

CHAPTER 1 – INTRODUCTION AND PURPOSE AND NEED

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1.0. INTRODUCTION

1.1. Background Information

Thompson Creek Mining Company (TCMC) has submitted a modified¹ mining plan of operations (MMPO)² to the Bureau of Land Management (BLM) Challis Field Office; US Forest Service, Salmon-Challis National Forest (SCNF); and other cooperating agencies for an expansion and extension of mine life of the Thompson Creek molybdenum mine (TCM). In relation to the MMPO, TCMC has submitted an application to the US Army Corps of Engineers (USACE) for a permit under Section 404 of the Clean Water Act of 1972, as amended (CWA) to discharge dredged or fill materials into waters of the US (WUS). In addition, TCMC has submitted a separate proposal to exchange Federal land administered by the BLM for private lands owned³ by TCMC. Such exchange would require amendment of the Challis resource management plan (RMP) (BLM 1999). Therefore, the proposed resource management plan amendment (PRMPA) is to identify the selected land in the land exchange proposal as suitable for disposal under the Federal Land Policy Management Act of 1976, as amended (FLPMA) (Section 1.7). The BLM and Forest Service have determined that their required responses to the MMPO and land exchange/PRMPA proposal would be significant Federal actions requiring preparation of an environmental impact statement (EIS).

There is a single current mining plan of operations (MPO) and MMPO for the mine – the reclamation plan is part of the MPO for the Federal agencies, whereas the Idaho Department of Lands (IDL) considers the “operating plan” to be part of the reclamation plan. The MPO comprises all approved modifications since its original submission in 1979. It includes a variety of plans in addition to the reclamation plan such as the interim management plan, water quality monitoring plan, water management plan, fugitive dust control plan, etc.

The MPO is administered by the BLM, Forest Service, and IDL, with each agency having jurisdiction for the portion of the mine that is on land administered by each agency. The BLM, Forest Service, and USACE must issue decisions in response to the MMPO, 404 permit application, and land exchange proposal (Section 1.6).⁴ Consequently, these agencies are collaborating in the preparation of a single EIS that will be the basis for the agencies to issue their decisions. The US Environmental Protection Agency (EPA), Idaho Department of Environmental Quality (IDEQ), and IDL are also collaborating in the preparation of the EIS to ensure that the alternatives comply with Federal and State regulations within the respective jurisdictions of the agencies. Analysis of the effects of the alternatives (i.e., the Federal responses to the MMPO, 404 permit application, and land exchange proposal), including the preparation of an EIS, RMP amendment, and issuing records of decision (RODs) pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, is hereafter referred to as the

¹ supplemental under 36 CFR 228.4(a)(3)

² Submitted in December 2008 with a revised version submitted in October 2009; “MMPO” herein refers to the revised version.

³ The land and all related assets are listed in the name of Western States Land Management, Inc., who purchased and manages the land under written contract on behalf of TCMC. Therefore, TCMC is the effective owner/manager of the land.

⁴ These decisions will not be issued until at least 30 days after the publication by the EPA of the notice of availability for this FEIS.

project. The project area is the geographic area that includes the surface disturbance of the mine (under all alternatives)⁵ and the lands in the land exchange proposal (Figure 2.1-2., Figure 2.2-1., Figure 2.2-2. in Chapter 2), as well as the areas involved with the land disposal provisions (Section 2.2.7).

The mine is 7 air miles northwest of Clayton and 21 air miles southwest of Challis in Custer County, Idaho. The mine has been owned by a series of public and private companies since 1979. The mine is currently owned and operated by Cyprus Thompson Creek Mining Company, a wholly owned subsidiary of TCMC, which is a wholly owned subsidiary of Thompson Creek Metals Company Inc., a public company headquartered in Denver, Colorado.

Cyprus Minerals Corporation, through its exploration subsidiary Tuscarora Mining Company, staked the first mining claims on the Thompson Creek ore deposit in 1967. Exploration work began in earnest (e.g., diamond core drilling) in 1968 and continued throughout the 1970s. During this time VTN Colorado, Inc. (VTN 1975) completed the first of three substantial environmental documents for the mine – an EIS to provide baseline environmental information and evaluate mitigation measures for the anticipated effects of the mine.

Cyprus Minerals Corporation submitted a Notice of Intent to Operate and a MPO to the Forest Service and BLM in 1979 (Cyprus Mines Corporation 1979). In 1980 the Forest Service (lead agency) and the BLM (cooperating agency) completed a final EIS (FEIS) analyzing the effects of approving the MPO or alternatives (USFS 1980). The FEIS included analysis of no action, the proposed action (Alternative 1), and two additional alternatives (Alternative 2 and Alternative 3). Alternative 1 included an open-pit mine, waste rock storage facilities (WRSF), mill/concentrator facilities, tailings storage facility (TSF), and associated transportation and utility corridors. Alternative 1 was the agency environmentally-preferred alternative. Alternative 2 and Alternative 3 were similar to Alternative 1, but had different locations for some of the facilities. The key issues analyzed in the 1980 FEIS included those related to socioeconomic factors; water quality; fisheries, wildlife, cultural and paleontological resources; and the overall technical feasibility of the proposed mine. The Challis National Forest Supervisor and the BLM Challis Field Office Field Manager selected Alternative 1, which was consistent with the applicable Challis National Forest and BLM land use plans.

Construction of the mine began in January 1981, and commercial molybdenum production began in November 1983 and continues to date. The approved MPO describes only the final design limits on Federal lands of the mining operations that could be reasonably designed at that time. However, the open pit, WRSFs, and TSF were developed in phases because it was not economical to strip the waste rock overlying the entire ore body at once. Each phase consisted of stripping a slice of overlying waste rock (overburden), removing the exposed ore, milling the ore to extract a molybdenite concentrate, and placing the finely ground mill waste rock (tailings) in the TSF. The mine is currently in Phase 7, which corresponds to the final design limits of the approved MPO.

In 1999 the Forest Service (lead agency) and BLM (cooperating agency) completed a final supplemental EIS (FSEIS) evaluating a supplemental MPO submitted by TCMC. The supplemental plan describes modifications to the WRSFs and TSF to minimize the potential for acid rock

⁵ The use of the term “alternatives” herein refers to the proposed actions and alternatives to the proposed actions.

drainage (ARD) from these facilities. The 1999 FSEIS included an analysis of no action (Alternative 1), the proposed action (Alternative 2), and two additional action alternatives (Alternative 3 and Alternative 4) (USFS 1999a). Alternative 2 included the following modifications to the WRSFs and TSF:

- Removing pyrite from the tailings during the non-freezing construction season (6 months per year) so pyrite-reduced tailings could be used in construction of the tailings embankment;
- Permanent subaqueous deposition of pyrite concentrates within the TSF;
- Characterizing waste rock to identify potentially acid-generating (Type 2) material and operating the Pat Hughes and Buckskin WRSF using selective segregation of Type 2 material; and
- Capping the final WRSF with a low-permeability cap and diversion of surface run-off around the WRSF.

Alternative 3 was the same as the proposed action except the pyrite would be removed from the tailings year-round instead of 6 months per year. In Alternative 4 the pyrite would be removed from the tailings year-round and disposed of at an off-site facility; waste rock management in Alternative 4 was the same as in the proposed action. The Forest Service and BLM selected Alternative 2 and gave interim approval of the MPO consistent with the alternative with RODs dated March 1999 (USFS 1999b) and January 2000 (USFS 2000). Additional Federal approval was not made due to the issuance of mineral patents in September 2000, i.e., the mine operations that were the subject of the SEIS came under IDL jurisdiction.

1.2. Proposed MMPO

As of September 2014, the cumulative surface disturbance of the mine was 2,191 acres on private land, 451 acres on land administered by the BLM Challis Field Office, and 181 acres on land administered by the SCNF (also referred to as National Forest System [NFS] land). The current operations consist of an open pit (5,200 feet long, 3,600 feet wide, 2,000 feet deep), two cross-valley-fill WRSFs in the Pat Hughes and Buckskin drainages (totaling 600 million tons), a TSF (745 feet high, 200 million tons) in the Bruno drainage, a mill, and a network of roads, pipelines, power lines, conveyor belts, sedimentation ponds, etc.

Under the current MPO (amended), which describes operations through Phase 7, the mine would cease production in late 2014. However, the proposed MMPO describes the Phase 8 expansion of the open pit, expansion of the WRSF and TSF (Figure 1.2-1.), and modifications to the existing long-term water management plan (the portion of the reclamation plan dealing with long-term water management). The MMPO would allow TCMC to produce molybdenum to approximately 2025 at the current rate of approximately 30,000 short tons per day of ore (15-20 million pounds/year of molybdenum), and TCMC would employ up to 400 full-time employees. Under Phase 8 all of the current proven and probable ore reserves at the mine would be processed. However, ore reserves are a dynamic concept subject to a variety of mining, metallurgical, economic, marketing, legal, environmental, social, and governmental factors.

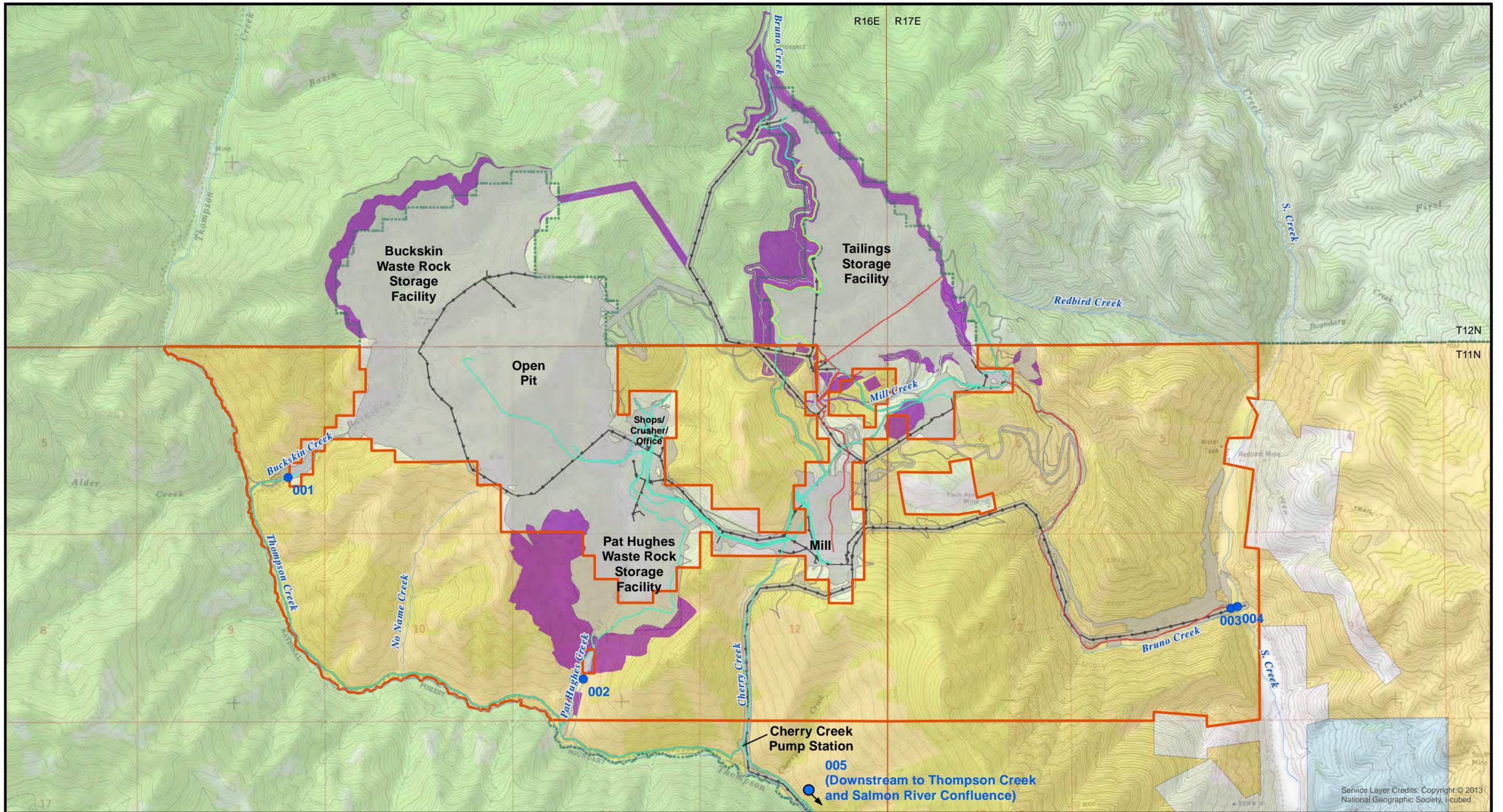
Therefore, the MMPO was developed based on a best estimate by TCMC of long-term market conditions, i.e., Phase 8 mining might not be completed, or an additional phase(s) could be proposed in the future. In either case, mine reclamation (that is not completed concurrent with mine production) would occur after mine production has ceased.

The additional surface disturbance at the mine from the MMPO would be 110 acres of private land owned by TCMC, 200 acres of BLM land, and 185 acres of NFS land. The mine currently includes approximately 2,800 acres of surface disturbance within a block of patented land and patented and unpatented mining claims comprising approximately 17,000 acres. Of this area, TCMC owns 2,686 acres fee simple (patented mining claims and 36 acres patented under the Small Tracts Act of 1983). The unpatented claims comprise approximately 6,000 acres of BLM land and 8,000 acres of NFS land.

Expansion of the open pit would be entirely on private property (patented mining claims) owned by TCMC. Overburden (waste material that must be mined to reach ore) from the open pit would be placed in the Buckskin and Pat Hughes WRSFs. Expansion of the WRSFs would cover 27 acres of private land, 171 acres of BLM land, and 54 acres of NFS land.

Expansion would also require additional tailings storage capacity, which would be accomplished by raising and partially realigning the current tailings embankment crest to a pre-reclamation elevation of 7,742 feet. Expansion of the TSF would cover 68 acres of private land, 11 acres of BLM land, and 52 acres of NFS land. In addition, a portion of a 24.9 kilovolt (kV) power line on NFS land would be relocated due to expansion of the open pit. The proposed utility corridor (4,900 feet in length, 200 feet in width, 21.9 acres) would be on a ridge between Bruno Creek and the head of Pat Hughes Creek, and would extend into the upper reaches of the Buckskin drainage. A water treatment plant was constructed in 2009 to blend and treat drainage water from the Pat Hughes WRSF, Buckskin springs, and the open pit. During mining the plant would continue to provide water for use in the mill as fresh water. After mining is completed, water from the TSF and WRSF drains would be collected and treated as necessary in a lime plant and piped to the open pit for storage. When the water level in the pit reaches the 7,030-foot elevation, water from the pit would be pumped to a treatment plant and treated water from the plant would be discharged to the Salmon River at a permitted EPA National Pollutant Discharge Elimination System (NPDES) outfall. More detailed information on the MMPO is provided in Chapter 2.

TCMC mines molybdenum on private and Federal land open to mineral entry pursuant to Federal mining laws. These laws confer a statutory right to conduct operations that are reasonably incident to exploration and development of locatable mineral deposits, in compliance with other applicable laws and regulations. TCMC submitted the MMPO describing the operations necessary to continue to develop the mine in a reasonable (economical, technologically feasible, and safe) manner. The operations are necessary for TCMC to continue to supply national and worldwide demand for molybdenum. TCMC has submitted a 404 permit application to obtain authorization to discharge dredged or fill materials into WUS. Such discharge would be necessary for TCMC to implement the MMPO.



Legend

Selected land	Existing power line	Land Ownership
Existing mining disturbance	Pyrite pipeline	BLM
MMPO areas/Alternative M2	Tailings pipeline	Private
NPDES outfall	Water pipeline	State
		Forest Service

Selected land, existing mining disturbance from Thompson Creek Mine data, polygons created by Ken Gardner. Ownership data is at 1:24,000 and created and maintained by the Bureau of Land Management, Idaho State Office, Geographic Sciences. Topographic background from USGS 7.5' Quadrangles 1:24,000 scale. Coordinate system UTM Zone 11 NAD 83

0 1
1:32,000
0 1
Miles
0 1
Kilometers

No warranty is made by the Bureau of Land Management (BLM) for the use of this data for purposes not intended by the BLM.

Figure 1.2-1
Project area, MMPO area and selected land
Thompson Creek Mine EIS

1.3. Proposed Land Exchange

The land exchange proposal involves approximately 5,100 acres⁶ of BLM land (selected land) administered by the BLM Challis Field Office and approximately 900 acres of private land owned by TCMC (offered lands). The selected land contains the southern portion of the mine; the additional surface disturbance on Federal land described in the MMPO would occur on a portion of the selected land (Figure 1.2-1).

The offered lands consist of the Broken Wing Ranch, 6 miles northeast of Clayton in Custer County, and the Garden Creek property, 16 miles southeast of Pocatello in Bannock County, Idaho (Figure 1.3-1). The Garden Creek property would be managed under the Pocatello RMP; however, there is no site-specific management plan or criteria for the property. The Broken Wing Ranch would be managed largely according to the recommendations of the BLM Idaho Falls District Resource Advisory Committee (RAC), or by an alternative management plan as described in Chapter 2.

The Challis RMP identifies 63,075 acres of Federal land available in the BLM Challis Field Office area for disposal under the FLPMA. Such land does not include the selected land in the land exchange proposal. Therefore, if the BLM were to approve a land disposal alternative⁷ involving disposal of any of the selected land, the BLM would first need to amend the RMP to identify such land as suitable for sale pursuant to Section 203 or exchange pursuant to Section 206 of the FLPMA.

TCMC is allowed to propose a land exchange involving Federal land pursuant to the FLPMA. Exchanges of Federal lands are permitted pursuant to Section 206 of the FLPMA if the public interest would be well served by the exchange. TCMC proposed the land exchange primarily to consolidate its land ownership in the vicinity of the mine and allow TCMC to safely, efficiently, and effectively manage the mine. The land exchange would also allow the BLM to obtain land with resource qualities considered to be of substantial value to the public in exchange for the Federal land that would be distinctly affected by mining. TCMC intends to expand its operations onto portions of the selected land pursuant to Federal mining laws and TCMC's ownership of unpatented mining claims. Therefore, the selected land would be affected by the proposed mining with little benefit to the general public, apart from economic effects, if the selected land remained under the jurisdiction of the BLM and the mine expanded. If the land exchange occurred, the BLM would administer the offered lands for the benefit of the public in exchange for the selected land that would be affected by mining.

This FEIS was prepared according to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the NEPA (40 CFR 1500-1508), the BLM NEPA

⁶ Unless otherwise noted, all areas herein are calculated from GIS data in contrast to *legally-described* areas, i.e., the areas listed on survey documents or deeds. For example, the legal area of the selected land is 5,143.97 acres and the calculated area is 5,068.00 acres. Also, the legal area of the Broken Wing Ranch (see below) is 775.64 acres and the calculated area is 812.46 acres. The selected land in the land exchange proposal is approximately 5,200 acres. However, as described in Chapter 2 and depicted on Figure 2.2-1., the selected land is evaluated in the FEIS with a modified east boundary and an area of approximately 5,100 acres.

⁷ The BLM uses *land disposal* to refer to any action which involves land leaving Federal ownership, e.g., a land exchange or land sale. One of the alternatives to the land exchange evaluated in the FEIS is a land sale.

Handbook H-1790-1, and USFS National Environmental Policy Act Handbook (FSH 1909.15). The FEIS includes the following chapters:

Chapter 1 provides project background, describes the proposed Federal actions and the purposes and needs of such actions in response to the MMPO and land exchange proposal submitted by TCMC, and outlines public scoping that was part of the NEPA process.

Chapter 2 describes the alternatives related to the proposed MMPO and land exchange and potential mitigation actions to reduce or minimize effects, and identifies the agency-preferred alternative.

Chapter 3 describes the affected environment in the project area.

Chapter 4 describes the potential direct and indirect effects of the alternatives.

Chapter 5 describes the potential cumulative effects of the alternatives.

Chapter 6 summarizes the public involvement for the project; the decisions to be made and available administrative review options; the consultation and coordination with Federal and State agencies, as well as Native American Tribal consultation; and provides a list of the FEIS preparers and a summary of the interested parties.

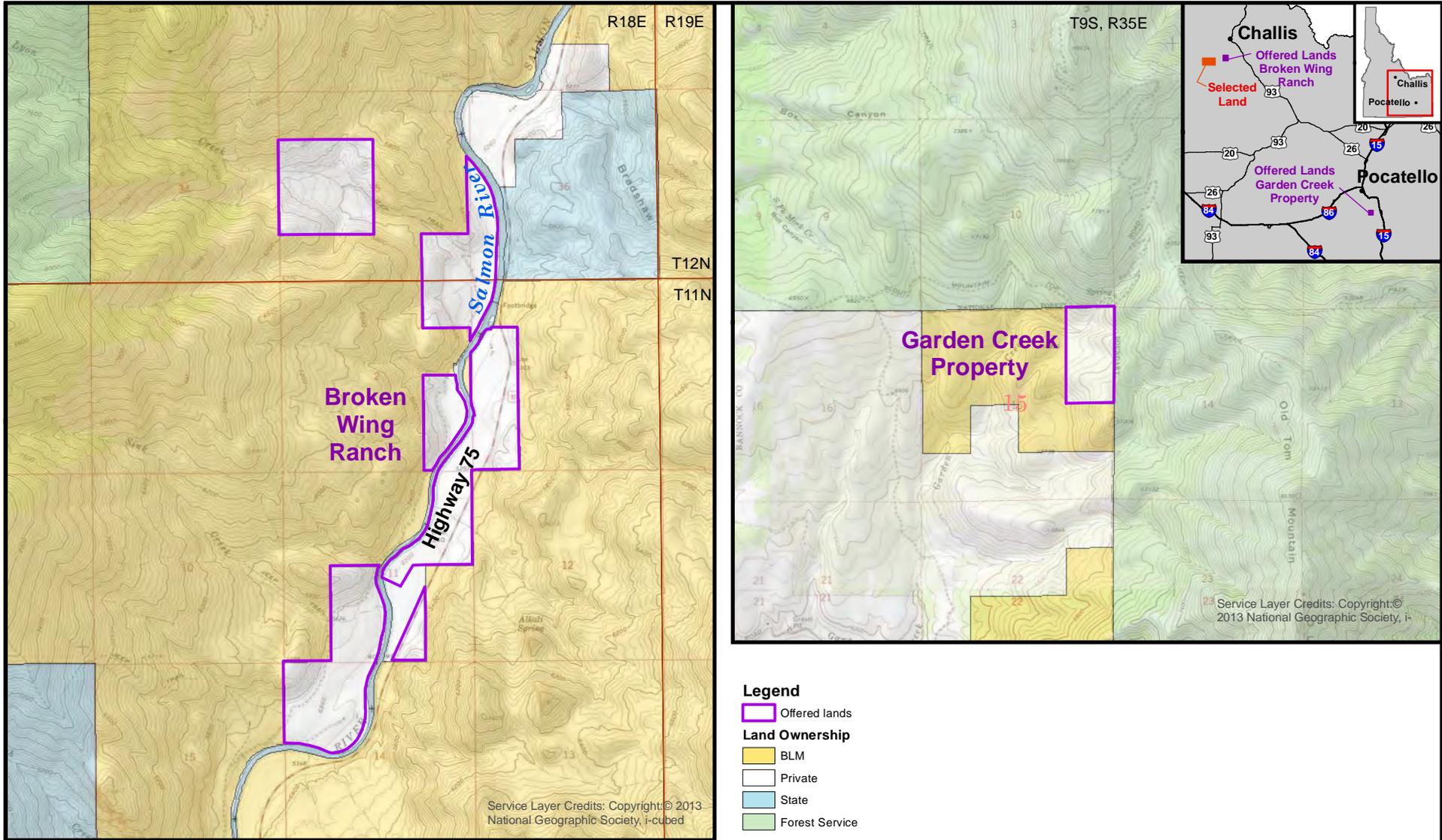
Chapter 7 summarizes the public comments on the draft EIS (DEIS) (released March 21, 2014 with a 90 day public comment period) and the agency responses.

Chapter 8 lists references cited in developing the FEIS, as well as providing the index and glossary of terms.

1.4. Proposed (Federal) Actions

The BLM and Forest Service will respond to the MMPO in accordance with 43 Code of Federal Regulations [CFR] 3809.411(d) (BLM) and 36 CFR 228.5 (Forest Service) by denying the MMPO⁸ as submitted, or approving the MMPO subject to changes, including additions, or conditions necessary to meet the requirements of the BLM surface management regulations (43 CFR 3809) and/or Forest Service mining regulations (36 CFR 228A). In response to the 404 permit application, the USACE will evaluate the alternatives and decide whether or not to issue a 404 permit. Any 404 permit issued may require special conditions or require TCMC to mitigate for project effects to offset unavoidable adverse effects to wetlands, streams and other aquatic resources authorized by the issuance of the permit. In response to the land exchange proposal, the BLM will decide whether to approve a Federal land disposal action, and whether to amend the Challis RMP to identify the selected land as suitable for disposal pursuant to the FLPMA.

⁸ The BLM and Forest Service would approve only the respective portions of such plan for which each agency has jurisdiction. The portions of the plan involving private land would be approved by the IDL.



Offered lands from Thompson Creek Mine data, polygons created by Ken Gardner.
 Ownership data is at 1:24,000 and created and maintained by the Bureau of Land Management, Idaho State Office, Geographic Sciences.
 Topographic background is USGS 1:100,000-scale metric Topographic Maps.
 Coordinate system UTM Zone 11 NAD 83

 No warranty is made by the Bureau of Land Management (BLM) for the use of this data for purposes not intended by the BLM.

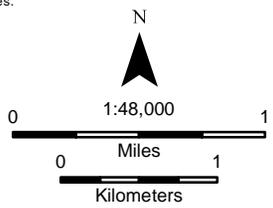


Figure 1.3-1
Project area for land exchange,
offered lands
Thompson Creek Mine EIS

Note that the BLM would issue a ROD for the MMPO even if the BLM approves a land disposal action alternative. This is because any land disposal title transfer would not occur until at least several months after a ROD approving such transfer. In addition, small areas of the mine (e.g., the Cherry Creek pump station) would remain on BLM land regardless of the outcome of the MMPO and land exchange. Instead of an MMPO, these areas might be authorized by special use permits and/or rights-of-way (ROWS) under the FLPMA, or these areas could remain authorized by the MMPO.

1.5. Purpose and Need

The purpose of the proposed Federal actions for the MMPO proposal is to respond to the proposal for a mine expansion and the extension of mine life. The BLM and Forest Service must determine if changes, including additions, or conditions to the MMPO are necessary prior to approval of the MMPO to meet the requirements of the BLM surface management regulations (43 CFR 3809) or Forest Service regulations (36 CFR 228A), within the context of TCMC's statutory rights under Federal mining laws. The purpose of the proposed 404 permit decision by the USACE is to ensure that any discharge that would be authorized by the permit would comply with the CWA and 33 CFR 320 *et seq.* The purpose of the proposed BLM action for the land exchange proposal is for the BLM to complete a land disposal if such would serve the national interest and meet the other requirements of the FLPMA, and, if so, for the BLM to amend the Challis RMP to identify the selected land as suitable for disposal in compliance with the FLPMA.

The need for the proposed Federal actions is related to the agencies' responsibilities under applicable Federal laws and regulations to consider and respond to the MMPO, 404 permit application, and land exchange proposal.

1.6. Responsible Officials, Decisions to be Made, Administrative Review

The responsible officials for the project are the Field Manager, Challis Field Office, BLM (MMPO); District Manager, Idaho Falls District, BLM (land disposal); State Director, Idaho State Office, BLM (RMP amendment); Forest Supervisor, SCNF, Forest Service (MMPO); and Chief, Regulatory Division, Walla Walla District, USACE (404 permit). Subsequent to the 30 day review period for the FEIS/PRMPA, the responsible officials from the BLM, Forest Service, and USACE will each prepare a ROD for the components of the project for which the officials have respective authority (Table 1.10-1.), and for which there are distinct objection processes (Sections 1.6.1. through 1.6.3). In making their decisions, the responsible officials will rely on a wide variety of information, including scoping input, the FEIS, recommendations from other agencies, applicable laws, and regulations and policies. The BLM and Forest Service will jointly release the FEIS and will distribute their RODs to all parties on the project mailing list, and on request to any interested party. The BLM and Forest Service will publish legal notices in local newspapers and provide news organizations with news releases announcing the availability of the RODs. The BLM will also announce the availability of the RODs via the BLM project website. The USACE ROD is an internal decision document provided to the proponent, but otherwise not normally distributed outside of the USACE.

Once the RODs are issued for the MMPO, TCMC will submit a MMPO that conforms to the selected alternative. The BLM, Forest Service, and IDL will administratively review and, when

appropriate, approve the “ROD” MMPO. The “ROD” MMPO will include the detail necessary for the agencies to administer the mine, e.g., engineering diagrams at appropriate site-level scales.

1.6.1. BLM

For the MMPO alternatives, in general the BLM will issue a decision regarding the storage of waste rock south of the open pit and long-term water management. The BLM will also issue a decision regarding the land disposal alternatives (exchange, sale, no action), and a decision regarding the PRMPA (that would be required if a land disposal action alternative is to be implemented). The BLM decision for the MMPO and land disposal alternatives will be subject to administrative review (appeal) pursuant to 43 CFR 3809.800. The BLM decision on the PRMPA will follow the 60 day Governor’s Consistency Review period and will also be subject to administrative review (protest) pursuant to 43 CFR 1610.5-2. An adversely affected party that intends to file an appeal must do so in writing with the BLM office where the decision was made; in this case the Challis Field Office for the MMPO, the Idaho Falls District for the land disposal, and the Idaho State Office for the RMP amendment. This notice of appeal must contain the information specified in 43 CFR 3809.802 and must be made within 30 calendar days after the date the decision was received, unless State Director review is requested (43 CFR 3809.801).

1.6.2. Forest Service

For the MMPO alternatives, the Forest Service will issue a decision regarding the storage of waste rock north of the open pit, expansion of the TSF, and re-alignment of a section of power line. The Forest Service will issue a draft ROD subject to administrative review (objection) pursuant to 36 CFR 218 subparts A and B (pre-decisional administrative review). Objections will only be accepted from those who have previously submitted specific written comments regarding the MMPO during designated opportunities for public comment in accordance with §218.5(a). The first designated opportunity was the public scoping period (Section 1.12). The second opportunity was the 90 day public comment period for the DEIS. No further opportunities to obtain standing to object are anticipated for the project. Issues raised in objections must be based on previously submitted, timely, specific written comments regarding the proposal unless based on new information arising after the designated comment opportunities. A written objection must be submitted to the objection reviewing officer within 45 calendar days following the publication date of the legal notice of this opportunity to object in the Challis Messenger, Challis, Idaho. The objection must contain the minimum requirements specified in §218.8(d) and incorporation of documents by reference is permitted only as provided in §218.8(b). The publication date in the newspaper of record is the exclusive means for calculating the time to file an objection. If an objection is received on this project, a 45 day objection review period will begin.

Written objections must be submitted to: Nora Rasure, Objection Reviewing Officer, Federal Building, 324 25th Street, Ogden, Utah 84401 (postal) or (801) 625-5277 (facsimile). Electronic comments must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), and Word (.doc or .docx) to appeals-intermtm-regional-office@fs.fed.us. Please type “Thompson Creek Mine FEIS” in the subject line for email messages and facsimile and include your mailing address and phone number.

At the end of the objection reviewing period the reviewing officer may consolidate objections and issue one response or may decide to issue a written response to each objection. The written response will be the final decision by the U.S. Department of Agriculture on the objections. Once the reviewing officer has issued the response to the objections and the responsible official has followed any instructions contained in the written response, or if no objections are received, the responsible official may sign the final revised ROD and implement the project without further legal notice of the decision. Interested and affected parties will be informed of the decision. The signing of the revised ROD in accordance with 40 CFR 1506.10 may occur on, but not before, the 5th business day following the end of the objection filing period.

1.6.3. USACE

For the MMPO alternatives, the USACE will issue a decision regarding a 404 permit for WUS that would be filled under an MMPO alternative. Under the USACE appeal process dated March 28, 2000, “a District Engineer’s decision on an approved jurisdictional determination, a permit denial or a declined individual permit is subject to an administrative appeal by the affected party in accordance with the procedures and authorities contained in 33 CFR Part 331.” Affected party means “a permit applicant, landowner, or a lease, easement, or option holder (i.e., an individual who has identifiable and substantial legal interest in the property) who has received an approved jurisdictional determination, permit denial, or has declined a proffered individual permit.” Therefore, in the case of the USACE the decision could only be administratively appealed by the TCMC.

1.7. Relationship to Agency Policies, Plans, and Programs

The proposed Federal actions have been reviewed for compliance with agency policies, plans, and programs. Three Federal land use plans guide the use of Federal land in the project area: the BLM Pocatello RMP (BLM 2012a), BLM Challis RMP (BLM 1999) and the Challis National Forest land and resource management plan (LRMP) (USFS 1987), as amended (USFS 1991-2004). Additionally, the BLM Land Use Planning Handbook (BLM 2005a), Land Exchange Handbook (BLM 2005b), and Public Sales Manual (BLM 1985) were reviewed to confirm compliance with this guidance.

BLM Pocatello RMP (BLM 2012a)

The alternatives involving the Garden Creek property would conform with the Pocatello RMP, specifically the priority in Zone 3 to “consolidate ownership, which will maximize public values, provide public access and improve efficiencies in public lands’ administration. Overall public land acreage will be maintained. Acquisition, primarily through exchange, will be done to add high resource value lands that improve the manageability of public lands; lower resource value and difficult-to-manage tracts will be disposed of” (BLM 2012a, p. 80). The Garden Creek property is also within an access acquisition priority area (BLM 2012a, p. 75; Figure 8 in the RMP). The Pocatello RMP also specifies “Lands acquired will be managed in a manner consistent with adjacent or nearby public lands or managed for the goals, objectives and standards for which they were acquired” (Goal 5/Objective 5.1/LR-5.1.1.) and “Management

⁹ BLM-administered land is commonly referred to as public land, whereas the Forest Service-administered land is commonly referred to as National Forest System land. Therefore, *Federal land* is used in the FEIS to refer to both types of public lands.

direction, including designations for such programs as OHV, SRMA, VRM,¹⁰ and Livestock Grazing, will be applied to acquired lands consistent with adjacent or nearby public lands, or those with similar values, goals and objectives for which they were obtained” (Goal 5/Objective 5.1/LR-5.1.2.) (BLM 2012a, p. 76).

BLM Challis RMP (BLM 1999)

The MMPO alternatives would conform to the Challis RMP, i.e., “It is Federal policy to allow development of Federal mineral resources and promote reclamation of disturbed lands. Mineral exploration and development are a statutory right on unappropriated and unreserved public lands, except where specifically withdrawn from mineral entry under Secretarial or Congressional authority” (BLM 1999, p. 43).

The land disposal alternatives would conform to various specific objectives of the Challis RMP, e.g., “Seek to acquire additional lands having high public values, through land actions such as exchange...” (BLM 1999, p. 31) and “Attempt to acquire legal access through purchase, exchange, or donation as follows: ... (c) legal, public access in... Lyon Creek” (BLM 1999, p. 36). The land disposal alternatives would conform overall with the Challis RMP if the following section of the RMP were amended to include the selected land (which is one of the proposed Federal actions for the project): The “FLPMA allows for sale or other disposal of public lands when specific criteria are met, including identification of those lands during the land use planning process... Only the BLM tracts within the adjustment areas shown on *Map A: Adjustment/Management Areas* (~ 63,075 acres) would be made available for disposal under the Federal Land Management and Policy Act” (BLM 1999, p. 33).

If necessary, all other items in the Challis RMP that might otherwise preclude any of the land disposal alternatives would also be amended to clarify that such items would not apply to the selected land, e.g., “Maintain a ‘no net loss’ of salmon, steelhead trout, and bull trout habitat by limiting land exchanges of salmon, steelhead trout, and bull trout habitat to like habitat of equal or greater values” (BLM 1999, p. 24); “Retain public lands under BLM administration unless the receiving parties agree to continue to maintain or to restore (if degraded) and permanently maintain floodplains and wetland functions” (BLM 1999, p. 33); and “Riparian areas, floodplains, and wetlands transferred out of public ownership would contain covenant language in the deed to protect the wetland resource values from degradation” (BLM 1999, p. 34).

If acquired lands (i.e., the offered lands) are surrounded by or adjacent to BLM land, the BLM may extend applicable land use plan decisions to these lands via plan maintenance instead of a plan amendment (BLM 2005a, p. 16), e.g., if the BLM acquires the Broken Wing Ranch, the BLM may authorize grazing on the ranch without amending the Challis RMP.

¹⁰ OHV = off-highway vehicle, SRMA = special recreation management area, VRM = visual resource management

Challis National Forest LRMP (USFS 1987)

The project would involve two Management Areas (MAs) in the LRMP: MA 8 (Thompson Creek) and MA 9 (Squaw¹¹ Creek). Management prescriptions have been developed and are applied to specific areas of NFS lands to attain multiple-use and other goals and objectives. Management prescriptions for MA 8 emphasize enhancement of wildlife habitat, and provide for minerals activities and dispersed recreation opportunities. Management prescriptions for MA 9 emphasize enhancement of fish and wildlife habitat, range administration, maintenance of water quality, timber production, and dispersed recreation. The prescriptions for MA 9 also recognize the high locatable mineral occurrence and probable future mineral development. The LRMP identifies the mine as a current use within each of these MAs (USFS 1987); therefore, the MMPO alternatives would be in conformance with the LRMP.

The LRMP was amended by the “Interim strategies for managing anadromous fish-producing watersheds in eastern Oregon and Washington, Idaho, and portions of California” commonly known as PACFISH (PACFISH 1995). The Forest Service interprets the PACFISH standards and guidelines for road management to apply to mining operations in addition to the standards and guidelines for minerals management. Therefore, separate from the NEPA process, a “PACFISH” watershed analysis will be prepared prior to the Forest Service issuing a ROD for the MMPO alternatives.

BLM Land Use Planning Handbook (BLM 2005a)

The land disposal alternatives are subject to the planning requirements and guidance outlined in the BLM Land Use Planning Handbook. Specifically, the handbook describes the procedures to amend the Challis RMP to identify the selected land as suitable for disposal (i.e., sale or exchange) pursuant to the FLPMA.

BLM Land Exchange Handbook (BLM 2005b)

The land exchange alternatives are subject to the planning requirements and guidance outlined in the BLM Land Exchange Handbook. The land exchange proposal is a single phase-assembled transaction involving multiple parcels of Federal and/or non-Federal land that are exchanged under one closing and values equalized under 43 CFR 2201.6. The BLM completes land exchanges on an equal monetary value basis with differences in monetary value between the Federal and non-Federal lands equalized by the addition or subtraction of lands and/or a cash payment. Cash payments may not exceed 25 percent of the value of the Federal lands involved in the land exchange, and the goal is to minimize the amount of any cash payment. In most cases the BLM shares the costs equally with the proponent in processing a land exchange proposal. However, to date, TCMC has paid more than 95 percent of such costs.

¹¹ *Squaw Creek* is an official place name in Custer County, and appears in numerous published documents including US Geological Survey topographic maps. The name was established by the US Board of Geographic Names to maintain uniform geographic name usage throughout the Federal Government. However, the word *Squaw* is offensive to some people including the Shoshone-Bannock Tribes. Therefore, *Squaw Creek* is hereafter referred to in the main text as *S. Creek*.

BLM Public Sales Manual (BLM 1985)

The land sale alternative is subject to the planning requirements and guidance found in the BLM Public Sales Manual. In particular, tracts of BLM land may be offered for sale only at appraised fair market value and if they have been identified for disposal through land use planning, having been found to meet the disposal criteria of Section 203(a)(1, 2 or 3) of the FLPMA, e.g., 203(a)(1) “such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency” or 203(a)(3) “disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in Federal ownership.”

Land sales may be competitive, modified competitive, or direct (non-competitive), with direct sales used for “protection of an authorized use, such as an existing business, which would be threatened if the tract were purchased by other than the authorized user” (BLM 1985, 0.06.E.3.c). The handbook guidance is from Federal regulations which specify that direct sales may be used, e.g., when a tract identified for sale is an integral part of a project or public importance and speculative bidding would jeopardize a timely completion and economic viability of the project; there is a need to recognize an authorized use such as an existing business which could suffer a substantial economic loss if the tract were purchased by other than the authorized user; or the adjoining ownership pattern and access indicate a direct sale is appropriate (43 CFR 2711.3-3).

1.8. Relationship to Non-Agency Policies, Plans, and Programs

Two local plans guide land use in Custer County: the Custer County comprehensive plan (Custer County 2006) and the Custer County multi-jurisdiction all hazard mitigation plan (Custer County 2009). These plans provide guidance on identifying and reducing hazards, including human-made hazards, to the residents of Custer County, as well as stating the goals and objectives for land use planning. The project would not add new hazards that could affect residents, and would conform to the land use planning guidance of these plans.

1.9. Principle Authorities

The following is a general description of the principle authorities under which this FEIS has been prepared, and is not intended as a comprehensive statement of the rights and obligations of the Federal government, State government, or TCMC under any such authority or permit issued pursuant thereto.

1.9.1. The National Environmental Policy Act of 1969, as amended (42 USC 4321 *et seq.*)

The NEPA is the basic national charter for protection of the environment and governs the preparation of an EIS. The NEPA requires Federal agencies to consider the potential environmental effects and alternatives to a proposed Federal action in an environmental document with appropriate analyses. The NEPA ensures that environmental information is available to public officials and citizens before actions are taken. The EPA and CEQ regulations for implementing the NEPA are 40 CFR 6 and 40 CFR 1500-1508, respectively.

1.9.2. The Federal Land Policy and Management Act, as amended (43 USC 1701 *et seq.*)

The FLPMA is the authority for BLM land exchanges (43 CFR 2200), land sales (43 CFR 2710), land use plans (43 CFR 1600), and surface management regulations regarding mining for locatable minerals, e.g., molybdenum (43 CFR 3809). Under cost recovery regulations pursuant to the FLPMA, TCMC is paying the costs of completing the NEPA analysis for the proposed MMPO (70 FR 58854), and is voluntarily paying the costs to complete the NEPA analysis for the land exchange proposal. The BLM may also authorize agriculture and grazing under the FLPMA. In addition, the BLM may authorize grazing under Section 302 of the Taylor Grazing Act of 1934, as amended (43 USC 1732), or via a stewardship agreement under Section 323 of the Omnibus Appropriations Bill of 2003 (16 USC 2014 notes).

1.9.3. The Organic Administration Act of 1897, as amended (16 USC 471 *et seq.*); Multiple-Use Sustained-Yield Act of 1960, as amended (16 USC 528-531); Forest and Rangeland Renewable Resources Planning Act of 1974, as amended (16 USC 1601-1610); and National Forest Management Act of 1976, as amended (16 USC 1600 *et seq.*)

These laws govern the administration of NFS lands including forest plans (36 CFR 219) and locatable mining activities (36 CFR 228A).

1.9.4. Federal Mining Laws (e.g., 30 USC 21 *et seq.*, 30 USC 601 *et seq.*)

These laws govern the right to mine locatable minerals, including molybdenum, on Federal lands.

1.9.5. The Endangered Species Act of 1973, as amended (16 USC 1531-1544)

The Endangered Species Act (ESA) provides for the conservation of threatened and endangered species and their habitats. Federal agencies are required by the ESA (Section 7) to consult with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to ensure that any action authorized, funded, or carried out by a Federal agency will not likely jeopardize the continued existence of threatened and endangered species or result in the destruction or adverse modification of critical habitat.

1.9.6. The Migratory Bird Treaty Act of 1918, as amended (16 USC 703-712)

The Migratory Bird Treaty Act (MBTA) is part of the establishment of an international framework for the protection and conservation of migratory birds. The MBTA prohibits, except as permitted by regulation, the take of certain migratory birds. *Take* means to pursue, hunt, shoot, wound, kill, trap, capture or collect, or any attempt to carry out these activities (50 CFR 10). A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. A take must be reasonably anticipated, e.g., the death of a protected bird by collision with power lines, vehicles or building windows are not generally probable occurrences and would not normally result in a violation of the MBTA.¹² There are no provisions for incidental take under the MBTA. Executive Order 13186 directs Federal Executive departments and agencies to take certain actions to further implement the

¹² Seattle Audubon Society v. Evans, 952 F.2d 297 (9th. Cir.1991); Mahler v. US Forest Service, 927 F.Supp.1502 (D.Or.1991); US v. Moon Lake Electric Association, 98-CR-228-B (D. Colo., 20 January 1999)

MBTA, such as requiring agencies to take reasonable steps that include restoring and enhancing habitat, incorporating migratory bird conservation into planning processes, promoting research and information exchange, providing training and visitor education, and developing partnerships beyond agency boundaries.

Per Executive Order 13186, USFWS and BLM entered into a Memorandum of Understanding (MOU) in 2010 to promote the conservation of migratory bird populations (BLM and USFWS 2010). The MOU directs BLM to evaluate the effects of its actions on migratory birds through the NEPA process, and identify where take may have a measurable, negative effect on migratory bird populations, focusing on species of concern, priority habitats, and key risk factors. Where take is expected, BLM shall coordinate with USFWS and develop conservation measures to minimize, reduce, or avoid incidental take, and monitor the effectiveness of these conservation measures.

1.9.7. The Bald and Golden Eagle Protection Act of 1940, as amended (16 USC 668-668d)

The Bald and Golden Eagle Protection Act (BGEPA) provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking (see Section 1.9.6.), possession, and commerce of such birds, alive or dead. Activities that would disturb bald or golden eagles are prohibited under the Act. “Disturb” means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

1.9.8. The Clean Water Act of 1972, as amended (33 USC 1251 *et seq.*)

The primary objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation’s surface waters by eliminating the discharge of pollutants into these waters, and achieving water quality levels that are safe for fish, shellfish, wildlife, and recreation in and on water. Section 402 of the CWA provides for the NPDES, which is administered in Idaho by the EPA.

No amendment or modification of TCMC’s NPDES permit would be required to implement the MMPO. Section 319 of the CWA requires that each state develop a management program, including the development of best management practices (BMPs), to reduce nonpoint sources of pollution to waters¹³ within the state. Section 404 of the CWA provides the authority for the USACE to issue permits for the discharge of dredged or fill materials into WUS, including adjacent wetlands (33 CFR 320-330). The EPA provides guidelines for the disposal of dredged or fill material into WUS (Section 404[b][1]). These guidelines form the substantive environmental criteria used by the USACE to review proposed discharges and issue permits under Section 404 of the CWA; the guidelines prohibit issuance of a permit that would cause an avoidable or significant adverse effect to WUS. Compliance with the guidelines is required before a permit can be issued by the USACE, and demonstrating compliance is the responsibility of the applicant. Section 230.10 contains the four principle requirements for compliance: failure to “*clearly demonstrate*” that there is no “*practicable alternative to the proposed discharge*”

¹³ The law states “navigable waters” but such are “waters of the United States” (33 USC 1362).

which would have less adverse impact on the aquatic ecosystem,” in accordance with Section 230.10(a), renders the project noncompliant with the guidelines.¹⁴

The IDEQ is responsible under Section 401 of the CWA (33 USC 1341) for certifying that activities that may result in discharges into waters within Idaho will comply with the applicable provisions of the CWA (33 USC 1311-1313, 1316 and 1317) and State water quality standards (IDAPA 58.01.02).

1.9.9. The Clean Air Act of 1970, as amended (42 USC 7401 *et seq.*)

The key purpose of the Clean Air Act (CAA), is “...to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population.” In addition, Section 309 of the CAA requires the EPA to review and publicly comment on the environmental effects of major Federal actions which are the subject of EISs. The IDEQ administers portions of the CAA under IDAPA 58.01.01. No amendment or modification of TCMC’s CAA permit would be required for TCMC to implement the MMPO.

1.9.10. Secretarial Order No. 3226 Amendment No. 1

Secretarial Order No. 3226 Amendment No. 1 states that each bureau and office of the US Department of the Interior (DOI) shall “consider and analyze potential climate change impacts when undertaking long-range planning exercises, or when making major decisions affecting DOI resources.” The CEQ issued “Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions [GHG]” on February 18, 2010. The guidance states that “climate change issues arise in relation to the consideration of: (1) The GHG emissions effects of a proposed action and alternative actions; and (2) The relationship of climate change effects to a proposed action or alternatives, including the relationship to proposal design, environmental impacts, mitigation and adaptation measures” (CEQ 2010).

1.9.11. The Federal Noxious Weed Act of 1974, as amended (7 USC 2801-2814)

The Federal Noxious Weed Act provides for the control and management of non-indigenous (non-native) weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health. The law requires that each Federal agency develop a management program to control undesirable plants on Federal lands under the agency’s jurisdiction; establish and adequately fund the program; implement cooperative agreements with state agencies to coordinate management of undesirable plants on Federal lands; and establish integrated management systems to control undesirable plants targeted under cooperative agreements. The current BLM Challis Field Office integrated weed control program was approved in 2009 (BLM 2009a). The current BLM Pocatello Field Office weed control program was approved in 2012 (BLM 2012a). Both programs are consistent with the approved alternative of the BLM programmatic EIS for vegetation treatments using herbicides (BLM 2007). The SCNF manages weeds consistent with the Challis National Forest LRMP (USFS 1987) and a biological assessment and biological opinions specific to noxious weed management (USFWS 2004; NMFS 2007). TCMC would be required to comply with all aspects of these programs and plans in any approved MMPO. Additionally, if the offered lands were

¹⁴ A CWA Section 404(b)(1) alternatives analysis demonstrating compliance with these principles (HDR 2014a) is provided as Appendix A.

acquired by the US, the offered lands would be managed under the BLM Challis Field Office weed control program (Broken Wing Ranch) and the BLM Pocatello Field Office weed control program (Garden Creek property).

1.9.12. The Archaeological Resource Protection Act of 1979 (16 USC 470aa-mm); National Historic Preservation Act of 1966, as amended (16 USC 470 *et seq.*)

The purpose of the Archaeological Resource Protection Act (ARPA) is to secure the protection of archaeological resources and sites on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources. The ARPA prohibits the collection of archaeological resources from public lands (and Indian lands) without a permit issued by the land managing agency, and establishes criminal and civil penalties for removal, sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained from public lands (or Indian lands) in violation of any provision, rule, regulation, ordinance, or permit under the act, or under any federal, state, or local law. The law applies to any agency that receives information that a direct or Federally-assisted activity could cause irreparable harm to prehistoric, historic, or archaeological data and provides criminal penalties for prohibited activities. The BLM follows the ARPA implementing regulations (43 CFR 7).

The National Historic Preservation Act (NHPA) requires Federal agencies to consult with State and local groups on Federal undertakings before nonrenewable historic properties, such as archaeological sites and cultural resources, are damaged or destroyed. Historic properties are those properties (i.e. cultural resources, archaeological resources, etc.) that are included in or that meet the criteria for inclusion in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires Federal agencies to review the effects that proposed Federal actions may have on the historic properties (i.e. NRHP-eligible cultural or archaeological resources) in the project area (36 CFR 800). If it is determined that the proposed action may affect historic properties, consultation would be required between the Federal agencies and the State Historic Preservation Office (SHPO) and/or Tribal Historic Preservation Officers, Tribes, consulting parties, and the public. If it is determined that no historic properties would be affected, the agencies have no further Section 106 obligations.

1.9.13. Paleontological Resources Preservation Act of 2009 (123 Stat. 1172; 16 USC 470aaa)

The major law protecting paleontological resources (fossils) on public lands is the Paleontological Resources Preservation Act of 2009, which established authorities for permitting, collecting, and protection of the resource and provisions for criminal and civil penalties for violations of the law. Other laws and regulations protecting paleontological resources on public lands include the FLPMA and BLM regulations such as 43 CFR 8365.1-5.

1.9.14. Federal Agency Responsibilities to Federally-Recognized Tribes

Native American tribes are afforded specific rights under various Federal laws including the NHPA; the National Forest Management Act (NFMA); the ARPA; the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended (25 USC 3001 *et seq.*); the Religious Freedom Restoration Act of 1993, as amended (42 USC 2000bb); the American Indian

Religious Freedom Act (AIRFA) of 1978, as amended (42 USC 1996, 1996a); Secretarial Order No. 3317, “Policy on Consultation with Indian Tribes;” and Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments.” Federal guidelines (see below) direct Federal agencies to consult with Federally-recognized Native American tribal representatives who may have concerns about Federal actions that may affect religious practices, other traditional cultural uses, as well as cultural resource sites and remains associated with Native American ancestors. Any Federally-recognized tribe whose aboriginal territory occurs within the project area is afforded the opportunity to voice concerns for issues governed by the NHPA, NAGPRA, or AIRFA.

The Federal responsibility to consult with Native American tribes on such matters as the project is required by the NFMA, Interior Secretarial Order 3175 of 1993, and Executive Orders including 12875 and 13007. Executive Order 12875 calls for regular consultation with tribal governments. Executive Order 13007 requires consultation with Native American tribes and religious representatives on the access, use, and protection of Native American sacred sites. The NEPA regulations require that the lead agency for preparing an EIS shall invite the participation of any affected Indian tribe as part of the scoping process (40 CFR 1501.7).

1.9.15. The Idaho Constitution

Under the Idaho Constitution the right to mine on private land in Idaho is a basic property right. The Idaho Constitution also provides the right to divert and appropriate water, with preference for mining purposes.

1.9.16. The Environmental Protection and Health Act of 1972, as amended (39 Idaho Statutes 101 *et seq.*)

The Environmental Protection and Health Act is the State law under which the IDEQ regulates air and water quality. The purpose of the law is “to provide for the protection of the environment and the promotion of personal health and to thereby protect and promote the health, safety, and general welfare of the people of this state.” The IDEQ regulates water quality under IDAPA 58.01.02 (surface water) and 58.01.11 (groundwater), and air quality under IDAPA 58.01.01.

1.9.17. The Idaho Surface Mining Act of 1971, as amended (47 Idaho Statutes 1501 *et seq.*)

The Idaho Surface Mining Act states in part that its purpose is to provide for the protection of the public health, safety and welfare, through measures to reclaim the surface of all the lands within the state disturbed by exploration and surface mining operations and measures to assure the proper closure of cyanidation facilities and thereby conserve natural resources; aid in the protection of wildlife, domestic animals, and aquatic resources; and reduce soil erosion. The IDL regulates surface mining and reclamation in Idaho under IDAPA 20.03.02 and has the authority to hold financial guarantees for mine reclamation under IDAPA 20.03.02.120-123. However, the IDL may not have the authority to hold financial guarantees for water treatment or to hold trust funds or other funding mechanisms for long-term, post-mining reclamation liabilities such as monitoring and maintenance. The IDL authority for the reclamation of mine tailings impoundments overlaps with the Idaho Department of Water Resources (IDWR) authority to ensure such structures are placed in a safe, maintenance-free condition at the end of mining operations (Section 1.9.19).

1.9.18. Idaho Water Quality Standards (IDAPA 58.01.02)

The IDEQ is responsible for administering the Idaho water quality standards, which define the designated beneficial uses of a surface water segment and the water quality criteria necessary to support those uses. These standards consist of 1) an anti-degradation policy to maintain and protect existing uses and high quality waters (IDAPA 58.01.02.051), 2) beneficial (designated) uses of the water body, e.g., recreation, water supply, aquatic life, agriculture (IDAPA 58.01.02.100), and 3) water quality criteria (numeric pollutant concentrations and narrative requirements) to protect designated uses (IDAPA 58.01.02.200 *et seq*). Idaho also has the right to create general policies that address implementation issues such as low flows, variances, and mixing zones.

1.9.19. Idaho Groundwater Quality Rule (IDAPA 58.01.11)

The IDEQ is responsible for administering the Idaho Ground Water Quality Rule. More specifically, groundwater must be managed in a manner which maintains or improves existing groundwater quality through the use of BMPs and best practical methods to the maximum extent practical (IDAPA 58.01.11.301). The IDEQ has established numeric and narrative groundwater quality standards that apply to all groundwater in Idaho (IDAPA 58.01.11.200). In addition, the quality of groundwater that discharges to surface water shall not impair the identified beneficial uses of the surface water, and surface water infiltration shall not impair the beneficial uses of groundwater (IDAPA 58.01.11.150.03). However, the groundwater quality rule specifically is designed to protect groundwater and allow for the extraction of minerals above and within groundwater (IDAPA 58.01.11.006.06). Such is achieved by authorizing a groundwater mineral extraction zone: “Naturally occurring constituents found in groundwater within a specified area surrounding an active mineral extraction area, as determined by the Department, will not be considered contaminants as long as all applicable best management practices, best available methods or best practical methods, as approved by the Department, are applied” (IDAPA 58.01.11.400.06).

1.9.20. Idaho Mine Tailings Impoundment Structures Rule (IDAPA 37.03.05)

The IDWR regulates the construction, maintenance, and operation of mine tailings impoundments in Idaho, and has the authority to hold financial guarantees to ensure the impoundments are placed in safe, maintenance-free condition if abandoned by the owner without conforming to the approved abandonment plan (IDAPA 37.03.05.040).

1.9.21. Idaho Safety of Dams Rule (IDAPA 37.03.06)

The IDWR regulates the construction and maintenance of certain size dams which impound water in Idaho. Such dams at the TCM are the downgradient face of the Pat Hughes sedimentation pond and the seepage return dam (SRD) below the TSF.

1.9.22. Financial Guarantees

TCMC is required to fully reclaim the mine according to the approved reclamation plan pursuant to 43 CFR 3809 (BLM), 36 CFR 228 (Forest Service), IDAPA 20.03.02 (IDL), and IDAPA 37.03.05 (IDWR). Accordingly, TCMC periodically submits to the agencies estimates of the costs to complete such reclamation using a third-party contractor in the event the operator cannot or will not perform such reclamation. Once the amounts are approved by the agencies,

TCMC submits irrevocable financial guarantees to the agencies in these amounts pursuant to 43 CFR 3809.500 (BLM), 36 CFR 228.13 (Forest Service), IDAPA 20.03.02.120 (IDL), and IDAPA 37.03.05.040 (IDWR). For example, the financial guarantees include agency administrative costs, are calculated for the period when the operations would be most expensive to reclaim in the near future, and are calculated assuming none of the mine equipment or facilities would be available for use in the reclamation. The agencies must approve the reclamation cost estimates and the financial guarantee instruments prior to the initiation of the mine operations or modified operations covered by the estimates. That is, TCMC provides reclamation cost estimates and financial guarantees for stages of the MPO commensurate with their implementation; TCMC is not required to provide reclamation cost estimates and financial guarantees for portions of the operations that would not be built for many years.

The reclamation cost estimate will continue to be periodically adjusted to account for changes in the reclamation cost, e.g., increased as the future reclamation costs increase due to inflation or greater surface disturbance, or decreased as the future reclamation costs decrease due to deflation or completed reclamation. The purpose of the financial guarantees is to assure reclamation of surface disturbance to prevent or control damage to the environment, e.g., to control erosion, landslides, water run-off, and toxic materials; to mitigate disturbance to visual resources; and to provide for rehabilitation of fish and wildlife habitat. Reclamation includes water treatment if appropriate.¹⁵ The specific amounts of financial guarantees are part of the BLM administrative (regulatory) process and are not NEPA issues. Accordingly, the agencies may require revised reclamation cost estimates/financial guarantees at any time deemed appropriate by the agencies.

The current reclamation plan does not explicitly include active water treatment as part of the long-term water management, which was not evaluated in detail in either of the two previous EISs for the mine. Accordingly, there has been no basis on which to estimate the costs of long-term water management. However, it is now possible using the best available science to describe the present and future water quality of the mine site with reasonable accuracy, e.g., the data from more than 30 years of detailed water quality monitoring at the mine site are available, the chemistry of pit lakes can now be reasonably determined, etc. Consequently, the present and future water quality of the mine site has been extensively evaluated as part of the NEPA process, and all of the MMPO alternatives include active water treatment as part of long-term water management for the mine.

The BLM will hold the portion of the financial guarantee for long-term water management since the IDL may not have the authority to hold such guarantee, and because the BLM land (downgradient of the mine) would be the land most affected without long-term water management. Therefore, any ROD approving a land disposal action alternative would be conditional on TCMC establishing an irrevocable trust fund or other funding mechanism with the IDL for such long-term water treatment or other long-term requirements. The trust fund or funding mechanism would be identical or similar to that required by 43 CFR 3809.552(c) (Section 4.13.4).

¹⁵ Water treatment is part of reclamation per BLM regulations (e.g., 43 CFR 3809.5), but other agencies may consider reclamation to be limited to traditional “earthworks” such as regrading and re-establishing vegetation.

The BLM, Forest Service, and IDL intend to obtain an updated reclamation cost estimate/financial guarantees from TCMC for the Phase 8 earthworks once an MMPO alternative is approved. However, the BLM intends to obtain an updated reclamation cost estimate/financial guarantee from TCMC to include the costs of long-term water management under the MMPO no action alternative after the release of the FEIS, i.e., when the BLM would first have reasonable confidence in the basic details of the most probable long-term water management plan for the mine. The cost estimate for long-term water management would probably be structured similar to an estimate prepared by the EPA (2013).

1.9.23. Environmental Justice

On February 11, 1994 President Clinton signed Executive Order 12898 directing each Federal agency to make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The President also signed a memorandum on the same day emphasizing the need to consider these types of effects during NEPA analysis.

1.10. Permits, Licenses, and Other Entitlements

To implement any of the alternatives in the FEIS, TCMC would need to obtain or renew a variety of permits, licenses, and other entitlements (including consultations and land use plan amendments) (Table 1.10-1.). Notwithstanding, the decisions for which this FEIS was prepared are described in Section 1.6.

Table 1.10-1. Required permits, licenses, and other entitlements.

Permit, License or Entitlement	Description	Authority	Regulatory Agency
Approval of the portion of an MMPO involving BLM land	An operator of a surface mine for locatable minerals must obtain approval for modifications to the MPO (which includes a reclamation plan).	43 CFR 3809	BLM
Approval of the portion of an MMPO involving NFS lands	An operator of a surface mine for locatable minerals must obtain approval for modifications to the MPO (which includes a reclamation plan).	36 CFR 228A	Forest Service

Permit, License or Entitlement	Description	Authority	Regulatory Agency
Approval of the amendment of an approved reclamation plan	An operator of a surface mine in Idaho must obtain approval to amend a reclamation plan, regardless of whether the subject land is private or Federal. If the operating plan submitted to the Federal agency does cover the entire operation (e.g., private lands are not subject to the Federal MPO), the IDL requires an operating plan for that portion of the operations not covered by an MPO administered by a Federal agency.	Idaho Statutes 47-1506 IDAPA 20.03.02.070 IDAPA 20.03.02.090	IDL
Approval of amendments to the Challis RMP	To approve a land disposal alternative, the Challis RMP would first need to be amended to identify the selected land as suitable for disposal under the FLPMA. Other sections of the RMP also might be amended to make it clear that such sections would not apply to the selected land.	43 CFR 1600	BLM
Approval of a land exchange involving BLM land	A proposed land exchange involving BLM land can be completed only with BLM approval.	43 CFR 2200	BLM
CWA Section 404 Permit	The permit is required for the discharge of dredged or fill materials into jurisdictional WUS, including wetlands.	33 CFR 320-330	USACE
ESA Section 7 Consultation	Federal agencies must consult with the US Fish and Wildlife Service for freshwater and wildlife species and with the National Marine Fisheries Service for marine and anadromous species if a proposed action may affect listed species or their designated habitat.	50 CFR 402	US Fish and Wildlife Service; National Marine Fisheries Service
NHPA Section 106 Consultation	Federal agencies must consult with the appropriate State Historic Preservation Officer/Tribal Historic	36 CFR 800	State Historic Preservation Officer

Permit, License or Entitlement	Description	Authority	Regulatory Agency
	Preservation Officer for undertakings that could affect historic properties.		
CWA Section 401 Certification for CWA Section 404 Permit	The IDEQ must grant (with or without conditions), deny or waive 401 certification for any project in Idaho that requires a Federal permit or license under the CWA before the Federal permit or license can be issued. A 401 certification is made to ensure that a proposed project will not violate State water quality standards for surface waters.	33 CFR 325 IDAPA 58.01.02	IDEQ
Construction General Permit (CGP), IDR100000, permit coverage for stormwater discharges from construction activity	Site operators in Idaho engaged in clearing, grading, or excavating activities (including those related to the exploration and construction phases of mining) that disturb one acre or more must obtain a CGP.	40 CFR 122.26	EPA
Point(s) of Compliance for the Groundwater Quality Rule; It is unknown at this time if TCMC will utilize this entitlement	At the request of a mine operator, the IDEQ shall set the point(s) of compliance for the groundwater quality standards outside of the boundary of the mine area, so that there would be no injury to current or projected future beneficial uses of groundwater, and no violations of water quality standards applicable to any interconnected surface waters.	IDAPA 58.01.11	IDEQ
Mine Tailings Impoundment Certificate of Approval	All mine tailings impoundment structures must obtain a certificate of approval, and be recertified every 2 years.	IDAPA 37.03.05	IDWR
Water Dam Certificate of Approval	All regulated water dams must obtain a certificate of approval.	IDAPA 37.03.06	IDWR
Stream Channel Alteration Permit	All work done within the beds and banks of a continuously flowing stream	IDAPA 37.03.07	IDWR

Permit, License or Entitlement	Description	Authority	Regulatory Agency
	in Idaho requires a stream channel alteration permit.		
Air Quality Permit	The IDEQ is in the process of converting the mine's Tier II Air Quality Operating Permit/Permit to Construct into only a Permit to Construct.	IDAPA 58.01.01	IDEQ
NPDES Permit	The EPA is in the process of renewing TCMC's NPDES permit.	Section 402 of the CWA; 40 CFR 122	EPA

1.11. Cooperating Agencies

The BLM is the lead agency for the preparation of the EIS because of the relative magnitude of the potential effects (e.g., areas of surface disturbance, potential downgradient water quality concerns, and the land disposal) to BLM land. However, the EIS was prepared in cooperation with both Federal and State agencies as described below. All of these agencies have both legal jurisdiction and special expertise involving certain aspects of the project. In particular, the Forest Service provided half of the joint Federal interdisciplinary team for the project, as the Forest Service has previously been the lead agency for both of the previous EISs for the mine (Section 1.1.), and NFS land would be affected by the MMPO alternatives. However, only the BLM, Forest Service, and USACE would issue decisions requiring NEPA analysis for the MMPO or land disposal alternatives.

1.11.1. Forest Service

The Forest Service is a Federal land management agency in the US Department of Agriculture. The Forest Service manages Federal land in national forests (NFS lands) and national grasslands. Consequently, the Forest Service has jurisdiction over the portion of the MPO that involves NFS land, and the portion of the MMPO that would involve NFS land. The Forest Service also has special expertise in managing NFS lands, including mining operations, as well as broad expertise in evaluating the environmental effects of a wide range of Federal actions on NFS lands. Approximately 181 acres of the 2,822 acres of currently permitted mine surface disturbance is on NFS land. The expansion of the WRSF, TSF, power line corridor, and pipelines would involve 185 additional acres of NFS land. The Forest Service will issue a separate ROD regarding the MMPO.

1.11.2. USACE

The USACE is a Federal agency in the US Department of Defense. The responsibilities of the USACE include environmental regulation for work in WUS. Specifically, the USACE has jurisdiction over the portion of the MMPO that would involve the discharge of dredged or fill materials into jurisdictional wetland and non-wetland WUS, including rivers, lakes streams (perennial, intermittent and ephemeral), ponds, and man-made canals, ditches and drains, provided that these waters are adjacent to WUS. "Isolated" water bodies are not under the

jurisdiction of the USACE. The USACE also has special expertise in work in the WUS, including erosion control, excess material, floodplains, stream and water body modifications, and wetlands. The USACE will issue an internal decision document regarding the application for a permit under Section 404 of the CWA for the mine.

1.11.3. EPA

The EPA is a Federal agency charged with protecting human health and the environment. The EPA has primary responsibility for implementing Sections 301, 306, 311, and 402 of the CWA, and oversight responsibility for Federal CWA programs delegated to and administered by the IDEQ. In Idaho the EPA also administers the NPDES program, which regulates and grants permits to discharge pollutants to WUS. The NPDES permit for the mine expired January 29, 2007, and has been administratively extended (i.e., is fully effective and enforceable) pursuant to 40 CFR 122.6(a) until the EPA re-issues the permit. Although the re-issuance of the NPDES permit is not subject to New Source Performance Standards or NEPA compliance, the EPA is coordinating permit re-issuance with the project to share information as applicable.

The EPA also has authority under the CWA to review project compliance with Section 404(b)(1) guidelines, and, pursuant to Section 404(c), to veto a permit issued or proposed to be issued by the USACE under Section 404. In practice the EPA may prohibit or withdraw the specification (permitting) of any defined area as a disposal site, and deny or restrict the use of any defined area for specification (including the withdrawal of specification) as a disposal site whenever the EPA determines that use of the site would have an unacceptable adverse effect on municipal water supplies, shellfish beds, fishery areas, or recreational areas.

In addition to the NEPA compliance responsibilities for the EPA (40 CFR 6), the EPA also has responsibilities under Section 309 of the CWA to review and comment on FEISs by other Federal agencies in accordance with the NEPA. The EPA is a cooperating agency in the development of this FEIS. As a cooperating agency in the EIS development process, the EPA advises lead agencies on the preparation and development of the EIS, and evaluates the adequacy of information and analysis contained therein.

1.11.4. IDEQ

The IDEQ is a State agency with a mission to protect human health and preserve the quality of Idaho's air, land, and water for use and enjoyment today and in the future. The IDEQ is responsible for implementing and enforcing a variety of environmental regulations in Idaho pursuant to various Federal laws (e.g., the CAA) and State laws (e.g., the Environmental Protection and Health Act of 1972, as amended). The IDEQ has special expertise in air quality, water quality, and solid waste management in Idaho, including that related to mining operations. The IDEQ will cooperate with the BLM to ensure that the preferred alternatives in the EIS would be in compliance with all regulations administered by the IDEQ. The IDEQ is also responsible for reviewing permit applications under Section 404 of the CWA for the project, and providing certification for the permits under Section 401 of the CWA.

1.11.5. IDL

The IDL is the State agency responsible for implementing and enforcing regulations for surface mining in Idaho pursuant to the Idaho Surface Mining Act of 1971, as amended. The IDL has

special surface mining expertise in Idaho, and will cooperate with the BLM to ensure that the preferred alternatives in the EIS are in compliance with all regulations administered by the IDL.

1.12. Public Scoping

In accordance with the NEPA, public scoping began August 3, 2010. The purpose of scoping is to inform the public of the project and solicit public and agency comments on the project, thereby incorporating a broader participation and perspective into the analysis and decision-making process for the project. Scoping comments were used to develop issues to be addressed in the EIS, and were also used to refine and/or create alternatives to be analyzed in the EIS.

The Notice of Intent (NOI) to prepare an EIS/RMP amendment was published on August 3, 2010 in the *Federal Register* (75 FR 45652). A BLM website for the project was established concurrently with publication of the NOI (http://www.blm.gov/id/st/en/prog/nepa_register/TCM-exlx_EIS.html), and legal notices for the scoping period and public meetings were published in *The Challis Messenger* (Challis) and *The Idaho Statesman* (Boise) on August 5, 2010 and in *The Idaho Statesman* on April 14, 2010 and in *The Challis Messenger* on April 19, 2010. A BLM press release was also sent to Idaho newspapers, television stations, and radio stations on August 3 and August 11, 2010.

A scoping letter was prepared by the agencies that summarized the MMPO and land exchange proposal, and the NEPA process including public involvement such as public scoping meetings. The scoping letter, a description of the MMPO and land exchange proposal, maps, and a comment form were mailed to 617 potentially interested parties on August 3, 2010. Public scoping meetings were held in Boise on August 23, 2010 and in Challis on August 24, 2010. A formal internal (agency) scoping meeting was previously held in Challis on November 24, 2009 to solicit comments from Federal and State agencies with jurisdiction or interest in the project. By the close of the 30 day scoping period, 188 public responses had been received. In addition, 23 responses were received between September 1 and September 27, 2010 for a total of 211 responses. Some responses had multiple signatures, for a total of 218 respondents (JBR 2011).

A Notice of Exchange Proposal (NOEP) was published in local newspapers during the weeks of April 15, April 22, April 29, and May 6 pursuant to 43 CFR 2201.2. The notice provided an additional public comment period of 45 days for the land exchange proposal. Three respondents provided three responses to the notice, and all of the comments were considered by the BLM (JBR 2013).

Per Executive Order 13175, Government-to-Government tribal consultation was conducted as part of the scoping process. Formal consultation was initiated with the Shoshone-Bannock Tribes on March 8, 2007, regarding the land exchange proposal and RMP amendment. The Tribes were also formally consulted about the land exchange proposal, RMP amendment, proposed MMPO, and proposed 404 permit on March 18, 2009. At that time, the Tribes asked to be involved in the development of a preferred management alternative for the Broken Wing Ranch (part of the offered lands). Consultation with the Tribes is ongoing and included Government-to-Government letters mailed to the Tribes on March 22, 2010 and September 28, 2010. The Tribes submitted comments in a letter dated November 29, 2010. A summary of the

comments is provided in JBR (2011). A Nez Perce Tribe technical staff member was notified about the project in July 2009. The BLM mailed a Government-to-Government letter to the Tribe with extensive project information on March 22, 2010 and asked if the Tribe desired formal Government-to-Government consultation regarding any aspect of the project. A conference call was held on May 12, 2010, among the BLM, Forest Service, and Nez Perce Tribe technical staff to discuss the project. A wide range of issues was discussed; a summary of the key concerns raised by the Nez Perce Tribe technical staff is provided in JBR (2011).

1.13. Issues and Indicators

The issues to be evaluated in this FEIS are described in the Thompson Creek Mine EIS Scoping and Alternatives Analysis report (JBR 2011) and the Notice of Exchange Proposal Content Analysis Report (JBR 2013). These reports organize and summarize the comments received during scoping from the agencies, Native American Tribes, and other members of the public. These public comments were used to define the issues and NEPA measurement indicators for the project.

The issues are presented under the various “components of the human and natural environment” (e.g., fisheries, socio-economic factors, wildlife) that are customarily addressed in the NEPA effects analysis. The indicators are the criteria used to judge the significance of the effect. These criteria are quantitative when feasible and otherwise qualitative. Indicators are based on regulatory requirements, baseline data, trends, and best management technology. A description of the issues and indicators by resource topic is provided below.

1.13.1. Geologic Resources and Geotechnical Issues

Issues related to the proposed MMPO

Issue: Mineral extraction represents an irretrievable loss of the mineral resource.

Indicator:

The millions of pounds of molybdenum that would be removed as a result of the alternatives.

Issues related to the proposed land exchange

Issue: The selected land would no longer be available for saleable, locatable, or leasable minerals entry under Federal laws and regulations.

Indicators:

Acres of land removed from Federal ownership, and the approximate monetary values of minerals (including mining claim maintenance fees) in the selected land based on the mineral potential report; and

Acres of land that would become available to mineral entry.

1.13.2. Soil Resources

Issues related to the MMPO

Issue: The mining operations and related transportation activities would affect soil resources in the project area through disturbance, which may affect post-mining soil productivity.

Indicator:

Acres of soil disturbance created during mining, and acres on which soil would not be re-established by mine reclamation.

Issues related to the land exchange proposal

Issue: Change in management of the selected and offered lands could result in changes to soil such as compaction, productivity, and erosion potential.

Indicator:

Area (acres, or % of parcel) of soil affected by compaction, change in productivity, or relative erosion potential.

1.13.3. Vegetation, Forest Resources, and Invasive and Non-Native Species

Issues related to the MMPO

Issue: The mining operations and related transportation activities may affect vegetation patterns and productivity in the project area, including special status (threatened, endangered, proposed, candidate, or sensitive) plant species habitat.

Indicators:

Acres of vegetation communities and suitable special status habitats that would be disturbed and/or potentially subjected to an increase in weed invasion;

Acres of disturbed area on which vegetation would be re-established during mine reclamation, and the types of vegetation that would be re-established; and

Acres of permanent vegetation conversion from forest to non-forest cover and predicted regrowth rate back to forest conditions.

Issue: Mine expansion would remove timber and decrease carbon sequestration in the project area.

Indicator:

Acres of timber removed and not replaced by mine reclamation. Estimated reduction in annual carbon sequestration compared to US carbon dioxide emissions.

Issues related to the land exchange proposal

Issue: Land leaving Federal ownership may contain special status plant species habitat.

Indicator:

Acres of suitable or known special status plant species habitat on the selected and offered lands.

Issue: The Broken Wing Ranch could be converted to native vegetation.

Indicator:

Acres of cultivated fields that could be converted to native vegetation.

1.13.4. Range Resources

Issues related to the MMPO

Issue: Mine expansion would occur on lands currently permitted for livestock grazing.

Indicators:

Acres of suitable livestock grazing lands on the selected and offered lands; and

Animal Unit Months (AUMs) of forage on the selected and offered lands.

Issue: The BLM would no longer make the Thompson Creek allotment available to grazing.

Indicators:

Acres of suitable livestock grazing land that would become unavailable if the Thompson Creek allotment were unavailable to grazing under permit from the BLM; and

AUMs of forage that would become unavailable if the Thompson Creek allotment were unavailable to grazing under permit from the BLM.

Issues related to the land exchange proposal

Issue: Disposal of selected land may affect permitted livestock grazing within and adjacent to the project area; the BLM might not make the Broken Wing Ranch available to grazing.

Indicators:

Acres of suitable livestock grazing lands on the selected and offered lands;

AUMs of forage on the selected and offered lands; and

Effects to permitted livestock grazing adjacent to the project area, e.g., access.

1.13.5. Water Resources

Issues related to the MMPO

Issue: The mine may cause long-term changes to the quantity and quality of surface water or groundwater in the project area, i.e., within the Thompson Creek and S. Creek watersheds and in the Salmon River.

Indicators:

Estimated turbidity, concentrations of suspended sediment, and concentrations of constituents of concern (COCs) in downgradient streams, ponds, and other surface waters (including effects to surface waters from groundwater) caused by mining compared to applicable surface water quality standards;

Estimated concentrations of COCs in ground water under and downgradient of the pit lake, TSF, and WRSFs compared to applicable groundwater quality standards;

Change in the amount or distribution of surface water discharge (cubic feet/second [cfs]) caused by mining; and

Change (increase or decrease) in groundwater quantity caused by mining.

Issue: TCMC may need additional or modified water quality permits due to the mine expansion.

Indicator:

Modifications to existing or additional water quality permits due to the MMPO alternatives.

Issue: Mine expansion may affect current water rights.

Indicator:

Change in available water (cfs) for water users.

Issues related to the land exchange proposal

Issue: If the BLM acquires the Broken Wing Ranch, there could be changes in the water rights associated with the ranch.

Indicator:

Change in cfs of the water rights that would remain associated with the Broken Wing Ranch if the ranch were acquired by the US.

1.13.6. Wildlife Resources

Issues related to the MMPO

Issue: The mining operations may physically affect terrestrial wildlife, including special status and Management Indicator Species (MIS), through disturbance and fragmentation of their habitat.

Indicators:

Acres of different wildlife habitats physically disturbed and the projection of that disturbed habitat over the life of proposed mining activities;

Acres of disturbance to and the proximity of the proposed mining operations to high value habitats such as special status species habitat, crucial and or high value big game ranges, wetlands, and seep and spring areas;

Acres of disturbance to habitat used for migration and the potential for migration to be affected;

Potential uptake by wildlife of COCs in mining disturbed areas and areas that are reclaimed (in qualitative terms);

Changes in water quantity (cfs) or quality (constituent concentration) caused by mining in wildlife habitat;

Increase in mining and transportation related noise levels (in decibels) within or in proximity to wildlife habitat; and

Increase in vehicle traffic in the project area (in average trips per day, month, or year) and potential for increased wildlife mortality through accidents.

Issue: The filling of the pit with water following reclamation may affect birds and other wildlife if the pit lake water does not meet applicable water quality standards for wildlife habitat. The pit lake may also entrap some wildlife seeking access to the water.

Indicators:

Change in use of the area by birds (increase in surface water area); and

Anticipated COCs of concern in pit water compared to applicable surface water standards.

Issues related to the land exchange proposal

Issue: Disposal of selected land may result in the known or suitable special status or MIS habitat leaving Federal ownership and management.

Indicator:

Acres of known or suitable special status or MIS habitat on the selected and offered lands.

Issue: Transfer of the selected land to private ownership may create a refuge from hunting for wildlife with wildlife concentrating in these areas, particularly during hunting seasons. Such refuge may negatively affect vegetation and lead to increased mortality (wildlife and human) due to motor vehicle collisions.

Indicator:

Estimated change in hunting pressure on the selected and offered lands.

1.13.7. Fish and Aquatic Resources

Issues related to the MMPO

Issue: The mine may affect bull trout, Chinook salmon, steelhead trout, and sockeye salmon individuals as well as critical habitat (for threatened and endangered species). It may also affect westslope cutthroat trout, other native fish, amphibians, or aquatic resources in the project area.

Indicators:

Changes in the National Marine Fisheries Service (NMFS) indicators of properly functioning condition (PFC);

The length of intermittent and perennial stream channels directly affected by waste rock and tailings disposal, road fill and associated culverts, and comparison with the undisturbed lengths of these stream channels in the project area;

Changes in stream discharge (cfs) caused by mining; and

Estimated concentrations of suspended sediment and COCs in water supporting fishery resources in the area, with emphasis on compliance with applicable aquatic life water quality standards.

Issues related to land exchange proposal

Issue: The land exchange may result in changes in ownership and management of known critical habitat for bull trout, Chinook salmon, steelhead trout, and sockeye salmon (threatened or endangered species). It may also affect suitable habitat for westslope cutthroat trout, other native fish, amphibians, or other aquatic resources in the project area.

Indicator:

Acres and quality of critical habitat for bull trout, Chinook salmon, steelhead trout, and sockeye salmon (threatened or endangered species) and acres of known or suitable special status or MIS habitat on the selected and offered lands.

1.13.8. Wetlands, Floodplains, and Riparian Areas

Issues related to the MMPO

Issue: The proposed MMPO would result in direct effects to wetlands within the mine footprint as a result of tailings, overburden fills, and other surface disturbance.

Indicator:

The number of wetland acres lost by proposed mining activities.

Issue: The proposed MMPO could result in indirect effects to wetlands downslope of disturbance within the mine footprint.

Indicators:

Changes in downslope wetland water quality (e.g., increased metal or sediment loading) or quantity (surface or groundwater) as a result of actions within the mine expansion footprint; and

In downslope wetlands, concentration of COCs remaining in growth medium after the TSF is reclaimed compared to applicable standards and guidelines.

Issues related to the land exchange proposal

Issue: The land exchange may result in changes in ownership and management of wetland areas providing high value plant and wildlife habitat.

Indicator:

Acres of wetlands that would be removed from or enter BLM administration.

1.13.9. Air Quality, Noise, and Climate Change

Issues related to the MMPO

Issue (air): Mine emissions may cause air quality effects that are different from existing operations due to relocation of mining emissions and from increased traffic on haul roads and possibly off-site access roads.

Indicator (air):

Quantities of exhaust and dust generated from haul trucks and other mining equipment and their effects on air quality in IDEQ air quality control regions (AQCRs).

Issue (noise): Noise from mining operations including traffic on haul roads and traffic on access roads may increase under the MMPO.

Indicator (noise):

Estimated noise levels, in decibels, from mining operations including haul truck traffic related to mining and access road traffic.

Issues related to the land exchange proposal

Issue (air): There would be a change in air quality at the Broken Wing Ranch due to changes in management.

Indicator (air):

Qualitative changes in air quality at the ranch.

Issue (noise): The Broken Wing Ranch and the Lyon Creek drainage would have increased noise if the ranch were administered by the BLM.

Indicator (noise):

Qualitative changes in noise at the ranch and in the Lyon Creek drainage.

1.13.10. Visual (Aesthetic) Resources

Issues related to the MMPO

Issue: The mine may affect visual resources in the area, both during and after production.

Indicators:

Compliance with the visual quality objectives (VQOs) in the Forest Service visual resource management (VRM) system;

Compliance with the VRM classes in the BLM VRM system; and

Change in the characteristic landscape of the mine area, from baseline to projected, from various public and private meaningful viewpoints.

Issues related to the land exchange proposal

Issue: The land disposal may cause a change in the visual aesthetics of the offered lands.

Indicator:

Changes in scenery from various public and private key viewpoints of the offered lands.

1.13.11. Land Use and Recreation

Issues related to the MMPO

Issue: Recreational use and public access to the project area may be limited or prevented by mining activities and could affect adjacent private land.

Indicators:

Acres of Federal land closed to public use by mining;

Number of recreational access points closed to the public use by mining;

Acres of recreational areas blocked from public access by mining;

Locations of primary access roads or trails blocked or closed by mining; and

Changes in the Forest Service Recreation Opportunity Spectrum (ROS) classification or the BLM settings matrix.

Issue: Mine expansion may affect inventoried roadless areas (IRAs) or areas with BLM Wilderness Characteristics.

Indicators:

Acres of IRA or areas with wilderness characteristics that would be directly affected by mining; and

Changes to roadless characteristics and wilderness attributes.

Issues related to land exchange proposal

Issue: Recreational use and public access may change on lands proposed for disposal and acquisition through the land exchange.

Indicators:

Acres of BLM, NFS, and private land available for public use after the proposed land exchange;

Acres of land available to recreational use through conservation easements and other mitigation measures included in the action alternatives as a subset of previous indicators; Acres of land accessible to motorized and non-motorized users after the proposed land exchange; and

Change in the type of recreational use as a result of the land exchange.

Issue: Lands involved in an exchange may be used for purposes that are different from the past, e.g., the BLM might not make the Broken Wing Ranch available for agriculture or grazing.

Indicator:

Change in use of the selected and offered lands.

Issue: The land exchange may create user conflict with private landowners adjacent to lands proposed for disposal and acquisition and could devalue adjacent private lands.

Indicator:

Changes in use and value of private lands adjacent to the selected and offered lands due to the land exchange.

Issue: The land exchange would affect agricultural production on the offered lands and increase administrative costs.

Indicator:

Change in agricultural production and BLM administrative costs related to the selected and offered lands.

Issue: The land exchange would result in a net decrease in BLM land.

Indicator:

Acres of BLM land that would become private and vice versa for the land disposal alternatives.

1.13.12. Socioeconomic Factors

Issues related to the MMPO

Issue: Decreased production or closure of the mine would have effects on local, State, and national economies.

Indicators:

Numbers of employees, contractors, and their dependents that could be affected by potential mine closure; and

Changes in mine payroll, personal income, personal taxes, and tax revenues after mine closure. Indirect effects would typically be calculated using appropriate multipliers.

Issue: Decreased job opportunities and economic stability from decreased production or mine closure would affect social conditions in local communities.

Indicators:

Change in the number of jobs and the salary and wages of jobs in the affected communities; and

Changes in common demographic factors. Indirect effects would typically be calculated using appropriate multipliers.

Issue: The mine production affects the supply and price of molybdenum on the world market.

Indicator:

Millions of pounds molybdenum that would be produced by the mine under the MMPO alternatives compared to US and world molybdenum supply.

Issue: The mine production affects the reliance of the US on foreign sources of molybdenum.

Indicator:

Millions of pounds of molybdenum that would be produced by the mine under the MMPO alternatives compared to US and world molybdenum supply, reserves and resources.

Issues related to the land exchange proposal

Issue: The land exchange would change property tax revenues for Custer County and have economic effects on local communities.

Indicators:

Changes in tax revenue for Custer County for the land disposal action alternatives; and

Changes in tax revenue and both quantitative (dollars) and narrative descriptions of other economic effects to the local community, including effects from changes in ranching and agricultural activities at the Broken Wing Ranch and effects to schools, utilities, fire/police departments, schools, etc.

Issue: The land exchange would affect BLM revenues from the selected land.

Indicator:

Change in revenue collected from the selected land by the BLM.

Issue: The land exchange would affect BLM revenues from the selected land.

Indicator:

Change in revenue collected from the selected land by the BLM.

Issue: BLM administration of the Broken Wing Ranch would alter the culture of Custer County.

Indicator:

Changes in the culture of Custer County.

1.13.13. Financial Assurance

Issues related to the MMPO

Issue: The current reclamation bond may not be adequate to cover the MMPO as proposed.

Indicator:

Description of the determination and collection of financial guarantees by the BLM, Forest Service, and IDL for the proposed MMPO with reference to the appropriate regulations, the timing of reclamation cost estimation by the operator, items generally included in the estimate, and the agency review and approval process.

Issues related to the land exchange

Issue: The regulatory environment of the mine would change as a result of the land disposal, i.e., the Idaho Administrative Code Rules 20.03.02 would govern the portion of the mine not governed by the BLM surface management regulations at 43 CFR 3809. More specifically, there could be a different frequency of agency inspections, and different financial guarantee requirements for long-term water treatment related to the MMPO, etc.

Indicator:

Narrative description of the specific regulatory changes that would result with the land disposal alternatives.

1.13.14. Tribal Treaty Rights and Interests

Issues related to the MMPO

Issue: The mine activities may affect the ability of Shoshone-Bannock and Nez Perce Tribal members to exercise their treaty rights in the project area and may affect resources of cultural significance to Tribal members.

Indicators:

Quantity and quality of cultural resource sites that may be of significance to Tribal members that could be affected by the MMPO or land disposal alternatives;

Acres of unoccupied Federal land;

Acres of land within the ceded boundary of the Fort Hall Indian Reservation;

Acres of land with Shoshone-Bannock Tribal grazing rights; and

Known prehistoric cultural resources sites affected by the MMPO and land exchange alternatives.

Issue: The mine could cause health risks to tribal members due to consumption of water, fish, and wildlife.

Indicator:

Exceedances of the concentrations of potential COCs in water, fish, and wildlife above standards for human health.

1.13.15. Cultural Resources

Issues related to the MMPO and land exchange proposal

Issue: Cultural resource sites may be affected in the project area on the selected and offered lands.

Indicator:

Number and quality of cultural sites eligible for the NRHP affected by the MMPO and land disposal alternatives.

Issue: The heritage values (resources) of the project area may be compromised by the mine expansion or land exchange.

Indicators:

Acres of selected and offered lands removed from historic land uses; and

Acres of offered land with local heritage value.

1.13.16. Transportation, Access, and Public Safety

Issues related to the MMPO

Issue: There is the potential for spills of molybdenum concentrate during shipment due to traffic accidents.

Indicators:

Number of accidents in the past and the fate of spilled molybdenum concentrate; and
Estimation of future number of molybdenum concentrate spills and their fate during shipment.

Issues related to the land exchange proposal

Issue: The land exchange may affect existing access for grazing allotment permittees, recreationalists, and other members of the public.

Indicators:

Narrative description of changes in access to grazing allotments under the land disposal alternatives; and

Narrative description of changes in access to Federal land (motorized and non-motorized).

1.13.17. Hazardous Materials and Solid Waste

Issues related to the MMPO

Issue: Contamination of water, soil, and air could occur due to petroleum or other chemical spills and on-site disposal of solid waste.

Indicator:

Narrative description of the threat of releases of petroleum or hazardous substances and their sources.

Issues related to the land exchange proposal

Issue: There would be a greater chance for the release of petroleum or hazardous substances and dumping of solid waste on the Broken Wing Ranch.

Indicator:

Narrative description of the threat of releases of petroleum or hazardous substances and their sources.

1.14. Issues Considered But Not Analyzed Further

Under Executive Order (Section 1.9.23.), each Federal agency makes environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. The BLM considers these types of effects during NEPA analysis. However, none of the MMPO and land disposal alternatives would disproportionately affect minority or low-income populations, and so environmental justice concerns are not discussed further in the FEIS.