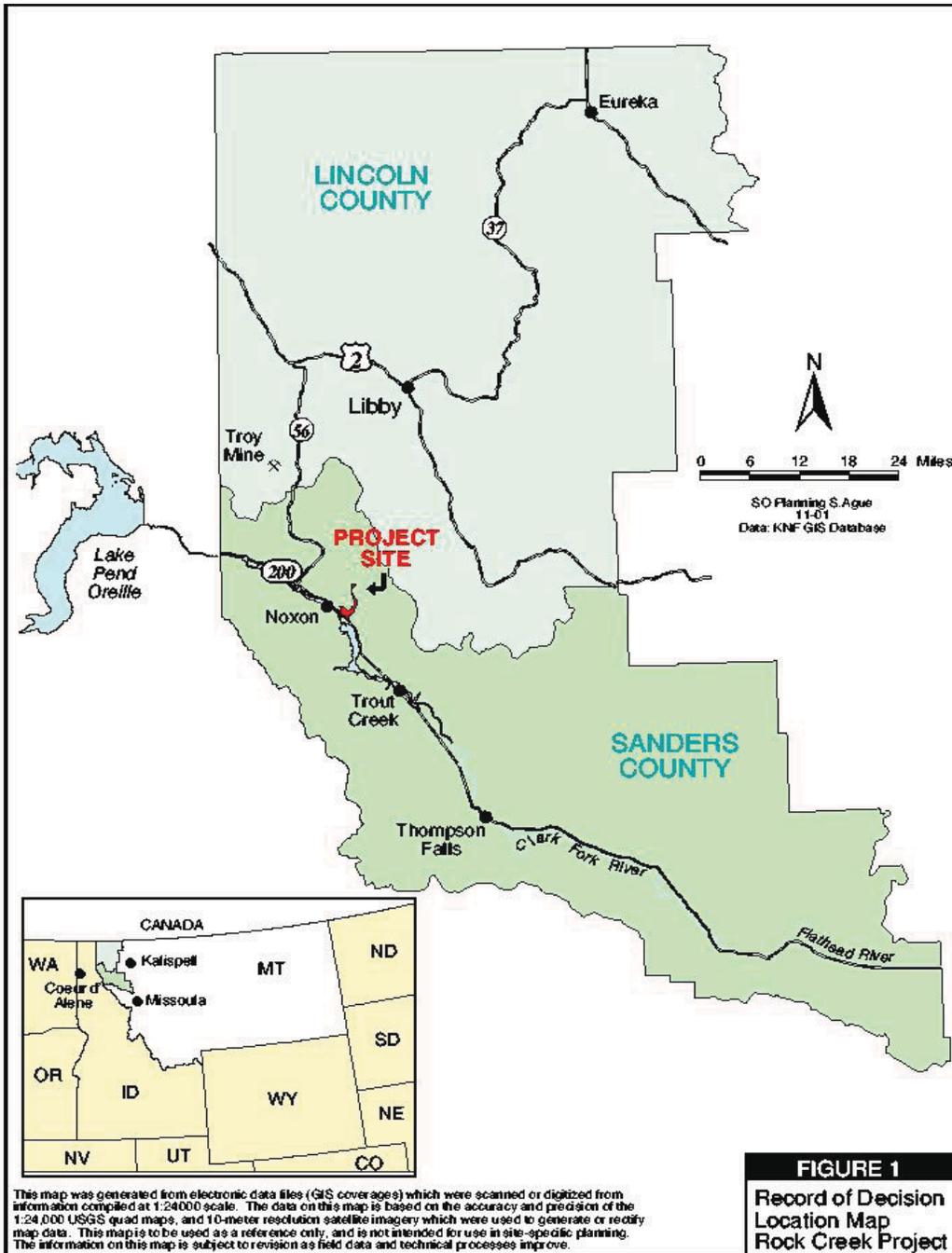
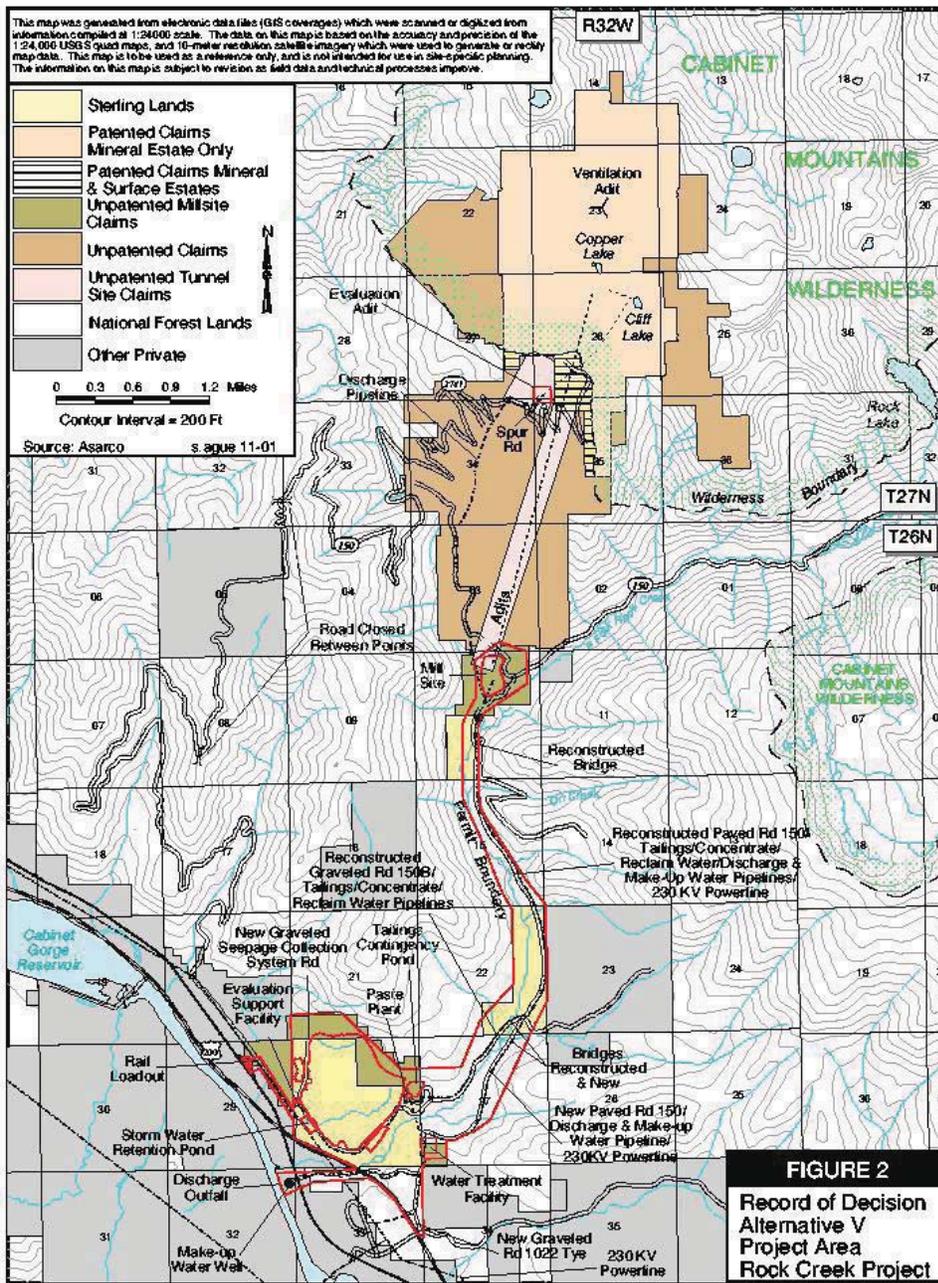


Figure 2: Alternative V Project Area Map



Under the first phase, as defined by the Plan of Operations, Sterling will construct an evaluation adit above the West Fork of Rock Creek off of FDR No. 2741 near the CMW to better understand the orebody and to gather additional data on ground water quality and flow, geochemical data, and rock mechanics data (Figure 2). Support facilities will be constructed in the vicinity of the proposed tailings paste facility to locate it away from Rock Creek. These facilities will include a temporary wastewater treatment facility to handle water from the evaluation adit prior to discharge to the Clark Fork River.

The following items need to be submitted by the company and approved by the agencies prior to the implementation of the first phase of the project (evaluation adit).

- Modify and/or update the Plan of Operations/exploration license application for the evaluation adit consistent with Alternative V and as modified in this ROD;
- Modify and/or update the reclamation portion of the Plan of Operations for the evaluation adit consistent with Alternative V and as modified in this ROD;
- Modify and/or update the monitoring portion of the Plan of Operations for the evaluation adit as outlined in the revised Appendix K in Attachment 2 of this ROD, consistent with Alternative V as described in the FEIS, and as modified in this ROD; and
- Submit the reclamation performance bond for the evaluation adit.

In addition, Sterling must implement the following items related to the evaluation adit prior to the KNF authorizing them to proceed:

- The reasonable and prudent measures, terms, conditions and conservation measures and mitigation relative to the evaluation adit as required by the Biological Opinion (2003), the mitigation and modifications as outlined in Alternative V of the FEIS, and this ROD.

The second phase, as defined by the Plan of Operations and in Sterling's Application for Hard Rock Operating Permit, as modified by Alternative V and this ROD, will result in the construction and operation of an underground copper/silver mine and a flotation mill. At the end of the second phase the project will have surface disturbance on a total of 482 acres of which 140 will be on National Forest lands. Less than 2 percent of the permit area where the railroad loadout facility and part of the pipeline to the Clark Fork River will be located is privately owned by entities other than Sterling. The second phase includes relocation of the lower portion of Forest Development Road No. 150, (FDR No. 150); the installation of double walled pipelines with leak detection sensors for the tailings slurry concentrate, and water lines, and construction of a 230 kV power line, a tailings paste plant and storage facility, a wastewater treatment facility and an enclosed rail loadout facility (FEIS, pages 2-100, 2-118 through 2-133).

At the end of operations all remaining surface area disturbances and facilities will be reclaimed. Water treatment of mine water and tailings seepage will continue as long as necessary until each water source meets appropriate water quality standards or limits without treatment. Bonding will cover water treatment in perpetuity. The mine adits will either be plugged and sealed once the mine water meets ground water or surface water standards and allowed to fill up the mine workings or sealed primarily against unauthorized access and allowed to drain or be pumped down to the river in perpetuity. In the second case, the drainage will be either pumped from within the mine or captured near its source and treated, if necessary, and discharged to the Clark Fork River in perpetuity. The final decision on closure plans will depend upon what the hydrogeologic and hydrologic data indicates is most appropriate and the most appropriate technologies available for mine closure issues indicated by the data analysis. Sterling will have to provide detailed closure plans for the first closure option and preliminary plans for the second as well as reclamation plans for all wastewater treatment structures.

I have concluded that there is more than enough information in the project record to support approving this entire project (both the first and second phases) as outlined in this ROD. I fully expect, based on the analyses referenced in the FEIS, that additional information generated in the future from the evaluation adit will further support the FEIS analysis of effects. However, I realize there will be more information generated from the first phase activities. I want to minimize and manage the potential risk from this project as much as possible. Therefore, Sterling cannot implement the second phase of the project (facility construction, mine development, and mine operation) until the agencies review and confirm that the following items have been submitted and are acceptable. The agencies will then inform Sterling in writing that operations may proceed.

- A modified and/or updated Plan of Operations/hard rock permit application for the mine consistent with Alternative V and as modified in this ROD;
- Modified and/or updated reclamation portion of the Plan of Operations for the mine consistent with Alternative V and as modified in this ROD;
- Modified and/or updated monitoring portion of the Plan of Operations for the mine as outlined in the revised Appendix K in Attachment 2 of this ROD, consistent with Alternative V as described in the FEIS, and as modified in this ROD;
- Submittal of the reclamation performance bond for mine construction and mine development;
- The agencies have conducted a technical panel review of pertinent data as outlined in the FEIS and ROD and Sterling has completed any additional studies the agencies deem necessary. This could include review and analysis of applicable evaluation adit data to determine if that information is consistent with the conclusions reached in the FEIS in regards to ground water flow and quality, geochemistry, and rock mechanics.
- Final facility design plans and mitigation to be implemented during mine construction if not submitted earlier.

In addition, Sterling must implement the following items related to the mine development and construction prior to the KNF authorizing Sterling to proceed:

- The reasonable and prudent measures, terms, conditions, conservation measures and mitigation relative to the construction and development phases of the project as established by the Biological Opinion (2003), the mitigation and modifications as outlined in Alternative V of the FEIS, and this ROD.

The agencies have determined the information collected to date is adequate and do not expect any new circumstances or different results from future monitoring data. If the agencies' review of the evaluation adit information leads them to determine there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, the agencies will conduct an appropriate level of supplemental analysis before Sterling will be allowed to proceed with constructing the mine, mill, and all other associated facilities.

One or more technical panels will review all final designs, and monitoring and mitigation plans, and data collected during evaluation adit construction. These panels will advise the agency decision makers and will consist of agency staff and other interested local, state (including Idaho), and federal (including EPA) agencies, and tribal governments. It is the responsibility of the two lead agencies (KNF and DEQ) to form the panels and administer its products. This does not obligate these outside agencies and governments to participate but ensures that they have the opportunity to provide input. All final designs and monitoring and sampling methods will use the most appropriate technologies (not necessarily the latest state-of-the-

art procedures) for development and implementation. Final approval on the advice of the panels will reside with the deciding officials of KNF and DEQ.

#### IV. SCOPE OF PROJECT

Sterling proposes to construct, operate, and reclaim all facilities necessary to mine, remove, and transport economically "mineable" minerals from the Rock Creek deposit. The Rock Creek Project consists of developing a proposed underground copper/silver mine and mill/concentrator complex in northwestern Montana with a mine life of approximately 31 to 37 years. The project has been proposed and will be operated by Sterling in Sanders County, Montana (Figure 2 page 6). The Rock Creek ore deposit is located beneath and adjacent to the Cabinet Mountains Wilderness (CMW) in the Kaniksu National Forest (FEIS, pages 3-16 ~19). The Kaniksu National Forest (within Montana) is administered by the Kootenai National Forest (KNF). The mill and other facilities would also be located within the Kaniksu National Forest in Sanders County. Access to the proposed project site would be via Montana Highway 200, then approximately 6 miles north on Rock Creek Road (Forest Development Road No. 150).

The project, as proposed by Sterling, is to be conducted in two phases: (1) the construction and development of the evaluation adit and (2) the development of the mine and construction of the mill facilities (FEIS, page 2-17). The evaluation adit would be driven for sampling the orebody and for air ventilation during mining. The mineralized zone under the CMW would be accessed through twin adits driven from outside the wilderness area. A fourth adit may be constructed for ventilation intake with a portal in the CMW if needed (FEIS, page 2-101). The underground mining operation would use a room-and-pillar mining method where pillars of ore are left in place to support the rock above the room (see Chapter 2 of the FEIS, Mine Plan). The milling process would use a conventional froth flotation process, producing a copper/silver-based concentrate that would be shipped to a smelter by rail. The ground rock material left after the copper and silver minerals are extracted is called "tailings;" tailings would be deposited in a tailings impoundment behind an embankment.

#### V. PURPOSE AND NEED OF THE DECISION

The purpose of my decision is to act on Sterling's request for approval to operate a mine, mill and auxiliary facilities on National Forest Lands (FEIS, pages 2-17 through 2-66). Sterling's request for approval of its proposed plan of operation is based on the following laws and actions and Forest Plan direction:

*The 1872 Mining Law* gives U.S. citizens the right to explore, locate mining claims, make discoveries, patent claims, and develop mines on National Forests open to mineral entry.

*The 1897 Organic Act* authorized the Forest Service to regulate mineral operations on National Forests and to develop mineral regulations at 36 CFR 228 Subpart A.

*The 1955 Multiple Use Mining Act* affirmed that unpatented mining claims may be used for prospecting, mining or processing, and uses reasonably incident thereto.

*The 1964 Wilderness Act* allowed mineral exploration and development under the 1872 Law to occur in wilderness to the same extent as prior to the 1964 Act until December 31, 1983, when the 1964 Act withdrew the CMW from mineral entry, subject to valid existing rights. This withdrawal meant the Forest Service had to confirm that valid rights existed before approving

## Kootenai National Forest Rock Creek Record Of Decision

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activities after 1983. To establish valid rights, claimants must show a discovery of a valuable mineral deposit existed on each claim before the withdrawal date, and they must maintain that discovery. In 1985, the Forest Service concluded that ASARCO had established valid existing rights to the Rock Creek deposit.

*The 1980 Alaska National Interest Lands Conservation Act (ANILCA)* directed the Forest Service to provide access to non-federally owned land (which includes patented claims and private mineral estate) within the boundaries of National Forest System lands to provide landowners reasonable use and enjoyment of their property.

*1987 Kootenai Forest Plan* management direction is to encourage responsible development of mineral resources in a manner that recognizes National and local needs and provides for economically and environmentally sound exploration, extraction, and reclamation (Forest Plan, page II-2, No. 11). The objective of the Forest Plan for mining activities is to encourage under the appropriate laws and regulations and according to the direction established by the plan (Forest Plan, page II-8, Locatables).

Forest Service authorities and decisions apply only to NFS lands and do not extend to private lands within or adjacent to the National Forest. The DEQ's authority applies to state, federal, and private lands inclusively.

On January 1, 1984, the CMW was withdrawn from mineral entry under provisions of the Wilderness Act, subject to valid existing rights. The Wilderness Act requires the Forest Service to ensure that valid rights exist prior to approving mineral activities inside a congressionally designated wilderness area. To establish valid existing rights, mining claimants must show they have made a discovery of a valuable mineral deposit on the claim(s) prior to the withdrawal date, and have maintained that discovery. In 1985, the KNF determined that ASARCO had established valid existing rights to the deposit. In 1989, the Bureau of Land Management (BLM) responded to ASARCO's patent application by issuing patents to 99 lode mining claims (1,686 acres within the CMW and 123 acres outside but adjacent to the CMW). ASARCO received a patent only to the minerals within the wilderness with the federal government retaining the surface rights. For those claims outside the wilderness, ASARCO received fee title (surface and mineral rights) (Sterling Mining Co. 2000). These patented mining claims contain the ore reserves Sterling has proposed to mine.

Sterling also controls 189 unpatented lode mining and mill site claims and/or tunnel site claims and owns 754 acres of fee land within the proposed project area (FEIS, page 2-20). Unpatented mining claims are lands where primary title still rests in the United States, but the claimants may hold a real property interest that could entitle them to such things as: to sell or transfer by deed or use of surface resources.

A majority of the proposed Rock Creek Project facilities and most of the ore deposit are on or under lands administered by KNF. The Organic Administration Act authorizes the Secretary of Agriculture to regulate occupancy and use of NFS lands for the protection and management of forest resources. Regulations for mining and reclamation activities on NFS lands are contained in 36 CFR Part 228, Subpart A (36 CFR 228A). These regulations require submittal and approval of a proposed plan of operations for mining related activities that could result in significant disturbance to surface resources. Forest Service Part 228, Subpart A, regulations apply to operations conducted under the U.S. mining laws as they affect surface resources on National Forest System lands under the jurisdiction of the Secretary of Agriculture. Operations are defined as all functions, work, and activities in conjunction with prospecting, exploration, development, mining or processing of mineral resources and all uses reasonably incident thereto, including roads and other means of access on lands subject to the regulations in this part,

regardless of whether said operations take place on or off mining claims [36 CFR 228.3(a)]. Regulations for special uses on NFS lands are contained in 36 CFR 251.

The need for my decision is to act on Sterling's legal right to develop the Rock Creek Mine. Sterling has determined that the Rock Creek deposit is a valuable mineral deposit containing copper and silver. The 1872 Mining Law gives Sterling the right to mine this deposit and remove the copper and silver subject to regulatory laws. Sterling's purpose is to make a profit from the mining and milling of copper and silver from the Rock Creek deposit. These metals are used for a variety of purposes, ranging from industrial and medical purposes to personal items, such as jewelry. This need meets the Forest Service's Minerals Program Policy as expressed in the Mining and Minerals Policy Act of 1970:

“foster and encourage private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security, and environmental needs.”

## **VI. PUBLIC, AGENCY AND AMERICAN INDIAN PARTICIPATION**

Public participation has and continues to play an important role in making decisions regarding this project. There were four stages of public participation that led to this Record of Decision. The first stage was the initial scoping that was conducted to identify issues and develop key mitigation and monitoring measures. The second stage consisted of receiving and responding to public comment received during the official public comment period on the draft and supplemental EISs. The third stage consisted of reviewing comments and input received from the public, other agencies and tribal representatives. The fourth stage was a period for review of public, agency and tribal input after release of the FEIS.

Opportunity for public involvement began when scoping was initiated on Sterling's proposal. A second scoping period was held for the evaluation adit when it was incorporated into the project. Additional scoping was conducted for road closure issues in the alternative development.

Table 1 (page 12) lists the public meetings, notices, and news releases that invited comment or provided information updates on the EIS process. Meetings and hearings were held to provide information and receive comment on the draft EIS, supplemental EIS, and the draft MPDES permit. Notification of comment periods, open houses, hearings, and meetings were published or broadcast in numerous papers and television/radio stations between Missoula, Spokane, and Kalispell. Notices of Availability and copies of the draft and supplement were mailed to interested individuals and organizations. Notices of Availability were published in the Federal Register. The FEIS, pages 1-24-26, 2-1 through 2-4 and Volume III and IV, Response to Public Comments provides additional information concerning public, tribal and agency involvement.

In addition to holding public meetings, the agencies hosted field trips for the interdisciplinary team (IDT) and meetings to discuss and resolve issues and concerns for alternative development and FEIS completion. These meetings, which were open to the public included American Indian representatives, environmental groups and agencies with oversight responsibilities. Individual meetings for information exchange were held with each American Indian tribe that had traditional land use or Treaty Rights that could be impacted as a result of implementing the project. Table 2 lists the KNF's meetings with American Indian representatives.

Approximately 6,300 commentors responded to the draft EIS and/or draft MPDES permit and to the supplemental EIS. The public's comments and the agencies' responses were grouped into 16 similar

## Kootenai National Forest Rock Creek Record Of Decision

categories: geology, soils and reclamation, hydrology, biodiversity (vegetation, wildlife, noxious weeds), threatened and endangered species, aquatics/fisheries, Forest Plan, NEPA/MEPA, transportation, recreation, scenic resources, cultural resources (including American Indian rights), air quality/climate, sound, socioeconomic, and miscellaneous topics. The responses to these 16 categories of comments are included in Volumes III and IV of the FEIS.

Public participation does not end with the permitting of this mine. The public has the right to review permit files and monitoring reports at any time. If a person or organization believes there is an unreported violation or potential for environmental harm, that person has the right to file a complaint with the agencies and expect it to be investigated.

The following table provides a summary of public meetings, notices and announcements. Additional information is documented in the project record.

**Table 1. Public Meetings, Notices, Announcements on the Proposed Rock Creek Project**

Date	Meetings, Notices and Announcements
May 26, 1987	Public information meeting held on ASARCO's application in Noxon, Montana
January 12, 1988	Notice of Intent of the Proposed Action and preparation of an EIS published in the Federal Register
January 27, 1988	Public scoping meeting on ASARCO's application at Noxon, Montana
March 22, 1990	Public meeting on ASARCO's petition to amend ambient water quality at Noxon, Montana
May 27, 1993	Revised Notice of Intent of the Proposed Action and inclusion of the evaluation addendum in the preparation of an EIS published in the Federal Register
June 16, 1993	Public scoping meeting in Noxon, Montana
June 28, 1993	Public scoping meeting in Sandpoint, Idaho
October 6, 1995	Notice of Availability of Draft EIS published in Federal Register
October 5, 1995 to December 5, 1995	Public comment period on draft EIS
November 14, 1995	Open house and public hearing on draft EIS in Noxon, Montana
November 15, 1995	Open house and public hearing on draft EIS in Sandpoint, Idaho
February 20, 1996 to April 22, 1996	Public comment period on draft MPDES permit and water-quality related portions of draft EIS
April 8, 1996	Public meeting on draft MPDES permit in Noxon, Montana
April 9, 1996	Public hearing on draft MPDES permit in Noxon, Montana
April 10, 1996	Public meeting on draft MPDES permit in Sandpoint, Idaho
April 11, 1996	Public hearing on draft MPDES permit in Sandpoint, Idaho
April 22, 1997	Public town meeting in Sandpoint, Idaho, to discuss new alternatives in supplemental EIS
April 23, 1997	Public town meeting in Noxon, Montana, to discuss new alternatives in supplemental EIS

**Kootenai National Forest Rock Creek Record Of Decision**

<b>Date</b>	<b>Meetings, Notices and Announcements</b>
August 15, 1997	Notice of Intent to Prepare Supplement to the Draft EIS published in Federal Register
January 9, 1998	Notice of Availability of Draft Supplemental EIS published in Federal Register
January 9, 1998 to March 11, 1998	Public comment period on supplemental draft EIS and revised MPDES permit
February 10, 1998	Open house and public hearing on supplemental draft EIS and revised MPDES permit in Missoula, Montana
February 11, 1998	Open house and public hearing on supplemental draft EIS and revised MPDES permit in Sandpoint, Idaho
February 12, 1998	Open house and public hearing on supplemental draft EIS and revised MPDES permit in Noxon, Montana
March 13, 1998	Notice of Availability to Extend the Comment Period to April 10 published in the Federal Register
September 11-28, 1998	Public input solicited on possible changes in proposed road closures, public comment period provided
November 10, 1999	Sterling Mining Company hosts Noxon public meeting
April 1, 2000	Public input solicited on what version and preferred delivery method for final EIS
September 1, 2001	Sanders County Commissioners Briefing
September 21, 2001	Notice of Availability of Final EIS published in Federal Register
December 27, 2001	Legal Ads Published for Record of Decisions
March 27, 2002	Withdrawal of Biological Opinion by US Fish and Wildlife Service (FWS)
March 29, 2002	Record of Decision withdrawn by Kootenai National Forest
May 7, 2003	Biological Opinion signed by FWS

The following table displays a summary of primary “communiqué” between the Kootenai National Forest and various tribal entities. “Communiqué” includes meetings, conference calls, phone calls and letters. Specifically, four tribes were consulted prior to and throughout the planning process for this project. Additionally, the Kootenai National Forest/Confederated Salish and Kootenai Tribal Liaison (Loraine Caye) has been involved. Please see the FEIS on pages 3-145, 4-226-4-280, Table 2 (page 14) of this ROD and the discussion on KNF compliance with the various laws associated with Tribal responsibility on page 72 of this ROD.

Table 2: Tribal Involvement Summary

Name of Tribe	Date of Communiqué
Confederated Salish & Kootenai Tribes	12-12-88
Confederated Salish & Kootenai Tribes	12-12-88
Kootenai Tribe of Idaho	12-14-90
Confederated Salish & Kootenai Tribes	6-24-94
Confederated Salish & Kootenai Tribes	7-7-94
Confederated Salish & Kootenai Tribes	12-1-95
Coeur d'Alene Tribe	1-4-96
Coeur d'Alene Tribe	3-1-96
Kalispel Tribe	3-13-96
Kootenai Tribe of Idaho	4-16-96
Coeur d'Alene Tribe	2-4-96
Kootenai Tribe of Idaho	5-29-96
Confederated Salish & Kootenai Tribes	6-7-96
Coeur d'Alene Tribe	7-12-96
Coeur d'Alene Tribe	5-9-97
Confederated Salish & Kootenai Tribes	2-10-98
Confederated Salish & Kootenai Tribes	2-13-98
Kootenai Tribe of Idaho	2-20-98
Confederated Salish & Kootenai Tribes	6-3-98
Confederated Salish & Kootenai Tribes	9-21-98
Confederated Salish & Kootenai Tribes	10-98
Confederated Salish & Kootenai Tribes	10-1-98
Confederated Salish & Kootenai Tribes	10-6-98
Kootenai Tribe of Idaho	1-24-00
Kootenai Tribe of Idaho	10-17-00
Kootenai Tribe of Idaho	1-8-01
Kalispel Tribe	1-26-01
Coeur d'Alene Tribe	1-26-01
Kootenai Tribe of Idaho	1-26-01
Kootenai Tribe of Idaho	1-29-01
Confederated Salish & Kootenai Tribes	1-29-01
Kootenai Tribe of Idaho	1-30-01
Kootenai Tribe of Idaho	2-1-01
Confederated Salish & Kootenai Tribes	2-8-01

Name of Tribe	Date of Communiqué
Kootenai Tribe of Idaho	3-8-01
Kalispel Tribe	3-13-01
Kootenai Tribe of Idaho	3-13-01
Coeur d'Alene Tribe	3-13-01
Confederated Salish & Kootenai Tribes	3-13-01
Kootenai Tribe of Idaho	3-28-01
Kootenai Tribe of Idaho	5-10-01
Confederated Salish & Kootenai Tribes	5-10-01
Coeur d'Alene Tribe	5-10-01
Kalispel Tribe	5-10-01
Kootenai Tribe of Idaho	6-6-01
Coeur d'Alene Tribe	6-7-01
Confederated Salish & Kootenai Tribes	6-7-01
Kalispel Tribe	6-7-01
Kootenai Tribe of Idaho	6-7-01
Confederated Salish & Kootenai Tribes	6-8-01
Confederated Salish & Kootenai Tribes	6-13-01
Confederated Salish & Kootenai Tribes	7-3-01
Kootenai Tribe of Idaho	7-3-01
Coeur d'Alene Tribe	9-18-01
Confederated Salish & Kootenai Tribes	9-18-01
Kootenai Tribe of Idaho	9-18-01
Kalispel Tribe	9-18-01
Coeur d'Alene Tribe	12-12-01
Confederated Salish & Kootenai Tribes	12-12-01
Kootenai Tribe of Idaho	12-12-01
Kalispel Tribe	12-12-01
Coeur d'Alene Tribe	1-11-02
Confederated Salish & Kootenai Tribes	1-11-02
Kootenai Tribe of Idaho	1-11-02
Kalispel Tribe	1-11-02
Coeur d'Alene Tribe	5-21-03
Confederated Salish & Kootenai Tribes	5-21-03
Kootenai Tribe of Idaho	5-21-03
Kalispel Tribe	5-21-03

**Other Federal Agencies Having Permit or Review Authority – Responsibility and Involvement Summary**

**U.S. Fish and Wildlife (FWS)**

FWS has responsibilities under the Fish and Wildlife Coordination Act (1934), Endangered Species Act (1973), and Bald Eagle Protection Act (1940). Responsibilities under the Fish and Wildlife Coordination Act require federal agencies issuing permits (i.e. Corps of Engineers' 404 Permit) to consult with the FWS to prevent the loss of or damage to fish and wildlife resources where waters of any stream or other body of water are proposed...to be impounded, diverted...or otherwise controlled or modified. The Forest Service must prepare a biological assessment to comply with the Endangered Species Act. A biological assessment evaluates potential effects on threatened and endangered species that may be present in the project area. If the Forest Service determines that the project will require formal consultation because of adverse effects to listed species, the FWS will render a Biological Opinion (BO). That opinion will state whether, in the view of FWS, the action is likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or modification of critical habitat. If FWS determines that the preferred alternative would jeopardize the continued existence of a species, it must offer a reasonable and prudent alternative that would, if implemented, preclude jeopardy. The FWS has 135 days from initiation of formal consultation to render a BO. Formal consultation for both biological assessments developed for bull trout and terrestrial species relative to the proposed action was initiated on July 31, 1998 with the KNF (see Appendix B, FEIS). The FWS issued a BO on December 2000 and it is included in Appendix E of the FEIS. This BO was withdrawn for further consideration in March of 2002. The FWS issued a new BO for this project on May 9, 2003 (FWS, 2003).

Through the Section 7 Consultation process of the Endangered Species Act, the KNF assisted in the development of the mitigation for the Threatened and Endangered Mitigation Plan (Attachment 4) and reasonable and prudent measures, term, conditions and conservation measures as outlined in the BO.

**U.S. Army Corps of Engineers (COE)**

Tailings disposal and other mine facility construction activities affecting wetlands would constitute the disposal of dredged or fill materials into wetlands and non-wetland waters of the U.S. and would require a "404 permit" under Section 404 of the federal Clean Water Act. COE is the permitting authority for the discharge of dredged or fill material into the wetlands and non-wetland waters of the U.S. (see FEIS Chapter 3, Wetlands and Non-Wetland Waters of the U.S.). ASARCO submitted a 404 permit application (see the Agencies original evaluation in Appendix C in the draft EIS) to COE (ASARCO, Incorporated 1993) for its proposed project and has submitted an updated application and wetland mitigation plan for the Agencies' preferred alternative identified in the supplemental and FEIS. The updated 404(b)(1) evaluation is found in Appendix F of the FEIS.

COE and EPA have developed guidelines to evaluate impacts from dredged or fill disposal activities on wetlands and non-wetland waters of the U.S. (33 CFR Part 320 and 40 CFR Part 230) and to determine compliance with Section 404 of the Clean Water Act. The guidelines require analysis of "practicable" alternatives that would not require disposal of dredged or fill material in wetlands and non-wetland waters of the U.S., or that would result in less environmental damage. Under the guidelines, the term "practicable" means "available or capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." The practicable alternative analysis is provided in Section 2.1.1 of the Section 404(b)(1) Showing (Appendix F of the FEIS). COE representatives attended the IDT meetings and supplied comment on the draft, supplement and FEIS. KNF also worked independently with COE in the development of the Wetland Mitigation Plan (FEIS,

Appendix L). COE supplied comments to the draft, supplement and FEIS (FEIS, Response to Comments, COE).

**U.S. Environmental Protection Agency (EPA)**

EPA has oversight responsibility for federal Clean Water Act programs delegated to and administered by DEQ. EPA may also intervene to resolve interstate disputes where discharges of pollutants in an upstream state may affect water quality in a downstream state. EPA also reviews 404 dredge and fill permit applications and provides comments to COE. EPA has veto authority under the Federal Clean Water Act for decisions made by COE on 404 permit applications. EPA also has responsibilities under NEPA and the Federal Clean Air Act to cooperate in the preparation of EISs and to review draft EISs and federal actions potentially affecting the quality of the environment. EPA advises the lead agencies on the preparation of an EIS. EPA also evaluates the adequacy of information in the EIS, the overall environmental impact of the proposed action, and various alternatives. EPA's comment letters are contained in Volume 3 of the FEIS. EPA rated the draft EIS as EO-2 meaning Environmental Objections - Insufficient Information (EPA 1995) and the supplemental EIS as EC-2 meaning Environmental Concerns - Insufficient Information (EPA 1998).

EPA representatives attended the IDT meetings and supplied verbal and written comments to the draft, supplement and FEIS. A more complete record of involvement with the EPA on this project can be obtained in the Response to Comment Section of the FEIS under US EPA. And in KNF's project file for this project.

**Other State and Local Agencies Having Permit or Review Authority**

**Montana Department Fish, Wildlife and Parks (MDFWP)**

As the lead agency for management of fisheries resources in Montana, MDFWP also administers the use, enjoyment, and scientific study of fish. MDFWP's approval and designation of a licensed collector as field supervisor would be required for monitoring, mitigation, and transplanting of fish within the project area. MDFWP includes the management of wildlife and the administration of State parks. MDFWP supplied comments on the draft, supplement EIS (FEIS Response to Comments, MDFWP) MDFWP representatives also attended IDT meeting conducted for the development of the EIS.

**Green Mountain Conservation District**

Any mining disturbance occurring within the normal high water level of streams would require the approval of the Green Mountain Conservation District. This approval would constitute a "310 permit" under the Natural Streambed and Land Preservation Act (75-7-101 et seq., MCA). Reconstruction of road drainage structures, habitat improvements, new stream crossings, and creek diversions are examples of activities needing a 310 permit. Prior to granting approval, the District would consult with KNF and MDFWP. MDFWP would make a determination if a 3A waiver from DEQ would be required in conjunction with the 310 permit.

**Montana Department of Natural Resources and Conservation (DNRC) formerly DSL**

DNRC administers the Montana Water Use Act (85-2-101 et seq., MCA). A water rights permit is required by the Montana Water Use Act for any surface water diversion over 35 gallons per minute (gpm) or a ground water withdrawal exceeding 100 gpm. Because Sterling proposes to pump water from the Clark Fork alluvium, a water rights permit would be required.

**State Historic Preservation Office (SHPO)**

Compliance with federal cultural resource protection laws is required because portions of the proposed project occur on NFS lands. Actions that are permitted, approved, or initiated by the Forest Service and that may affect cultural resources must comply with provisions of the National Historic Preservation Act (NHPA) of 1966, as amended, and as implemented by federal guidelines 36 CFR 800. Section 106 of the NHPA requires a federal agency to take into account the effects of the agency's undertaking on properties listed on, or eligible for listing on, the National Register of Historic Places (NRHP).

Before any federal undertaking begins, cultural resources eligible for listing on the NRHP must be identified and documented. Cultural resources recorded in the project area are evaluated in consultation with State Historic Preservation Office (SHPO) or the Federal Advisory Council on Historic Preservation (ACHP). Agreements reached between the Forest Service and the consulting parties on eligibility constitute a consensus, allowing the compliance process to proceed. If sites do not meet the criteria of eligibility for the NRHP, no further consideration of cultural resources is necessary and the project may proceed.

If a site meets any of these criteria, the Forest Service is required to determine the effect of the proposed action on the site. Once consulting parties agree on mitigation measures for eligible properties affected and the conditions or stipulations have been met, the project may proceed. During mine construction and operation, the Agencies would oversee compliance with historic preservation and monitoring plans.

Eight historic sites were documented during the cultural resources investigations. All of these properties were determined to be ineligible for listing on the National Register of Historic Places by consensus of the KNF and Montana State Historic Preservation Office.

I have determined that KNF has met the obligation of SHPO.

**Montana Department of Transportation (MDT)**

MDT must review requests for an approach road (60-2-201, MCA). This code lists the criteria required to ensure a reasonably safe approach road for connection with the state highway system. The MDT was consulted during the development of the draft and Supplement to the Draft EIS.

**Hard Rock Mining Impact Board/Sanders County**

In 1981, the Montana legislature enacted the Hard Rock Mining Impact Act (90-6-301 et seq., MCA) to assist local governments in handling financial impacts caused by large-scale mineral development projects. The legislature recognized that 1) new mineral development projects may result in the need for local governments to provide additional services and facilities causing a fiscal burden for local taxpayers, before mine-related revenues become available, and 2) some local government units may lack jurisdiction to tax a new development. Therefore, the Hard Rock Mining Impact Board (part of the Montana Department of Commerce) oversees an established process for identifying and mitigating fiscal impacts to local governments. The Impact Plan process is described in 90-6-307, MCA. The Board also acts as "referee" in disputes between local governments and project developers.

A public hearing on the impact plan was held on September 22, 1997, in Sanders County where fiscal impacts are forecasted to be the most costly. Sanders County is the lead local governing body responsible for reviewing and commenting on the applicant's Hard Rock Mining Impact Plan for the Rock Creek Project. However, Lincoln County also reviewed and commented on the plan. An impact plan (ASARCO Incorporated 1997a) has been agreed to by the local governments.

The operating permit issued by DEQ is not valid until an impact mitigation plan has been approved by the Hard Rock Mining Impact Board. Sterling's impact mitigation plan identifies possible increased public sector costs associated with major mineral development actions. It also contains commitments to prepay taxes and make grants according to a specified time schedule and to accommodate identified capital and net operating costs to local government units that result from project development.

#### **Sanders County Weed Board**

The weed board administers the County Noxious Weed Control Act (7-22-2101 through 2153, MCA) for any land-disturbing activities within their jurisdiction. Sterling would be required to submit a weed management plan to Sanders County Weed Board for review and approval.

#### **Avista Corporation**

Avista owns lands on which Sterling proposes to construct a discharge water line and makeup water well for the proposed Rock Creek Project. These lands are located within the Federal Energy Regulator Commission (FERC) project boundary for the Cabinet Gorge Hydroelectric Development. Sterling would need to obtain permission from Avista for an easement for these facilities. The standard land use article in Avista's FERC license for the Clark Fork Project requires that all necessary federal and state water quality certification or permits have been obtained at or prior to approval (FERC 2000). When Sterling requests access across project lands for the purpose of installing any outfall or discharge facility for the proposed Rock Creek Project, Avista would provide timely notice of this request to the parties to the Clark Fork Settlement Agreement and to FERC. Following consultation with interested parties, Avista would make a decision regarding the proposed easement.

## **VII. ISSUES CONSIDERED AND ADDRESSED**

The agencies used issues identified from the public, agency, and Tribal representatives to develop and evaluate the effects of the alternatives. Eight issues, defined as indicators of potentially significant effects, emerged from the scoping process and Agencies' discussions. Issues generated internally and externally, focused on effects on quantity and quality of surface and ground water, tailings impoundment/paste facility stability, effects to Threatened and Endangered Species (primarily bull trout and grizzly bear), and visual impacts of the tailings storage facility. The effects have the potential to be adverse or beneficial, to be severe or long lasting, to affect a large area, or to occur frequently when a resource's quantity, quality, fragility, or uniqueness are considered. The description of each sub-issue is provided below and does not represent a conclusion about the effects of the project.

After each group of sub-issues is a brief description of how the issue was addressed by Alternative V. Detail on the environmental consequences of implementing Alternative V on resources related to these issues can be found in Chapter 4 of the FEIS.

### **A. ISSUES CONSIDERED IN FEIS**

#### **Issue 1: Effects on quantity and quality of Montana and Idaho surface and ground water resources**

Issue 1 was divided into several sub-issues to cover the range of concerns identified during scoping and the various EIS reviews. These include the following items:

- a. Discharges and activities associated with the Rock Creek Project may change the ambient (existing) surface water quality of Rock Creek, the Clark Fork River, and Lake Pend Oreille, and ground water quality.
- b. Seepage from the tailings impoundment/paste facility may alter ambient ground and surface water quality.
- c. The proposed water withdrawals and diversions may affect existing water users.
- d. Seepage into underground mine workings may affect water levels in wilderness lakes, wetlands and flow rates of springs.
- e. Subsidence of mine workings may affect wilderness lakes, wetlands, and streams.
- f. Water from the underground mine reservoir could potentially migrate from the reservoir through fractured faults and joints and may alter down-gradient ambient ground and surface water quality.

Under the preferred alternative, Alternative V, the aspects of Issue 1 are addressed through numerous modifications, mitigation, and monitoring plans to reduce, minimize, avoid, or mitigate impacts to the quality and quantity of ground waters and potentially affected surface waters in Montana and surface waters in Idaho. The Water Resource Monitoring Plan (revised Appendix K, Attachment 2) establishes the criteria for monitoring of these resources and the MPDES permit (Appendix D in the FEIS) addresses the impacts and establishes the limits associated with discharges to surface waters and to ground water beneath the tailings paste facility. The requirement of a tailings paste facility reduces the amount of seepage into ground water and reduces the potential for tailings to reach surface waters from a catastrophic failure of the facility. Impacts to wilderness lakes, springs, and seeps are minimized with underground buffer zones, rock mechanics monitoring, and monitoring of water quantity and quality in the mine and on the surface. The FEIS fully discloses the potential impacts and these issues concerning water quality and quantity (FEIS, pages 4-58, 4-63 -112).

I have determined based on the review of the project file record, FEIS and MPDES permit that issues a through f above have been adequately addressed through the implementation of Alternative V and as modified by this ROD.

**Issue 2: Effects on fish and wildlife and their habitats and current and proposed threatened and endangered species**

Issue 2 was divided into several sub-issues to cover the range of concerns identified during scoping and the various EIS reviews. These include the following items:

- a. The proposed mining activities and mining support activities may adversely affect grizzly bear (threatened species) because of direct habitat loss, displacement, disruption of travel routes, and increased mortality.
- b. The proposed mining activity and mining support activities may adversely affect big game because of habitat loss or degradation, displacement, disruption of travel routes, and increased mortality risk.
- c. The proposed mining activities and mining support activities may affect neotropical migrant birds from habitat change, loss, or degradation and displacement and/or replacement of species using the area.
- d. The proposed mining activities and mining support activities may adversely affect mountain goats because of habitat loss or degradation, displacement, disruption of travel routes, and increased mortality risk.
- e. Disturbance from the proposed mining activities may affect other threatened and endangered or proposed species (bald eagle, lynx, and gray wolf are currently listed as threatened species) currently using the area. Threatened and endangered species may be subject to adverse habitat modification as well as to an increased mortality risk.

- f. The proposed mining and support activities may adversely affect sensitive animal species (harlequin duck, fisher, wolverine, Coeur d'Alene salamander, northern bog lemming, Townsend's big-eared bat, black-backed woodpecker, flammulated owl, northern goshawk, peregrine falcon, northern leopard frog, and boreal toad) and Forest Service management indicator species (mountain goat, elk, white-tailed deer, and pileated woodpeckers) due to habitat loss or degradation, displacement, disruption of travel routes, and increased mortality.
- g. The proposed mining and support activities may affect threatened or sensitive fish species (bull trout and westslope cutthroat, respectively) and/or those proposed for listing as threatened. The effects on these species could include habitat loss or degradation and increased mortality risk.

Impacts to fish and wildlife and their habitats and current and proposed threatened and endangered species under Alternative V are identified in the appropriate subsections of Environmental Consequences Chapter 4 FEIS (Aquatics/Fisheries, Biodiversity, Threatened and Endangered Species) and in the project record. Through the development of the FEIS, a Biological Assessment was completed by KNF. A Biological Opinion was issued by the U. S. Fish and Wildlife Service that outlined a reasonable and prudent alternative, terms and conditions to reduce, minimize, avoid, or mitigate impacts to threatened and endangered species and their habitat. The Wildlife Monitoring Plan (revised Appendix K in Attachment 2) outlines the criteria for the monitoring of neotropical birds, mountain goats and sensitive animal species including monitoring of road closures. The Threatened and Endangered Species Monitoring Plan (revised Appendix K in this ROD) outlines the elements connected to the mitigation as listed in the Biological Assessment of the FEIS. The Aquatic/Fisheries Monitoring Plan outlines the criteria for the monitoring of fish, periphyton, and macroinvertebrates, and includes a requirement for additional preconstruction baseline studies. A sediment source reduction plan to reduce sediment by 400 tons/year will offset construction-related sediment increases and may result in a slight improvement in the amount of deposited sediment in Rock Creek. Busing of employees from the wastewater treatment plant to the mill and the piping of ore concentrate to the rail loadout facility reduces traffic levels from what would have occurred under the proposed alternative. This reduction in traffic minimizes impacts to wildlife including game species and harlequin ducks.

I have determined through the review of the FEIS, BA, and BO that this issue is addressed by requiring the implementation of mitigation identified above, in this ROD, FEIS, and BO.

**Issue 3: Stability of the tailings impoundment/paste facility**

There was only one item identified for Issue 3.

Failure of the tailings impoundment/paste facility may have substantial adverse effects on water quality, public safety, aesthetic quality, downstream facilities, aquatic life, and long-term reclamation success among others. A comprehensive Quality Control/Quality Assurance program should be part of any proposed design. Probability of failures can be measured by documenting foundation strength parameters, tailings properties, and seismic response. Phreatic surface location and associated seepage analyses will also be used in the technical review of the impoundment design.

The requirement of a tailings paste facility under Alternative V reduces the potential for failure under all modes of failure compared to a standard tailings impoundment (see Appendix G or Chapter 4 in the FEIS for more details). The removal of water from the tailings results in a relatively dry material that would not flow very far should a portion of the facility collapse. This analysis is addressed in the Failure Modes Effects Analysis summarized in Appendix P of the FEIS. The Tailings Paste Facility and Tailings Slurry Line Construction and Operation Monitoring Plan, along with the technical panel review of the final design of the paste facility, will assist in minimizing, reducing, and avoiding possible impacts due to potential failure of the paste facility.

I have determined through the review of the Supplemental to the Draft EIS, FEIS and the Failure Modes Effects Analysis that this issue has been adequately addressed.

**Issue 4: Impacts to socioeconomics of surrounding communities**

There was only one item identified for Issue 4.

The proposed project may affect local employment, local income, the size and location of the area population, schools, fire, public safety and other public services, local tax revenues, and public expenses.

Implementation of Alternative V is expected to increase the populations in Lincoln and Sanders Counties in Montana and, to a minor extent, eastern Bonner County in Idaho. The approved Hard Rock Impact Plan addresses how the company will help local government units in Montana deal with the financial impacts caused by increases in population. This will occur in the form of pre-paid taxes and grants to the governments. Provisions are included in the plan to alter the amount of the payments should impacts be greater than anticipated (FEIS, page 4-233) and (KNF, Rock Creek Project File, Hard Rock Impact Plan).

I have determined through the review of the FEIS, pages 4-194 ~ 4-237 and the implementation of the Hard Rock Impact Plan that Issue 4 is adequately addressed.

**Issue 5: Effects on old growth ecosystems**

There was one item identified for Issue 5.

The proposed project may impact old growth stands.

The analysis in the FEIS (FEIS, pages 4-163, 4-173), as well as information in the project record, concluded there would be less than 1 acre of old growth habitat impacted. The reduction of traffic along FDR No. 150B would increase the effectiveness of the old growth parcel along lower Rock Creek compared with Alternatives II through IV. Closure of a short spur road accounts for an additional acre of effective old growth.

I have determined the effects to old growth as it relates to this project has been adequately addressed in the FEIS.

**Issue 6: Effects on wetlands and non-wetland waters of the U.S.**

There was only one item identified for Issue 6.

The proposed project may destroy or affect wetlands and non-wetland waters of the U.S.

The analysis in the FEIS concluded that Alternative V would directly affect a total of 5.6 acres of wetlands and non-wetland waters of the U.S. and indirectly affect 1 acre. Under the Wetland Mitigation Plan contained in Appendix L of the FEIS more than 10 acres of wetland will be created. Up to 18.9 acres of suitable sites have been identified. Recent monitoring of wetland demonstration plots indicates that there is a high probability of establishing functional wetlands at similar sites which currently exist in the project vicinity, provided similar topography with respect to the existing water table is utilized (FEIS, page 4-119). Detailed mitigation plans and specifications will, however, have to be submitted by Sterling Mining Co. and reviewed and approved by the COE. No discharge or fill may take place which directly

or indirectly impacts aquatic resources until such a plan has been reviewed and approved by the COE and a 404 permit issued by the COE.

I have determined that the FEIS at pages 3-63 ~ 66, 4-114 ~ 119 and the Wetlands Mitigation Plan, (FEIS, Appendix L) adequately address this issue.

**Issue 7: Effects on public access and traffic safety**

Issue 7 was divided into two sub-issues to cover the range of concerns identified during scoping and the various EIS reviews. These include the following items:

- a. The proposed project could adversely impact public recreational access and use patterns such as hunting, berry picking, camping, sightseeing, and hiking.
- b. Public safety is a primary concern on proposed KNF roads and Montana Highway 200.

Traffic safety under Alternative V was improved over what would have happened under the proposed alternative by relocating the intersection of FDR No. 150 and Montana Highway 200, pumping ore concentrate to the rail loadout facility, and busing employees to the mine. Recreational access into the Rock Creek drainage would be improved due to road improvements, but the areas occupied by mine facilities would not be open for public access. Change in road closures required for grizzly bear mitigation will allow continued access to the CMW via Chicago Peak Road. There may be some changes in recreational use patterns due to increased populations in the area and due to road closures for grizzly bear mitigation (FEIS, Figure 3, FEIS, page 4-248 ~ 4-252).

I have determined through the review of the FEIS pages 4-241 ~ 4-255, and the required mitigation as outlined in Alternative V, adequately addressed Issue 7.

**Issue 8: Effects on aesthetic quality, including noise, scenic, and wilderness experiences**

Issue 8 was divided out into several sub-issues to cover the range of concerns identified during scoping and the various EIS reviews. These include the following items:

- a. The proposed mining and support activities may create noise that exceeds ambient levels.
- b. The proposed project may change the existing scenic quality and visual character of the Clark Fork Valley and Rock Creek drainage.
- c. The portal of an air intake ventilation adit is proposed in the wilderness. Wilderness users might notice sights, sounds, and smells from the proposed project that could affect their wilderness experience.

Natural background noise levels reaching the CMW are measured at 35 dBA. Noise levels as a result of the mine, reaching the CMW are generally not expected to exceed normal ambient wilderness levels of 35 dBA, except in the area of the air-intake ventilation adit. Mitigation for forest screening, buffer zones, and the reduction in traffic will reduce the noise levels within the Rock Creek drainage (FEIS page 4-286). Relocation of the air intake ventilation adit and mitigation to reduce sound associated with the fans in that adit will minimize the potential for impacts to wilderness users. This impact is based on a decibel level of 45 dBA at 50 feet from the opening. Additional mitigation will be required to minimize the level of equipment noise. Mine facilities will present an industrial aspect to the Rock Creek drainage. Mitigation to minimize the impacts on scenic resources include paint colors on facilities and structures, maintaining or planting forested buffer zones between the facilities and roads, concurrent reclamation of the tailings paste facility, and final reclamation of the outer slopes of the mill site and road corridor soon after construction. Changes to the reclamation and revegetation plans will improve the potential for

successful revegetation of native species and reduce the amount of time needed for establishing the vegetation (FEIS page 4-57).

I have determined through the review of the FEIS pages 4- 255 ~ 260, 4-280 ~ 286, 4-286 ~ 296, and the required mitigation as outlined in Alternative V adequately addressed Issue 7.

#### **B. CHANGES IN FEIS RELATIVE TO ISSUES**

Comments and concerns with potential environmental effects related to the above issues resulted in the following changes from the draft and supplemental EISs to the FEIS.

**Chapter 2.** A new alternative, Alternative V, was included in the supplemental and FEIS to address residual water quality concerns. It also includes additional changes to the MPDES permit, air quality permit, and 404 (b)(1) dredge and fill permit. Additional, reasonably foreseeable activities were included for cumulative impacts analyses. New alternatives were considered and then dismissed, and additional rationale for dismissing some alternatives was provided. The text and table comparing the impacts between the five alternatives was updated and revised based on changes made in analyses in Chapter 4 and new mitigation included in various alternatives in Chapter 2.

**Chapter 3.** Additional baseline data was collected for plant species of special concern, some wildlife species (harlequin ducks, fisher, lynx, wolverine, bull trout, grizzly bear), sediment, water flow in the Clark Fork River, socioeconomic conditions of Bonner, Sanders, and Lincoln counties, ore and waste rock geochemistry, and surface and ground water quality. The status of Bull trout and lynx was changed from sensitive to a threatened species, therefore additional consultation with the FWS was needed.

**Chapter 4.** Analyses were modified based on new data identified in Chapter 3, and the new alternative was analyzed. Some new mitigation were developed and incorporated into an alternative in Chapter 2. Cumulative impact analyses were expanded based on newly identified and/or described reasonably foreseeable activities in Chapter 2. The Socioeconomic section was revised to address concerns related to accuracy of analysis. A section on regulatory restrictions has been included. The Hydrology section incorporated effluent limits from the MPDES permit, and the data and calculations used in preparing tables and analysis were reviewed and revised. Additional information on nutrient and metals loading to the Clark Fork River and ground water flow in the vicinity of the mine were also included. The analysis on acid rock drainage was expanded, and analysis of impacts to ground water in the orebody, wilderness lakes, and springs and seeps were added. Additional information regarding impacts to American Indian traditional use was incorporated into the Cultural Resources section.

**FEIS Appendices.** The biological evaluation on bull trout was revised and reissued as a biological assessment and included in Appendix B of the FEIS, with the revised biological assessment for terrestrial plant and animal species as a result in changes of ESA status. The preliminary determination on the associated air quality permit in Appendix C was modified based on changes to the preferred alternative. The MPDES permit and statement of basis in Appendix D were revised to match the preferred alternative and then further revised to address concerns about low flow, nutrients, fisheries, and State of Idaho water quality concerns. The BO was added as Appendix E. This appendix is replaced by the new BO issued May 9, 2003. The Preliminary Section 404(b)(1) Showing and the wetlands mitigation plan for Alternative V (Appendices F and L, respectively) were updated and revised to identify sufficient mitigation sites for a 1.5:1 replacement ratio and to include contingency plans for potential impacts to

wetlands in the CMW. Information on hydrofracturing and hydrogeology of the orebody was added to Appendix G. A description and analysis of KNF best management practices (BMP) requirements is contained in Appendix H. The conceptual monitoring plans for agency alternatives in Appendix K have been described in more detail and some additional plans have been described in Attachment 2 of this ROD. This revised Appendix K is unchanged from the 2001 ROD. A discussion and summary of sediment modeling in the Rock Creek drainage is included in Appendix N. New KNF management area descriptions for mine operation and power line corridors are included in Appendix O. A summary of the failure modes and effects analysis done on failure of the paste facility and acid rock drainage by Klohn-Crippen Inc. was included in the Appendix P of the FEIS.

**C. CHANGES SUGGESTED BY EPA, OTHER AGENCIES, AND THE PUBLIC, AND AGENCIES' RESPONSE AFTER COMPLETION OF FEIS**

The following paragraphs discuss how the agencies addressed concerns expressed by the public, tribes, and other agencies. These concerns were expressed during briefings conducted by the FS and DEQ to discuss and describe elements of the FEIS and the pending decision making process.

1. One concern was that the agencies should specifically identify which agencies and specialists should be involved in the technical panels. When the agencies obtain additional information from the completion of Phase 1 of the proposed operation, the agencies will consult further with experts in the fields of metal leaching and acid rock drainage. The agencies have determined that it is not practical to specify those experts by name in the ROD because individual experts or group's availability will change over time. The agencies require that the most appropriate technologies (not necessarily the latest state-of-the-art procedures) be implemented to evaluate and monitor these issues. Because EPA has shown an interest in being on the technical review panels for these issues, the agencies will seek EPA's input on these technologies and procedures. Idaho DEQ (IDEQ) is responsible for water quality in the state of Idaho, and will also be invited to participate in any technical panels that are reviewing plans or facility designs that would influence surface water quality.
2. Another concern was that the agencies should require in the ROD that Sterling add cement to the tailings paste, and then determine, through the analysis of data from the evaluation adit, whether to modify that decision. The agencies have determined that requiring the addition of cement at the onset of tailings paste deposition is a prudent environmentally protective course of action. The FEIS demonstrates that adding cement would raise the pH of the tailings seepage and could mobilize more metals than the neutral pH waters that would occur under the preferred alternative. The agencies have determined it is more prudent to first consider the analysis of geochemical data from the Evaluation Adit Data Evaluation Plan before requiring a particular additive (cement) that may be detrimental to the ground water quality beneath the tailings paste facility.

The FEIS and other analyses in the project record (including the report by Maxim Technologies), demonstrate that the Troy tailings facility is an analog for the proposed Rock Creek facility. The data at the Troy tailings impoundment currently indicates that there are no violations of ground water quality standards or deleterious leachate. The FEIS Alternative V allows for the addition of cement or other binders and additives if the agencies find it necessary to mitigate or minimize impacts to surface and ground waters. This ROD incorporates this requirement. There will be an additional 2 to 3 ½ years during mine adit construction/mine development, which allows ample time for further geochemical confirmation testing and evaluation of waste rock and tailings and for determining what additive, if any, is appropriate. The FEIS concludes it is not necessary at this time. In addition to the analysis in the FEIS, the KNF hired a third party contractor to conduct

additional geochemical analysis on tailings material from Rock Creek ore (Maxim 2003). The conclusion of the study supports the FEIS affects analysis for the Rock Creek paste tailing material. The agencies will reevaluate the additive issue after phase one. As part of the Evaluation Adit Evaluation Plan, Sterling must include analysis of both lab and bulk samples of the ore (and resultant tailings) extracted during the adit's construction. This must be done prior to determining whether cement or some other additive may be needed to reduce the potential of acid rock drainage (ARD) or metals migration in the paste facility. The agencies will be advised through this process by the technical advisory panel (FEIS page 4-34).

3. EPA referenced other guidelines for waste rock characterization that may be applicable in the geochemical analysis and monitoring of waste rock and tailings. The agencies have based waste rock characterization requirements on the "Mine Rock Guidelines for the Design and Control of Drainage Water Quality" by Steffen, Robertson, and Kirsten, Inc. (1992). Under these guidelines, the waste rock material will be classified as non-acid generating (NAG), potentially acid generating (PAG), acid generating (AG), non-metal leaching (non-ML), or metal leaching (ML). These categories will be redefined based on changes in the most appropriate analytical technologies developed over the life of the mine. The agencies will also consider applicable information as suggested by EPA. Consistent with EPA staff advice, the agencies have not given any numerical parameters to these classifications. In addition to the analysis in the FEIS, KNF hired an independent contactor to conducted additional geochemical analysis on waste rock material from the Rock Creek project area (Maxim 2003). The conclusion of the study supports the FEIS analysis.
4. EPA also recommended specific testing protocols to be used. The agencies have determined that the procedures to be used will be the most appropriate methods applicable at the time testing is initiated. The procedures will be contained in the final monitoring plans to be reviewed and approved by a technical panel.
5. EPA suggested more explanation on why additional geochemical testing was not done on the 121 drill cores from the Rock Creek deposit. The agencies discussed this issue with EPA and determined that the mitigation outlined in Alternative V, would minimize the potential risk if impacts discovered by additional geochemical testing would be a problem (FEIS, Project files letters to EPA March 9, 1999, May 25, 2000, April 3, 2001 December 12, 2001, IDT meeting notes, October, 1999,).
  - a. The hydrostatic head for the ground water impounded in the mine workings will be maintained at a sufficiently low level to prevent or minimize leakage or transport of ground water to the surface, or the system must be lined, sealed, or grouted to prevent leakage or transport of ground water to the surface.
  - b. The water storage areas would be maintained in perpetuity or until such time that the agencies determine that another means of protection of surface waters from contamination by underground mine water is more appropriate.
  - c. As an added safety measure, the Acid Rock Drainage and Metals Leaching Plan in the revised Appendix K in Attachment 2 will require on-going static and kinetic testing of lithologic units throughout project life and testing of metal mobility of waste and ore rock and paste tailing material.
6. EPA encouraged the agencies to continue to evaluate the potential for catastrophic failure due to lateral hydrofracturing. The agencies determined that the report titled "*Rock Creek EIS: Technical Report Hydrology and Chemistry of Wilderness Lakes and Evaluation of Impacts from Underground Mining, Cabinet Mountains Wilderness, Montana*" (Gurrieri, 2001) adequately

addressed this issued and the recommendation of that report were incorporated into the FEIS (FEIS Appendix G, page G-24). In addition to rock mechanics monitoring, the agencies will require Sterling to continue monitoring of the potential for lateral hydrofracturing if the mine were to be plugged at some point in the future, as well as during mine operations when water is stored in the underground workings. This monitoring requirement was already included in the water resources monitoring plan in general terms in the FEIS, but will be made more specific in the revised Appendix K Attachment 2 of this ROD. This ROD hereby requires:

- a. Installation of underground monitoring wells in the areas proposed for water storage during mine operation and any shut down periods (Attachment 1, item 56).
  - b. The hydrostatic head for the impounded underground water will be maintained at a sufficiently low level of hydrostatic head to prevent or minimize leakage or transport of underground water to the surface, or the system must be lined, sealed, or grouted to prevent leakage or transport of underground water to the surface (Attachment 1, item 57).
  - c. The water storage areas would be maintained in perpetuity or until such time that the agencies determine that another means of protection of surface waters from contamination by underground mine water is more appropriate (Attachment 1, item 57).
7. Concern was expressed that the mine should not be plugged and allowed to fill up with water after final closure of the mine. The agencies' analyses have indicated that treatment may be needed for an unknown period of time after mine closure to ensure mine waters reach surface water quality standards for discharge to the Clark Fork River and to reach ground water standards without treatment. Water may need to be discharged to the river in perpetuity if a means to plug the mine to avoid or minimize impacts to surface waters in or outside the wilderness cannot otherwise be developed. The FEIS discusses closure options, but does not specify the means of mine adit closure for Alternative V because of these issues (FEIS, page 4-106). Until data is obtained from the evaluation adit and refined during mine operation, the agencies have determined that the initial mine closure plan will be to pump and treat the mine water in perpetuity until hydrogeologic and hydrologic data allowed other options to be investigated. Therefore, Sterling will be required to post a bond for perpetual water treatment for the mine operation. The evaluation adit bond will cover one year of treatment after closure and an additional 5 years of monitoring after adit closure. This is due to the smaller underground opening, lower amount of mine water generated, and the fact that the evaluation adit does not intercept any of the buffer zones or approach the ore outcrop zones. Once the mine operation commences the evaluation adit closure and bonding are incorporated into the mine closure and the more strict closure and bonding requirements would be in affect.
8. EPA suggested that a 1000-foot buffer zones to remain a permanent requirement. If the mine were to be allowed to fill with water to the point of discharging through the service adits, there would be a maximum of 300 feet of static head between the adit and the lowest point of the orebody in the North Basin (FEIS, Figure 3-6, and 3-7). The technical hydrogeology report for the FEIS used a static head of 245 meters (approximately 800 feet) to calculate a vertical buffer of 137 meters (450 feet) of rock between the workings and the ground surface (Gurrieri, 2001). The agencies have determined this is sufficient protection to prevent hydrofracturing from that level of post closure mine water storage and most likely from a greater amount of storage, although it may not prevent leakage to the surface through non-hydrofractured pathways. To monitor this leakage, as stated above, I will require the installation of underground monitoring wells for water storage areas. The hydrostatic head in these areas will need to be maintained or the system lined, sealed, or grouted to prevent or minimize leakage to the surface.

The agencies are requiring that Sterling maintain the 1000-foot buffer zones. There is a possibility that Sterling could propose to mine these zones in the future, but the agencies would authorize that only if the Sterling can demonstrate mining could occur in compliance with laws and regulations. Therefore, the agencies cannot call them permanent from a disclosure standpoint. The company would have to propose a revision to amend the plan of operations to mine into those zones, which would trigger an appropriate level of public MEPA/NEPA analysis to review the proposal and pertinent data to ensure compliance with applicable regulations and laws. It would also result in a new decision by the agencies on whether to approve the amendment. This analysis and decision would involve public review, comment, and appeal rights.

9. EPA suggested the agencies address the segregation of water within the mine; therefore, the agencies have required Sterling to develop a plan for water segregation in the mine workings for the second phase of the project, after Sterling constructs the evaluation adit and can predict the location of inflows and the quality of the water in different areas of the mine. This plan will be revised as needed as new data is obtained throughout mine operation. This ROD requires that all mine water be treated prior to discharge to the Clark Fork River until such time as it can meet limits without treatment as determined by law, and through DEQ. Being able to segregate the better quality water and discharge it without treatment is a benefit because there would be less water to treat. Sterling has already proposed doing this in its water management plan. The mine water must meet discharge limits specified in the MPDES permit regardless of how segregation was achieved.
10. EPA was concerned how the agencies will determine compliance with water quality standards after mine closure. If the agencies decide at a later date to require plugging the mine adits at mine closure, any change to the initial closure plan would require additional MEPA/NEPA analysis and this detail would be disclosed as part of that process. The Water Resources Water Monitoring Plan in the revised Appendix K in Attachment 2 to this ROD indicates that streams, springs, and seeps that could potentially be affected by leakage of mine waters stored in the mine workings during and after mine closure will be monitored annually at a frequency that evaluates high and low flows, as well as seasonal trends. Monitoring of vegetation at the springs and seeps will also occur on an annual basis. Monitoring may be reduced or increased, depending monitoring results, as outlined in the revised Appendix K (Attachment 2). Long-term monitoring of surface and ground waters, springs, and seeps is appropriate and is required by this ROD.

Assuming full mine development occurs, the agencies will require monitoring of the resources that could potentially be affected by leakage of mine waters for at least 20 years (as EPA suggested) after the water in the mine meets ground water standards, even though this water may still have to be treated for discharge to the river. Monitoring of water in the evaluation adit should the mine not be constructed will continue for at least 5 years as the water body would be considerably smaller and the adit would not approach the ore outcrop zone where hydrofracturing is a concern. Continuation of monitoring would be evaluated on an annual basis by the responsible agencies in consultation with EPA, and other interested local, state (including Idaho), and federal agencies and tribal governments.

11. EPA suggested that the monitoring wells be constructed so that they can also be used as pump-back wells. The agencies will request that the monitoring wells at the paste facility be constructed so that they can serve the purpose of both ground water monitoring and pump-back wells, if necessary. Replacement costs for water treatment and related facilities are included in the bond calculations, just as they were included in the FEIS. All sampling of ground water will be done according to a defined protocol, such as that used by EPA or the state. Sterling will also

be required to submit all lab, field-testing and monitoring results to the agencies upon completion of the tests, regardless of the frequency of formal reporting dates. The public will be allowed to review any data and reports submitted by the company. The agencies are considering developing a web page that will let the public know when such reports have been received.

12. EPA suggested DEQ use a specific formula to calculate aquatic life criteria for metals. DEQ cannot require the use of formulas for calculating limits that have not been approved by law. Once a formula is adopted into the regulation pertaining to the federal Clean Water Act and then into Montana regulations implementing the Montana Water Quality Act, that formula could then be used when the permit was up for a 5-year review cycle or was being reviewed for other changes such as changes to the plan of operations or total maximum daily load (TMDL) development.
13. EPA suggested monitoring reports be prepared more frequently than on an annual basis. The agencies have decided that rather than increase the frequency of the water quality monitoring reports, Sterling will be required to submit raw laboratory data as soon as it is completed for all water resources monitoring required by Water Resources Monitoring Plan from the approved plans of operation. The MPDES permit already requires reporting on a monthly basis for all permitted discharges. The monitoring frequency of other reports has been reviewed and initial frequencies added to monitoring plan requirements in the revised Appendix K (Attachment 2) and to the reporting requirements in Monitoring Report Plan (Attachment 3).
14. There was a concern by the public that timelines to finalize closure (during periods of operator incurred shut-downs) that reclamation of disturbed sites will not be appropriately managed. The agencies addressed this issue by requiring the following mitigation. This mitigation is authorized through 36 CFR 228 regulations and is identified in Table of Approved Stipulations, item 64 f (Attachment 1). This ROD hereby requires:
  - a. If, after 5 years from initiating construction on the evaluation adit and the remaining portion of the project has not proceeded for reasons other than litigation, the KNF will consult with the operator, DEQ, FWP, EPA, FWS, Tribal representative, and other interested agencies on interim or final reclamation plans to be implemented as outlined in Alternative V and this ROD. Timeframes for implementation will also be identified.
  - b. If, after 5 years of any cessation of mine development or operation, for reasons other than litigation, KNF will consult with the operator, Montana and Idaho DEQ, FWP, EPA, FWS, Tribal representatives and other interested agencies on interim or final reclamation plans to be implemented as outlined in Alternative V and this ROD, and the timeframes for implementation.

#### **D. INCORPORATION OF THE BIOLOGICAL OPINION DATED MAY 9, 2003**

The following discussion discloses the incorporation of the most recent BO signed by the FWS on May 9, 2003. The information below also discloses conservation measures already incorporated into the existing FEIS. It is important to recognize that measures incorporated into the FEIS are applicable to this decision. During the consultation process with FWS, the KNF incorporated conservation measures into the FEIS. The conservation measures were designed to reduce adverse effects to fish, wildlife, and water and air quality, reduce noise associated with the project, and improve human safety.

A grizzly bear mitigation plan was developed and incorporated into the FEIS (FEIS, Appendix A) and into the original BO of December 2000. The mitigation plan was designed to reduce mortality risk to

## Kootenai National Forest Rock Creek Record Of Decision

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grizzly bears by minimizing human/bear confrontations through implementation of the following measures:

- Avoid the use of salt when sanding during winter plowing operations on road FDR - 150;
- Avoid the use of preferred vegetative forage like clover (*Trifolium spp.*) to reclaim disturbed sites from construction facilities and roads;
- Use bear-resistant containers for human food/waste;
- Remove the remains of road-killed carcasses along roads;
- Sterling Mining Company would fund, for the life of the mine, a grizzly bear management specialist position under the Montana Fish, Wildlife, and Parks to educate people about bear behavior and how to reduce the potential for grizzly bear conflicts;
- Sterling Mining Company would fund, for the life of the mine, a Montana Fish, Wildlife, and Parks law enforcement position (in addition to the grizzly bear specialist position) to conduct law enforcement investigations of human-induced bear mortality and to deter illegal behavior;
- Sterling Mining Company would develop a transportation plan to minimize vehicular traffic associated with the mine;
- Sterling Mining Company would enact restrictions against feeding wildlife;
- Sterling Mining Company would prevent employees from carrying firearms on the permit area to minimize illegal or accidental mortality;
- Forest would manage motorized access in the affected bear management units (BMUs) to offset increases in access densities associated with the Rock Creek Mine;
- Forest would implement a mandatory food storage order in BMUs 4, 5, and 6;
- Sterling Mining Company would fund bear-resistant garbage containers for Forest sites in the Cabinet Mountains where garbage containers are provided; and
- Sterling Mining Company would fund the needed measures to make the Sanders County garbage transfer station near the mine entrance grizzly bear-resistant.

Following are habitat protection and enhancement measures that are part of the FEIS and this decision

- Sterling Mining Company would fund the fee title acquisition of or conservation easement on a total of 2,350 acres of grizzly bear habitat in part prior to the construction and in part, prior to operation of the project;
- Sterling Mining Company would fund habitat enhancement measures on 484 acres in the affected BMUs;
- Sterling Mining Company would fund the fee title acquisition of or conservation easement on 100 acres to specifically to improve grizzly bear habitat security and maintain or improve habitat connectivity between the northern and southern portions of the Cabinet Mountains;
- Forest would manage motorized access in the affected BMUs to offset increases in access densities associated with the Rock Creek Mine; and
- Sterling Mining Company would fund a grizzly bear monitoring and research effort in the southern Cabinet Mountains during the life of the mine.

This mitigation plan was reviewed in December 2002 by KNF and rewritten to more clearly define the mitigation measures. This clarification is contained in Attachment 4 of this ROD. This clarified plan entitled, "Clarification of Terrestrial Threatened and Endangered Species Mitigation Plan" December 30, 2002, was used, in part, to help develop the 2003 BO for the FWS.

The FWS completed a new BO for the Rock Creek Project on May 9, 2003. The BO documented their findings and concluded, after reviewing the current status of the grizzly bear, Canada lynx and Columbia

## Kootenai National Forest Rock Creek Record Of Decision

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Basin DPS of bull trout, the environmental baseline for the action area, the effects of the proposed Rock Creek Mine (Alternative V), and the cumulative effects, that:

- a. The Rock Creek Mine as modified by Alternative V is not likely to jeopardize the continued existence of the grizzly bear in the Cabinet Yaak Ecosystem. No critical habitat has been designated for the species, therefore, none would be affected.
- b. The Rock Creek Mine as modified by Alternative V is not likely to jeopardize the continued existence of the Canada lynx. No critical habitat has been designated for this species, therefore, none will be affected. The impact to habitat for Canada lynx would be insignificant or discountable (less than 0.01 percent change in baseline).
- c. The Rock Creek Mine as modified by Alternative V is not likely to jeopardize the continued existence of the Columbia Basin DPS of bull trout as listed. The Rock Creek Mine as modified by Alternative V is not likely to destroy or adversely modify the proposed Columbia Basin DPS of bull trout critical habitat.
- d. The Rock Creek Mine, as modified by Alternative V, may affect but will not likely adversely affect the bald eagle or the gray wolf.

The reader is referred to the FWS's BO dated May 9, 2003 for a complete description of their conclusion and rationale.

The FWS included in its 2003 BO reasonable and prudent measures to minimize incidental take, terms and conditions to implement the measures, and conservation recommendations to maintain/enhance protection measures for grizzly bear, lynx and bull trout.

### **Grizzly Bear**

The BO includes reasonable and prudent measures (RPM) to minimize incidental take. These measures, which are described below, are non-discretionary and must be implemented by the KNF in order for the exemption in Section 7(o)(2) ESA, to apply. The KNF has a continuing duty to regulate the activities that are covered by this incidental take statement. If the agency fails to adhere to the terms and conditions of the incidental take statement, the protective coverage of Section 7(o)(2) ESA, may lapse. Should the amount or extent of incidental taking be exceeded, or any of the mitigation and conservation efforts be modified, KNF must confer with the FWS immediately to determine if re-initiation of consultation is required.

Reasonable and prudent measures:

The FWS determined the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of grizzly bears:

- Reduce the potential for incidental take of grizzly bears resulting from displacement from essential habitat.
- Reduce the potential for incidental take of grizzly bears resulting from habituation and food conditioning.
- Monitor and record all conflicts between people and grizzly bears, and people and black bears.

In order to be exempt from the prohibitions of section 9 of the ESA Act, the KNF must, in addition to implementing the mitigation plan as proposed, comply with the following terms and conditions which

## Kootenai National Forest Rock Creek Record Of Decision

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implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

The following terms and conditions implement RPM 1:

- a. KNF shall ensure no net decrease in core area, and no net increase in open or total motorized route densities within BMUs 4, 5, and 6 during the life of the proposed mine.
- b. KNF shall ensure that reductions in open and/or total motorized route densities or increases in core areas made possible by acquisition of or obtaining conservation easements on mitigation habitat shall be completed within 3 years of acquisition or easement. Improvements shall constitute the baseline from which term and condition 1.a. above is then measured during the life of the mine. At a minimum, upon acquisition or easement, the KNF and FWS shall determine whether, where legally possible, KNF shall temporarily immediately close access routes to reduce open motorized route densities. Final planning processes would then be conducted.
- c. Within one year of issuing the permit for the evaluation adit KNF shall berm or barrier Bear Creek road (FDR 4784) to increase core area in BMU 5 for the life of the mine (Attachment 7).
- d. Currently, Midas Howard Creek Road (FDR 4778) is restricted year-long; the South Fork Miller Creek Road (FDR 4724) is partially open year-long and has a spring closure on about 6 miles of the route. These closures shall remain in place for the life of the mine to increase grizzly bear security in spring habitat. Additional closures may occur through separate planning processes and may occur due to information gained through the monitoring and research effort.
- e. KNF shall ensure that land exchanges related to mitigation properties would not result in a loss of MS-1 grizzly bear habitat in the CYE, unless such loss results in significant habitat benefits for grizzly bears, as agreed to by the FWS.
- f. KNF shall ensure that administrative use levels on restricted roads in BMUs 2, 4, 5, 6, 7 and 8 shall be limited to no more than 57 round trips per year divided by spring, summer and fall seasons.
- g. Access management changes shall be monitored and included in the annual Kootenai National Forest monitoring reports.

The following terms and conditions implement RPM 2 and 3:

- a. Prior to mine construction phase, KNF and Sterling Mining Company, along with MFWP and FWS grizzly bear personnel, shall assess county garbage transfer stations along the Clark Fork corridor other than the site near the mine entrance. KNF, Sterling Mining Company and FWS shall work toward providing partial funding and/or support to Sanders County to upgrade these sites to make them grizzly bear resistant at sites deemed in need of such action.
- b. Prior to the construction of the evaluation adit, KNF shall ensure that the Sterling Mining Company shall provide funding for the grizzly bear specialist and the law enforcement officer for a period of no less than 5 years. This would ensure the necessary funding to comply with the mitigation plan in the event of a temporary lapse of activity at the mine between the evaluation adit and construction phases. The mitigation plan requires the positions remain active in the event of temporary shutdowns. After the evaluation adit, in the event that Sterling withdraws its plan of operation or rescinds permits, with the intention of not moving forward with development of the mine, this term and condition would not be required.
- c. KNF shall seek approval to give the State law enforcement officer authority to enforce the food storage order on KNF within 2 years of issuing the permit to proceed with the evaluation adit.
- d. The FWS, Forest and Montana Department of Fish, Wildlife and Parks shall investigate any grizzly bear mortality within the action area. If deemed attributable to the effects of the mine, additional measures as needed and as approved by the FWS shall be taken to prevent additional

## Kootenai National Forest Rock Creek Record Of Decision

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- grizzly bear mortality.
- e. KNF shall monitor grizzly bear and black bear sanitation incidents in BMUs 2, 4, 5, 6, 7, and 8 and take corrective action through Forest enforcement of the food storage order and/or other adequate remedy, or through activities coordinated or conducted by the grizzly bear management specialist and/or oversight committee. Incidences involving black bears will be reviewed by the grizzly bear management specialist and the FWS to assess whether the conditions leading to the incident may also be a risk to grizzly bears in the area.
  - f. KNF shall work with the grizzly bear specialist on public outreach programs that will increase awareness of grizzly bear conservation issues among the public in and surrounding the Cabinet Mountains.
  - g. KNF shall prepare an annual report of grizzly bear and black bear sanitation incidents and corrective measures taken by April of the following year.
  - h. KNF shall prepare an annual report to the FWS that summarizes actions taken to comply with the above terms and conditions implementing RPM 1, 2, and 3.

The reasonable and prudent measures and implementing terms and conditions are designed to minimize the impact of incidental take that might otherwise result from the proposed Rock Creek Mine. If during the course of the proposed action, the level of take (one grizzly bear during life of the mine) is exceeded, such incidental take would require re-initiation of consultation. If terms and conditions implementing reasonable and prudent measure 1 are not adhered to, this may indicate that the level of exempted take due to displacement has been exceeded. The FWS retains the discretion to determine whether this is the case and re-initiation of consultation is required. The KNF must immediately provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the reasonable and prudent measures.

### Conservation Recommendations:

Section 7(a)(1) ESA directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

- The KNF continue to work on the development and implementation of a proactive Forest-wide food and attractant storage order to address grizzly bear sanitation issues on national forest lands into the future (recommendation).
- Use the list of native species in Tables G-4 through G-6 of the FEIS Revegetation Plan, Appendix G and ensure that a full mix of native species is planted and established following reclamation. Avoid the use of aggressive non-native grasses such as orchard grass, foxtail and mountain brome in any reclamation mix. Require re-seeding of natives in the likely event of failure. Ensure that native shrubs and forbs, particularly fruit and nut-bearing shrubs, are cultivated from on-site sources and cultivated in the vicinity, so that seed or live plants can be acclimated and used for transplant on the reclamation lands. Plant such established individual shrubs at regular intervals throughout the reclamation lands similar to the density and clumpiness found on undisturbed habitat in the Cabinet Yaak Ecosystem (CYE). Incorporate weed controls on these lands for whatever time is necessary to stop weed invasion before native vegetation is assured. Do not authorize release from the reclamation phase of the mine until a suitable mix and distribution of native shrubs, trees, forbs, and grasses has been established and is self-perpetuating.
- Ensure that the optional organic matter and fertilizer addressed in the EIS is required to be incorporated into all topsoil storage piles at the time it is initially removed so that when the soil is

to be re-applied to reclamation sites, the soil biota and organic matter would be more thoroughly incorporated. Additional organic matter may be added at the time the topsoil is placed on the reclamation site 3. Require that wetland mitigation acres also include enhancements to ensure the natural functioning of these important systems will occur following mitigation. Consider a mitigation ratio of at least 2:1 or 3:1.

### **Lynx**

Section 9, ESA and Federal regulation pursuant to section 4(d) ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the FWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the FWS as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2) ESA, taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement (ITS).

#### Amount or extent of take:

No incidental take is expected as a result of the proposed action.

#### Effect of the take:

Since no incidental take is expected, there will be no effects to lynx due to take.

#### Reasonable and prudent measures:

There are no reasonable and prudent measures necessary and appropriate since no incidental take is expected. However, measures designed to mitigate for effects to grizzly bear will provide benefits for the lynx. These measures include road closures, replacement habitat, and bussing employees.

#### Terms and Conditions:

No terms and conditions are necessary as no incidental take is expected and no reasonable and prudent measures are required.

#### Conservation recommendations:

Section 7(a)(1) ESA requires Federal Agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. As we do not anticipate any adverse effects of the proposed action on Canada lynx, no conservation recommendations are necessary.

### **Bull Trout**

As proposed, implementation of the Rock Creek mine is anticipated to adversely impact the majority of occupied habitat in the West Fork and main stem of Rock Creek and to a lesser extent habitat in the East Fork Rock Creek. Activities in the action area associated with the proposed mining operation would likely result in some mortality related to expected degradation of aquatic habitat including spawning habitat, rearing habitat, and food supply and the related risk to all bull trout life history stages. Increases in sedimentation, water quality degradation, and changes in channel and habitat complexity related to

mining activities are anticipated to result in reduced egg, larval, and juvenile life history stages by impairing feeding, breeding and sheltering patterns of adult and juvenile bull trout. Implementation of Alternative V may reduce the reproduction, numbers, or distribution of bull trout within Rock Creek to the degree that bull trout persistence in Rock Creek is appreciably reduced.

The Cabinet Gorge Reservoir bull trout subpopulation consists of bull trout in the reservoir, Bull River, and Rock Creek. Rock Creek bull trout are mainly non-migratory, resident fish, so they are essentially isolated from Bull River bull trout. As such, Rock Creek bull trout contribute relatively little to the Cabinet Gorge Reservoir subpopulation. A modest portion of this subpopulation would be negatively impacted by proposed project actions. Anticipated impacts to bull trout are unlikely outside of the Rock Creek drainage. No activity is proposed in the Bull River drainage, the principal contributor of the subpopulation. In the event of extirpation of Rock Creek bull trout, Bull River fish would remain and constitute the Cabinet Gorge Reservoir bull trout subpopulation. However, extirpation of one of only two occupied drainages in the subpopulation would likely reduce subpopulation resiliency and increase the risk of subpopulation extirpation due to environmental stochasticity (Rieman and McIntyre 1993).

If this subpopulation were extirpated, the probability of bull trout persistence in the Clark Fork River subbasin would likely be reduced only marginally, and the probability of the persistence of the Columbia River Basin DPS would not likely be appreciably affected. Based on the magnitude of the project effects in relation to the listed DPS at the Columbia River basin scale the action is not likely to jeopardize the Columbia River basin bull trout DPS.

**Conclusion for Proposed Critical Habitat:**

As proposed, implementation of the Rock Creek mine is anticipated to adversely impact the majority of occupied habitat in the West Fork and mainstem of Rock Creek and to a lesser extent habitat in the East Fork Rock Creek. Activities in the action area associated with the proposed mining operation would likely degrade aquatic habitat including spawning habitat, rearing habitat, and food supply and impact all bull trout life history stages. Increases in sedimentation, water quality degradation, and changes in channel and habitat complexity related to mining activities are anticipated to reduce the capability of the habitat to support feeding, breeding and sheltering patterns of adult and juvenile bull trout. Implementation of Alternative V may reduce habitat quality and the reproduction, numbers, or distribution of bull trout within Rock Creek to the degree that bull trout persistence in Rock Creek is appreciably reduced.

The Cabinet Gorge Reservoir bull trout subpopulation consists of bull trout in the reservoir, Bull River, and Rock Creek. Rock Creek bull trout are mainly non-migratory, resident fish, so they are essentially isolated from bull river bull trout. As such, Rock Creek bull trout contribute relatively little to the Cabinet Gorge Reservoir subpopulation. A modest portion of this subpopulation would be negatively impacted by proposed project actions. Anticipated impacts to proposed bull trout critical habitat are unlikely outside of the Rock Creek drainage. No activity is proposed in the Bull River drainage, the principal contributor of the subpopulation. In the event of extirpation of Rock Creek bull trout, Bull River fish and proposed critical habitat would remain and constitute the Cabinet Gorge Reservoir bull trout subpopulation. However, extirpation of one of only two occupied drainages in the subpopulation would likely reduce subpopulation resiliency and increase the risk of subpopulation extirpation due to environmental stochasticity (Rieman and McIntyre 1993).

If the value of proposed critical habitat is diminished to the extent that this subpopulation were extirpated, the probability of bull trout persistence in the Clark Fork River subbasin would likely be reduced only marginally, and the overall abundance and quality of proposed critical habitat for the Columbia River Basin DPS would not likely be appreciably affected.

## Kootenai National Forest Rock Creek Record Of Decision

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- Clark Fork River subbasin consists of major river drainages including the Blackfoot, Clark Fork, Swan, Flathead, and Bitterroot Rivers.
- Bull trout populations are considered strong in Rock Creek, of the upper Clark Fork River, (not the stream in this projects action area) and the South Fork Flathead, Blackfoot, and Swan Rivers (USDI 1998c; Figure B1).
- Trends in abundance of bull trout are stable in South Fork Flathead River, and increasing in the Blackfoot and Swan Rivers.
- The Cabinet Gorge Reservoir subpopulation contains only 66 of approximately 8,000 miles of potentially occupied bull trout habitat in the Clark Fork River watershed (W. Fredenberg, pers. comm., 2002).
- The Cabinet Gorge Reservoir subpopulation contains 47.2 miles of stream and 3,200 acres of a total of 312 miles of stream and 12,014 acres of lake surface area proposed for designation as critical habitat for bull trout in this CHSU, 1 of 12 CHSUs in the Clark Fork River subbasin.
- As such, the value of proposed critical habitat occupied by this bull trout subpopulation is relatively minor compared to the proposed critical habitat distribution in the Clark Fork River subbasin.
- This small portion of bull trout range is isolated from upstream and downstream areas by dams.
- The probability of persistence of bull trout in the Clark Fork River subbasin would not be significantly reduced even if the Cabinet Gorge Reservoir bull trout subpopulation was extirpated due to diminished value of proposed critical habitat in the Rock Creek watershed.
- The Clark Fork River watershed is only 1 of at least 20 major watersheds forming the Columbia River basin DPS, though it is amongst the largest (USDI 1998b).
- The Cabinet Gorge Reservoir subpopulation contains 47.2 miles of stream and 3,200 acres of a total of 18,175 miles of stream and 498,782 acres of lake surface area proposed for designation as critical habitat for bull trout in the Columbia River basin DPS.
- The probability of persistence of bull trout in the Columbia River basin DPS would not be significantly reduced even if the Cabinet Gorge Reservoir bull trout subpopulation were extirpated due to diminished value of proposed critical habitat in the Rock Creek watershed.

This demonstrates the small fraction of proposed critical habitat distribution of the Columbia River basin bull trout DPS occupied by this subpopulation. Based on the magnitude of the project effects in relation to the listed DPS at the Columbia River basin scale the action is not likely to destroy or adversely modify proposed critical habitat of the Columbia River basin bull trout DPS.

### Incidental Take Statement:

The proposed action includes the future refinement and approval of monitoring and mitigation plans for bull trout by the Sterling Mining Company, in cooperation with the MDEQ, the KNF, and the FWS. Appendix K of the FEIS and revised Appendix K Attachment 2 of this ROD contains a complete description of the conceptual monitoring and mitigation plans for Alternatives III through V developed by MDEQ and the KNF.

Sterling Mining Company would develop final monitoring and mitigation plans prior to project startup. The regulatory agencies would review and approve the plans as an interagency team. To minimize impacts to bull trout, the plans potentially directly affecting the fishery would be reviewed from a fisheries perspective. The FWS would participate as needed and will require the KNF fishery biologist, hydrologist, geologist, and soil scientist would be involved in issues related to water use, fishery monitoring plans, sediment abatement plans and monitoring, and groundwater. All plans would need to identify trigger or alert levels, which would require Sterling Mining Company to implement a corrective action plan. Corrective action plans for the most likely scenarios need to be developed and approved by the interagency team prior to project startup.

All monitoring would require an annual report unless otherwise specified. The reporting format and requirements would be reviewed and finalized by MDEQ, the KNF, and the FWS. Reports would be submitted to other review agencies as identified by the KNF and MDEQ. After submittal of a monitoring report, the regulatory agencies and all other relevant agencies would review the monitoring plan and results, and evaluate possible modifications to the plan or permitted operations.

Monitoring and mitigation plans to be refined, approved and ultimately included in the plan of operations include:

- Air Quality Monitoring
- Rock Mechanics Monitoring
- Acid Rock Drainage and Metals Leaching Plan
- Evaluation Adit Data Evaluation Plan
- Tailings Paste Facility and Tailings Surry Line Construction Monitoring Plan
- Soils and Erosion Control Plan
- Reclamation Monitoring Plan
- Water Resources Monitoring Plan
- Influent and Effluent Monitoring Plan
- Monitoring of Biological Oxygen Demand Plan
- Wildlife Mitigation and Monitoring Plan
- Threatened and Endangered Species Mitigation Plan (Attachment 4)
- Aquatics and Fisheries Monitoring and Mitigation Plan
- Hard Rock Mining Impact Plan
- Wetlands Mitigation Plan

#### Amount or Extent of Take Anticipated

The FWS anticipates activities associated with the proposed mining operation would result in some incidental take of bull trout in the form of harm, harassment or mortality related to expected degradation of aquatic habitat parameters including spawning habitat, rearing habitat and food supply and the related risk to bull trout life history stages. Increases in sedimentation, degradation of water quality, changes in channel and habitat complexity related to mining activities are anticipated to adversely affect and likely result in a take of the egg, larval and juvenile life history stages by harming or impairing feeding, breeding and sheltering patterns of adult and juvenile bull trout.

The KNF anticipates the activities with the likelihood of harm and harassment would continue for approximately 35 years, the life of the plan of operations (USDA 1999). However, mine operation could exceed that time frame and long-term effects of mining operations would likely continue indefinitely after mine closure. Impacts associated with groundwater development, metals contamination, and catastrophic events also are inherent to a proposal of this magnitude and considered risks to bull trout. Such impacts are difficult to predict, but are not anticipated by the FWS. These actions contribute to the overall risk to

bull trout in the Cabinet Gorge Reservoir subpopulation and Reasonable and Prudent Measures must be taken to minimize take.

The amount of take expected in the Rock Creek watershed is difficult to quantify because of the wide ranging distribution of bull trout, identification and detection of dead or impaired species at the egg and larval stages is unlikely, losses may be masked by seasonal fluctuations in numbers and aquatic habitat modifications are difficult to ascribe to particular sources, especially in already degraded watersheds. In addition, the effects of management actions associated with the mining operations are largely unquantifiable in the short term and may only be measurable in the long-term effects to the species or population levels.

The FWS anticipates incidental take of bull trout primarily in the form of harm and harassment at varying levels as described in the biological opinion. The FWS believes incidental take of bull trout could occur because of the implementation of proposed mining activities in post-implementation years 1 through 35; however, long term effects of mining operations would likely continue indefinitely after mine closure. Incidental take is expected to occur primarily in West Fork Rock Creek and Rock Creek downstream from the West Fork confluence, approximately 9 stream miles. No incidental take is anticipated in the Bull River system; therefore, none is exempted.

To ensure protection for a species assigned take due to mining related activities, reinitiation is required if the Terms and Conditions are not adhered to or the magnitude of the mining activities exceed the scope of this opinion.

#### Effect of the Take

In the biological opinion, the FWS determined that this level of anticipated take is not likely to jeopardize the continued existence of the Columbia Basin DPS of bull trout, as listed.

#### Reasonable and Prudent Measures

The FWS determined the following reasonable and prudent measure(s) are necessary and appropriate to minimize impacts of incidental take of bull trout:

1. To better assess and quantify incidental take of bull trout, Sterling Mining Company shall complete watershed assessment of the Rock Creek watershed which characterizes Rock Creek bull trout, habitat conditions, and existing sediment sources in the basin. This is to be done in consultation with the Rock Creek Watershed Council, the KNF, and the FWS. Incorporate, as appropriate, any additional findings into monitoring and mitigation plans.
  - a. Implement a fish monitoring program to document the current status of Rock Creek bull trout and the effect of mitigation activities on Rock Creek bull trout. Define bull trout distribution, densities, age class structures, genetics, growth rates, fecundity, and status of life history forms.
  - b. Implement a fish monitoring program to document the current status of brook and brown trout distribution and the effect of project activities on Rock Creek brook and brown trout. Determine feasibility of reducing risk of hybridization and inter-specific competition by removing brook and brown trout from the Rock Creek drainage using accepted methodology.
  - c. Implement an assessment of existing habitat conditions for bull trout. Include assessment of spawning, rearing and over wintering conditions for resident and adfluvial bull trout. Also include temperature monitoring to establish baseline conditions for bull trout.

- d. Implement a stream habitat enhancement program that improves the ability of bull trout to move throughout the year in Rock Creek and increases habitat availability and diversity for migratory and resident bull trout. Include an assessment of alternatives and designs for stream diversion to be constructed around the paste facility.
  - e. Identify sediment sources currently impacting Rock Creek and plan, design, and implement sediment abatement measures to reduce sediment input to the stream prior to initiation of any ground disturbing activities not related to adit exploration and development. This plan should identify existing sediment sources such as culverts, road impacts, bridges, past bank stabilization efforts and utility right of way impacts. Complete a road systems analysis to define existing and future road uses and closures.
  - f. Implement a sediment monitoring program to document the ongoing condition of Rock Creek and the effect of mitigation activities on sediment levels, and the actual effect of project activities and proposed mitigation actions on sediment levels in the drainage.
2. Evaluate all possible operations of the existing effluent location or relocating the effluent outfall discharge pipe to a location eliminating any potential impacts to bull trout related to project effects on migrating or holding fish moving into Rock Creek from the Clark Fork River.
  3. Implement a metals monitoring program that includes monitoring levels of metal concentrations in water, sediments, macroinvertebrates, and fish tissues. This could be incorporated in several conceptual monitoring plans including, but not limited to, the Aquatics and Fisheries Monitoring and Mitigation Plan.
  4. Identify key spawning areas and implement a monitoring program of changes in groundwater influence for spawning and rearing bull trout. This would be incorporated into the groundwater monitoring program.
  5. Complete a risk assessment of failure related to haul routes and mine related vehicle traffic. Incorporate any additional measures identified to minimize the risk of failures and the associated impacts to bull trout.
  6. Incorporate any additional measures identified to minimize the risk of failure of the paste pile or facility and the associated impacts to bull trout.
  7. Implement reporting and consultation requirements as outlined in the following terms and conditions.

Terms and Conditions:

In order to be exempt from the prohibitions of section 9 of the Act, the KNF must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

The following terms and conditions are established to implement reasonable and prudent measure No. 1:

Upon the of issuance of the letter of approval for the Rock Creek mine, the KNF would require the applicant to initiate baseline studies for use in a complete watershed assessment of Rock Creek. The KNF would require the applicant to complete and submit the watershed assessment to the KNF and FWS prior to surface disturbance activity *not* related to the evaluation adit phase of the project.

## Kootenai National Forest Rock Creek Record Of Decision

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The assessment would include information to characterize Rock Creek bull trout, habitat conditions and existing sediment sources in the basin and would address the following issues for bull trout:

- a. A monitoring plan to document the prevalence of Rock Creek bull trout. That monitoring plan would include studies to define bull trout distribution, densities, age class structures, genetics, and status of migratory (adfluvial) bull trout.
- b. An assessment and subsequent monitoring to define the prevalence and distribution of brook and brown trout. In conjunction with Montana Fish, Wildlife and Parks, determine the feasibility of removing brook and brown trout from Rock Creek using accepted methodology. Evaluate the potential reduction of hybridization and competition risk by non-native species and benefit to bull trout. If determined feasible and needed, subject to agreement with Montana Fish, Wildlife and Parks, remove brook and brown trout from the Rock Creek drainage using accepted methodology.
- c. An assessment of current habitat conditions for bull trout. The assessment would include information on quantity and quality of spawning, rearing and over wintering conditions for resident and adfluvial bull trout.
- d. An assessment of possible sediment mitigation and reduction projects within the Rock Creek basin as outlined in the proposed action. Recommendations of stream enhancement projects should be included in that assessment.
- e. A feasibility assessment (including engineering options, conceptual designs, estimated costs and expected sediment load effects) for sediment abatement measures that would reduce sediment levels in the Rock Creek drainage. This assessment would include any designs for the proposed stream diversion around the proposed paste facility and a complete roads analysis and recommendations associated with proposed mitigation projects and mine activities.
  - (1) The sediment abatement program shall reduce the sediment levels in Rock Creek by approximately 38 percent (the projected increase in sediment levels attributable to development of the mine as described in the BA) prior to surface disturbance activity **not** related to the evaluation adit phase of the project.
  - (2) Upon completion of the feasibility assessment (1. d., above), the KNF would require the applicant to complete design and permitting requirements, in consultation with MDEQ, the KNF, and the FWS, and begin construction of such sediment abatement measures as agreed to by the KNF and the FWS.
- f. Upon the issuance of the letter of approval for the Rock Creek Project, the KNF would require the applicant to complete and submit to the KNF and the FWS a sediment monitoring plan that would adequately assess the current and long-term status of sediment levels in Rock Creek. The sediment monitoring plan would be developed in consultation with MDEQ, the KNF and the FWS and would address the entire KNF permit time period. This also would include a complete assessment of the effectiveness of the sediment abatement program in the Rock Creek drainage. If the assessment concludes, and the FWS agrees, that the sediment abatement program failed to substantially reduce sediment levels in Rock Creek, then the applicant would prepare an assessment of other measures that could be implemented in the Rock Creek drainage and would be completed in a time frame agreed to by the FWS.

The following terms and conditions are established to implement reasonable and prudent measure # 2:

## Kootenai National Forest Rock Creek Record Of Decision

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- a. Prior to surface disturbance activity **not** related to the evaluation adit phase of the project, the KNF would require the applicant to complete, and submit to the KNF and the FWS, an evaluation of operational options with existing diffuser location and alternative locations for siting the diffuser entering the Clark Fork River below Noxon Dam. The evaluation would be prepared in consultation with the KNF, MDEQ, and the FWS and would focus on recommendations that would minimize potential effects on migrating or resident bull trout utilizing the Clark Fork River habitats adjacent to the mouth of Rock Creek and the spring area immediately upstream. The FWS would have the authority to ultimately approve the evaluation.
- b. If the evaluation identifies a more appropriate operation or location for the diffuser (2. a., above), the KNF would require the applicant to modify the plan of operations, as agreeable to the FWS, to incorporate the alternative most likely to minimize impacts to bull trout.

The following terms and conditions are established to implement reasonable and prudent measure #3:

- a. Prior to surface disturbance activity *not* related to the evaluation adit phase of the project, the applicant shall submit a plan to the KNF and the FWS for metals monitoring as it relates to bull trout habitat requirements that includes monitoring in water samples, sediment samples, and fish samples. This monitoring would start prior to mine development to establish the baseline, and continue during operations and post operations as determined necessary by the KNF and the FWS. The FWS would have the authority to ultimately approve the plan.

The following terms and conditions are established to implement reasonable and prudent measure #4:

- a. Prior to surface disturbance activity **not** related to the evaluation adit phase of the project, the KNF shall require the applicant to submit a plan to the KNF and the FWS for monitoring of groundwater effects as they relate to bull trout habitat requirements. This monitoring would start prior to mine development to assess the baseline, and continue during operations and post operations as determined necessary by the KNF and the FWS. The FWS would have the authority to ultimately approve the plan.

The following terms and conditions are established to implement reasonable and prudent measure #5:

- a. Prior to surface disturbance activity *not* related to the evaluation adit phase of the project, the KNF shall require the applicant to submit a risk assessment of accidents related to haul routes for mine related vehicle traffic to the KNF and the FWS for evaluation. The assessment would determine areas most at risk for bull trout and make recommendations for additional measures and responses to minimize risk. If any additional measures can be incorporated to minimize the risk of catastrophic failures, the KNF, MDEQ, and the FWS would determine the timeline and mechanism for implementation of those identified measures.

The following terms and conditions are established to implement reasonable and prudent measure # 6:

- a. Minimization of paste pile or facility failures includes: employing the Bottom-Up construction sequence, installing blanket and finger drains beneath the paste facility; continually modeling and monitoring the moisture content of the paste pile during operations to better understand saturation levels, generating a detailed design of the paste plant operations and disposal system to ensure quality assurance and quality control during operation and post-closure. If any additional measures can be incorporated to minimize the risk of catastrophic paste pile or facility failures, the KNF, MDEQ, and the FWS would determine the timeline and mechanism for implementation of those identified measures.

The following terms and conditions are established to implement reasonable and prudent measure # 7:

- a. The KNF would require the applicant to annually prepare and submit to the FWS a report of the mining year activities as well as the next year's proposed activities.
- b. Upon locating dead or injured bull trout or upon observing destruction of redds, notification must be made within 24 hours to the Montana Field Office at 406-449-5225. Record information relative to the date, time, and location of dead or injured bull trout when found, and possible cause of injury or death of each fish and provide this information to the FWS.
- c. During project development and operation the KNF or applicant shall notify the FWS within 24 hours of any emergency or unanticipated situations arising that may be detrimental for bull trout relative to the proposed activity.
- d. Within 90 days of the end of each year, the KNF or applicant would provide a written report or letter to the FWS indicating the actual number of bull trout taken, if any, as well as any relevant biological/habitat data or other pertinent information on bull trout that was collected.
- e. The KNF shall assure consistent implementation of measures and standards specified in the Aquatic Conservation strategies as indicated in the 1998 Biological Opinion for the Effects to Bull Trout from the Continued Implementation of Land and Resource Management Plans and Resource Management Plans as Amended by the Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana, and portions of Nevada (INFISH), and the Interim Strategy for Managing Anadromous Fish-producing Watershed in Eastern Oregon and Washington, Idaho and portions of California (PACFISH).
- f. To better monitor mitigation measures identified, the KNF would provide summaries to the FWS of all INFISH compliance, water quality and fish population monitoring conducted in conjunction with these mining operations.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. With implementation of these measures, the FWS expects that take of bull trout would be a result of the impacts to instream habitat associated with increases in sediment, modifications to water quality, and modifications of instream habitat conditions for the life of the mining operations and reclamation activities. Some long-term effects of mining operations would likely continue indefinitely after mine closure. If, during the course of the action, the project descriptions are not adhered to, the level of incidental take anticipated in the biological opinion may be exceeded. Such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The FWS retains the discretion to determine whether non-compliance with terms and conditions results in take exceeding that considered here, and whether consultation should be re-initiated. This may require suspension of mining operations. The Federal agency must immediately provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the reasonable and prudent measures.

**Conservation Recommendations:**

Section 7(a)(1) ESA directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of

a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. The FWS recognizes the impacts of past mining, roading and logging actions on watersheds on the KNF. For the benefit of the watershed and listed bull trout, the FWS encourages the KNF to seek funding to reclaim and restore impacts from previous actions.
2. The FWS recognizes and appreciates the KNF and Sterling Mining Company's involvement with the Rock Creek Watershed Council. We encourage continued participation and development of actions to further restore native fish populations in the Rock Creek drainage.
3. To progress toward bull trout recovery in the Clark Fork Recovery Unit, the FWS encourages the KNF to consider incorporating recommended recovery tasks of the bull trout draft recovery plan (USDI 2002b).

In order for the FWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the FWS requests notification of the implementation of any conservation recommendations.

#### **E. COMMENTS AND REVIEWS AFTER KNF'S WITHDRAWAL OF THE 2001 ROD**

##### ***Review of Western Mining Action Group Comments on FEIS and 2001 ROD***

In September 2001, I signed a Record of Decision (ROD) for the proposed Rock Creek Project plan of operations. The ROD was appealed to the Regional Forester by Western Mining Action Group (WMAG) on behalf of six appellants: Rock Creek Alliance (RCA), Clark Fork Coalition, Cabinet Resource Group, Montana Wilderness Association, Mineral Policy Center and the Sierra Club. After the FWS withdrew its Biological Opinion, I withdrew the Forest Service ROD (please see section I of this ROD). The appeal was therefore rendered moot, and the Regional Forester dismissed it.

WMAG's appeal of the 2001 ROD incorporated and relied substantially upon two separate reports appellants had commissioned and provided to the KNF after the FEIS and ROD had been completed. The two reports were provided as part of the appeal, and comprised comments and opinions by Mr. James Kuipers and Dr. Anne Maest that reflected their disagreement with the professional analyses and opinions of Forest Service and DEQ experts regarding adequacy of environmental impact disclosure in the FEIS; potential for mine subsidence; rock geochemistry; and ground water. These comments and differences of opinion with agency experts expressed in the two reports were submitted long after the EIS public comment period had ended, and therefore couldn't be considered during the FEIS process. Regardless, I requested that Forest Service and DEQ experts further analyze and respond to the issues in the Kuipers and Maest reports so that I could consider the WMAG comments in this new Record of Decision.

I have reviewed the following agency expert analysis and response to the WMAG's Kuipers report, and it is a part of the project record for this ROD:

*McKay, John, Joseph Gurrieri, and Peter Werner (2003), Technical Review of RCA Comments on the Rock Creek Project FEIS Subsidence Analysis, 18 pp.*

This agency subsidence and ground water review, analysis, and response disagreed with Kuipers' assertions about the potential for subsidence and effects on ground and surface waters. It pointed out that the generalizations in Kuipers' report are not useful in the accurate disclosure of subsidence potential or effects on ground water at a particular mine. The response explains that subsidence potential depends on