

RED THUNDER, INC., ET AL.

IBLA 90-457, 90-463, 90-464, 90-465

Decided December 19, 1990

Appeal from a decision of the Lewistown, Montana, District Office, Bureau of Land Management, approving an amendment to Federal Plan of Operations MTM 77779 and recommending approval of an amendment to Montana State Mine Operating Permit 00095.

Affirmed as modified.

1. Administrative Procedure: Generally--Appeals: Generally--Rules of Practice: Appeals: Dismissal--Rules of Practice: Appeals: Service on Adverse Party

The Board has discretion not to dismiss an appeal for failure to serve copies of appeal documents on an adverse party, as the regulations state merely that such failure will "subject the appeal to dismissal." In the absence of a showing of prejudice on the adverse party, a motion to dismiss for failure to serve is properly denied.

2. Administrative Procedure: Generally--Appeals: Generally--Rules of Practice: Appeals: Dismissal--Rules of Practice: Appeals: Standing to Appeal

Even though an appellant corporation is not incorporated until after the date of issuance by BLM of the decision it seeks to appeal, its appeal is not properly dismissed for lack of standing if it appears (1) that the appellant corporation succeeded to the interests of an

entity that participated in the decisionmaking process and, thus, became a party to the case, and (2) that both the appellant corporation and the earlier entity are adversely affected by BLM's decision.

3. Environmental Quality: Environmental Statements--Mining Claims: Plan of Operations

BLM's FONSI with respect to a proposed expansion of a mining operation will be affirmed if the record establishes that a careful review of environmental problems has been made, all relevant environmental concerns have been identified, and the final determination is reasonable. The record must establish that the FONSI was based on reasoned decisionmaking. Thus, one challenging such a finding must demonstrate either an error of law or fact or that the analysis failed to consider a substantial environmental problem of material significance to the proposed action. The ultimate burden of proof is on the challenging party. Such burden must be satisfied by objective proof. Mere differences of opinion provide no basis for reversal.

4. Environmental Quality: Environmental Statements--Mining Claims: Plan of Operations

Although an EA for a proposed expansion of a mining operation to build a new cyanide heap leaching pad may be "tiered" to an earlier EIS, the earlier document must contain adequate information to address the alternatives. Where the EIS does not address the full extent of cumulative impacts of retention of cyanide in abandoned heaps, and where BLM is actively reviewing this question prior to allowing leaching of ore to begin on the new pad, BLM's decision to allow the permit amendment will be modified to make clear that BLM must consider whether to prepare a supplemental EIS considering cumulative impacts before allowing leaching operations to begin.

5. Indians: Generally--Mining Claims: Plan of Operations

Sec. 2 of the AIRFA does not prohibit BLM from adopting a land use that conflicts with traditional Indian religious beliefs or practices. BLM complies with AIRFA if, in the decisionmaking process, it obtains and considers the views of the Indians, and if, in project implementation, it avoids unnecessary interference with Indian religious practices.

APPEARANCES: Don R. Marble, Esq., Chester, Montana, for Red Thunder, Inc.; Virgil F. McConnell, Sr., pro se; Dean E. Cycon, Esq., New Salem, Massachusetts, for Island Mountain Protectors and Fort Belknap Community Council; Alan L. Joscelyn, Esq., Helena, Montana, for Zortman Mining, Inc.; Tommy H. Butler, Esq., Special Assistant Attorney General, for Department of State Lands, State of Montana; Karen Dunnigan, Esq., Office of the Field Solicitor, U.S. Department of the Interior, Billings, Montana, for the Bureau of Land Management; John C. McKeon, Esq., for amicus curiae Phillips County, Montana.

OPINION BY ADMINISTRATIVE JUDGE HUGHES

Red Thunder, Inc., Virgil F. McConnell, Sr., Island Mountain Protectors (IMP), and Fort Belknap Community Council (FBCC) (appellants) have each appealed the June 22, 1990, decision of the Lewistown, Montana, District Office, Bureau of Land Management (BLM), approving the application of Zortman Mining Company (Zortman) for an amendment to Federal Plan of Operations M-77779 for expansion of the Landusky Mine in Phillips County, Montana. Pursuant to a memorandum of understanding (MOU) between BLM and the Department of State Lands (DSL), State of Montana, BLM also recommended approval of Zortman's request for amendment of State Operating Permit 00095. ^{1/}

^{1/} The MOU, approved in April and May 1984, essentially provides for joint regulation of mining and protection of surface resources by BLM and DSL.

By order of September 14, 1990, we consolidated the appeals. Two separate statements of reasons were filed, one jointly on behalf of Red Thunder and McConnell, and one jointly on behalf of IMP and FBCC. These statements of reasons raise similar arguments, and, for simplicity's sake, we shall refer to appellants jointly. Zortman, BLM, and DSL have filed answers. Red Thunder has filed a reply brief. 2/

The Landusky Mine permit was originally issued on June 6, 1979, following the preparation by DSL of an environmental impact statement (EIS) pursuant to Montana State law. 3/ BLM did not participate in consideration of the original permit, which was issued for patented lands.

The amendment approved by BLM/DSL in June 1990 was the 10th amendment to the mining plan for the Landusky Mine and is thus referred to as Amendment No. 10. BLM 4/ did not prepare an EIS prior to approving the amendment, but did prepare an environmental assessment (EA), known as EA No. 10. In addition, following public meetings and receipt of comments, BLM prepared an addendum to EA No. 10, called simply the Addendum. Approval of Amendment No. 10 also involved imposition of 11 stipulations, several of which are at issue here. At the conclusion of the EA when the record of decision (ROD) was completed, BLM made a finding of no significant impact (FONSI).

2/ Phillips County, Montana, also filed a motion for leave to appear as amicus curiae and a brief addressing the financial consequences of disallowing expansion of the Landusky mine. Although these comments were offered in the context of whether the effect of BLM's decision should be stayed pending appeal, they also bear on the merits of the appeal. Phillips County's request to appear as amicus is granted.

3/ The governing law is the State of Montana's Environmental Policy Act (MEPA), Section 69-6504, R.C.M. 1947.

4/ Unless noted specifically, all further references to BLM's consideration of mining plan amendments actually refer to joint BLM/DSL consideration under the MOU.

The Landusky Mine is located just outside the southeast corner of the Fort Belknap Indian Reservation in an area that has been extensively mined in the past. Mining operations there employ large-scale cyanide heap leaching to remove gold and silver from low-grade ore. Although discussed in more detail below, the mining process is summarized as follows:

The project area is within the Little Rocky Mountains of Phillips County, the site of numerous past mining and leaching operations. * * * Pit run ore from the mine [is] trucked approximately three quarters of a mile to the leach site where cyanide solution [is] applied in a closed-circuit leaching process. Ore [is] placed on an impervious barrier, the cyanide solution [is] applied using pvc pipe and irrigation type sprinkler heads. A "pregnant" solution containing gold and silver values [is] recovered from the leach heap and pumped to a precipitation press to remove the gold and silver from solution. The barren solution [is] adjusted for cyanide levels and re-applied to the leach heap. The leached heap materials [are] graded and reclaimed in place. Concentrate from the press [is either] sold unrefined or shipped to a custom smelter.

(EIS at 1). Zortman further explains: "The system is 'closed' and does not involve any discharge of cyanide solution to the environment. The leach pads include a composite liner system consisting of compacted clay and synthetic membrane * * * to prevent solution loss and possible groundwater contamination" (Zortman Answer: Response to Red Thunder/McConnell at 2).

Over the 11-year history of the mine, different leach pads have been built, loaded, and leached to completion (Zortman Answer, Exh. 1). Approving Amendment No. 10 allows construction of the Sullivan Park Leach Pad, which has evidently been completed. 5/ However, owing to the imposition of

5/ This Board, by order dated Sept. 14, 1990, lifted a temporary stay of the effectiveness of BLM's decision approving the plan amendment, clearing the way for completion of the pad.

Stipulation No. 9 on the permit, Zortman is not allowed at present to conduct mining on the new pad.

At the center of the present controversy is the issue of the extent to which cyanide solution is left behind following completion of mining when the spent ore is "reclaimed in place" as described in the EIS. In addition to reclamation of the Sullivan Park Pad, reclamation of all the completed pads at the Landusky Mine (called "spent ore heaps") is at issue, as Stipulation No. 1 to the approval of Amendment No. 10 requires Zortman to continue neutralization of all spent ore heaps until certain low levels of cyanide discharge are established and maintained. Appellants challenge BLM's handling of the issue of cyanide retention in the spent heaps.

[1] Before considering the merits of the appeal, we take up two procedural matters. Zortman has moved that the appeals be dismissed for failure of the appellants McConnell, IMP, and FBCC to timely serve copies of their notices of appeal and statements of reasons. ^{6/} This motion is denied. The Board has discretion not to dismiss an appeal for failure to serve, as the regulations state merely that such failure will "subject the appeal to dismissal." 43 CFR 4.413(b); Defenders of Wildlife, 79 IBLA 62 (1984); see James C. Mackey, 96 IBLA 356, 359, 94 I.D. 132, 134 (1987); Tagala v. Gorsuch, 411 F.2d 589 (9th Cir. 1969). The Board avoids procedural dismissals if there has been no showing that a procedural deficiency has prejudiced an adverse party. Indeed, in the absence of such showing, dismissal of an appeal might be deemed an abuse of discretion. See United

^{6/} A companion motion to dismiss the appeals of IMP and FBCC for failure to timely file statements of reasons was subsequently withdrawn as unfounded.

States v. Rice, No. CIV. 72-467, PHX WEC (D. Ariz. Feb. 1, 1974), reversing United States v. Rice, 2 IBLA 124 (1971). We are unpersuaded that Zortman or any other adverse party was prejudiced by any delay in receiving copies of appellants' pleadings.

In any event, it is hard to fault appellants for any untimely service of pleadings on Zortman, in view of BLM's failure to denote Zortman in its decision as an "adverse party" entitled to such service by any appellant. See Beard Oil Co., 105 IBLA 205 (1988). Appellant's obligation to serve copies of appeal pleadings is technically limited to parties so named. 43 CFR 4.413.

[2] A more serious question is raised by Zortman regarding the standing of appellant Red Thunder to file an appeal here. Under 43 CFR 4.410, the right of appeal to this Board is strictly limited to "[a]ny party to a case who is adversely affected by a decision" of BLM. It is established that, if the would-be appellant lacks standing, the appeal must be dismissed. The Wilderness Society, 110 IBLA 67, 72 (1989).

There is no dispute that the members of Red Thunder, as users of lands that are being impacted by the Landusky mine, are adversely affected by BLM's decision. However, Zortman has established that Red Thunder, Inc., was not incorporated until July 12, 1990, after the date of BLM's decision (Zortman Memorandum in Support of Request for Recision of Stay, Affidavit of Joscelyn). Thus, Red Thunder did not exist as a legal entity during the time prior to the issuance of the decision, and there is a question as to

whether it can properly be held to have been a "party to the case" under appeal.

Red Thunder responds that

the people organized as Red Thunder, Inc. were appearing individually and together as Loud Thunder International-Little Rockies Chapter. * * * All that is involved is a name change. Red Thunder members and [its] group appeared and participated as a group at the proceedings. Prior to incorporation as Red Thunder, Inc., the group was not incorporated. All that happened is that the group known as Loud Thunder International-Little Rockies Chapter was incorporated as Red Thunder, Inc. They did participate fully in the proceedings.

(Red Thunder Reply at 41-42). Although Zortman also filed evidence indicating that a group known as Loud Thunder International, Inc., was incorporated in Montana in 1986 (Zortman Memorandum in Support of Request for Recision of Stay, Affidavit of Joscelyn), there is nothing to indicate that Loud Thunder International-Little Rockies Chapter, was incorporated at that time.

The Board routinely allows corporations to file appeals on behalf of its predecessors-in-interest on the presumption that the appellant has succeeded to these interests. We regard Red Thunder's representation that the group known as Loud Thunder International-Little Rockies Chapter was incorporated as Red Thunder, Inc., as an implicit assertion that Red Thunder succeeded to the earlier group's interest. As the earlier group did participate before BLM, it is a party to the case, and Red Thunder, as its successor, may appeal.

[3] Turning to the merits of the appeal, it is well established that the Board will affirm a FONSI with respect to a proposed action if the record establishes that a careful review of environmental problems has been made, all relevant environmental concerns have been identified, and the final determination is reasonable. The record must establish that the FONSI was based on reasoned decisionmaking. Thus, one challenging such a finding must demonstrate either an error of law or fact or that the analysis failed to consider a substantial environmental problem of material significance to the proposed action. The ultimate burden of proof is on the challenging party. Such burden must be satisfied by objective proof. Mere differences of opinion provide no basis for reversal. G. Jon Roush, 112 IBLA 293, 297-98 (1990), and cases cited.

Apart from the issue of whether preparation of an EA, rather than an EIS, was legally sufficient (considered separately below), appellants generally challenge the adequacy of BLM's environmental review and the accuracy of its conclusions concerning mining at the Landusky Mine. We have reviewed these challenges and, except as discussed below, reject them. Appellants have generally failed to meet their burden of establishing error in BLM's FONSI. Several points are addressed below in the context of legal questions. ^{7/} Others require specific comment.

Appellants fault BLM for not considering the effects of cyanide heap leaching on water sources that run into the reservation from the mine through King Creek. The record establishes that BLM has imposed adequate

^{7/} See, e.g., note 16.

safeguards to ensure that the water quality in King Creek is maintained, including several water monitoring wells. Although the stream is not being monitored on the reservation itself, water in both King Creek and South Big Horn Creek is monitored by wells in several places as it leaves the minesite (Zortman Answer, Exh. 2). Appellants have not shown that this procedure is inadequate to ensure that these streams are not contaminated. Further, appellants have not convincingly countered Zortman's assertions that analysis from these monitoring wells reveals no degradation of water quality (id. at Exh. 6) or that the reason the streams are not monitored on the reservation is that the Fort Belknap Community Council has not authorized water monitoring on the reservation itself. Id. at 12. 8/

The EA's that have been prepared concerning the Landusky Mine are not perfunctory documents, as suggested by appellants, but extensive and reasoned analyses of environmental effects of mining. Although there is a question here as to whether it is legally permissible to conduct environmental review in the procedural context of an EA rather than an EIS, we wish to expressly dispel any impression that BLM's EA's are not thorough

8/ Red Thunder has filed pictures of King's Creek assertedly showing that water in a beaver pond there is "cloudy," "slimy looking," and "orangish" and that there is siltation above the beaver dam. No attempt is made to analyze the cause of these conditions or to relate them to mining activities at the Landusky mine (Red Thunder Response, Photographs 10-16). This failure is critical in view of evidence in the record suggesting that King's Creek is being adversely impacted by tailings left from previous mines unrelated to the Landusky mine operation. E.g., Zortman Answer Exhs. 1 and 2.

Red Thunder also asserts that EA No. 10 at page 15 indicates that groundwater could flow to the north, and that BLM has not addressed this question. The EA indicates only that there "may be" flow to the northeast, which is away from the Reservation. Regardless of whether the flow is toward or away from the Reservation, the record indicates that water quality is to be sampled at locations toward the northeast of the mine.

documents. To the contrary, these EA's demonstrate that BLM has responsibly undertaken its management duties in connection with the Landusky mine. Zortman has clearly not escaped responsibility for overall environmental impact. BLM has clearly engaged in "reasoned decisionmaking," and its conclusions are generally reasonable. See G. Jon Roush, supra. As noted below, BLM's review of Zortman's responsibilities is ongoing.

As to pollution of ground water, Zortman has provided a hydrological study indicating that underground aquifers are not affected by the operation (Zortman Answer, Exh. 5). Appellants have provided no convincing evidence to the contrary.

In effect, appellants challenge BLM's January 1990 decision to allow permit modification No. 9 without doing an EIS. They cite to a statement in EA No. 9 that no EIS would be required if heap slopes were reduced from 2 horizontal:1 vertical (2H:1V) to 3H:1V. Noting that BLM in fact approved 2H:1V slopes, they question why an EIS was not prepared for permit modification No. 9.

We note that the time for appealing BLM's decision to allow plan amendment No. 9 has long since expired. The slope angle approved in Amendment No. 10 for reclamation of the Sullivan Park leach pad is 3H:1V, with intervening benches of indeterminate width every 200 feet of slope length (Permit Amendment No. 10, Stipulation 3). Appellants do not challenge this requirement. Thus, the issue of the earlier approved slope angle is not before us.

Nevertheless, we see no impropriety in BLM's changing its mind regarding the necessity to prepare an EIS for Amendment No. 9. Appellants are correct that BLM noted its concern that there was potential for "reclamation failure on the long 2H:1V slopes of the reshaped heap" in the EA prepared for this amendment (EA No. 9):

The consequences of failed reclamation on the heap slopes could include precipitation infiltration and periodic discharge of residual solutions from the abandoned heap, and potential plug-ging of the pad underdrain system. Placement and reduction of ore lifts to 3H:1V would increase the feasibility of successful reclamation, and would allow additional corrective or mitigative measures should reclamation problems be realized.

(EA No. 9 at 28-29). However, BLM did not indicate that these problems could be avoided only by using a 3H:1V slope.

Zortman offers the following explanation for BLM's eventual decision not to require 3H:1V slopes:

The reclaimed slope for the Mill Gulch Heap Leach Pad permitted in EA 9, was resolved by negotiation involving DSL, BLM, and [Zortman]. During those negotiations, the agencies expressed that their primary concern was not so much slope angle but slope length. Accordingly, [Zortman] agreed to break up the long slopes with benches every 200 feet. Application of the benching reduces the overall slope angle from [2H:1V] to approximately [2.25H:1V]. The requirement for benching was set forth as a permit condition for Permit Amendment No. 9.

(Zortman Answer at 15). Thus, it is evident that, although BLM may have been concerned at one time during the review process for plan amendment No. 9 that 2H:1V slopes were inadequate, it changed its mind, concluding that any adverse environmental effects could be mitigated by inserting

benches, thus lowering the effective slope for the leach pad. Appellants have not shown that BLM's decision was incorrect. Further, BLM has not ruled out the possibility that "additional action" might be required if problems develop with the slope angle approved by permit amendment No. 9 (Addendum at 21). 9/

We also reject appellants' assertions that BLM has improperly failed to analyze the environmental impacts of the mining of sulfide gold and silver ore at the Landusky mine. It is entirely possible that Zortman may never mine the sulfide ore at the Landusky mine. Preparation of an EIS is not required when agencies are merely contemplating a project and it is unclear whether the program will necessarily result in a proposal for major Federal action. Kleppe v. Sierra Club, 427 U.S. 390, 403-06 (1976). Thus, there is no problem with segmenting the environmental review so that the effects of mining non-sulfide (oxide) ore (which has been ongoing for 10 years) are considered independently of the effects of mining sulfide ore. We are well aware that mining sulfide ore would present environmental questions that must be addressed. However, no application has been filed by Zortman requesting permission to mine such ore. Thus, there is no proposed action to be reviewed. Zortman admits that it has begun to prepare baseline information for a sulfide reserves application, but no showing has been made that this collection of information in any way affects the environment. Accordingly, BLM has properly declined to consider the effects of mining sulfide ore at this time. 10/

9/ Zortman disputes BLM's authority to take such action (Zortman Answer at 16-17). It is unnecessary to resolve this issue at this time.

10/ Zortman indicates that an EIS should be prepared if it submits an application for the development of sulfide materials at the Landusky mine, presuming that a major change in potential environmental effects is determined to exist (Zortman Answer at 7-9).

Finally, appellants have failed to support their allegations that the Montana Gulch leach pad has been built on a former mine site known as the "wind tunnel." Even putting aside the fact that appellants' challenge is not timely, in the absence of any supporting documentation suggesting the location of previous mine workings, we reject this allegation as pure speculation.

Appellants also make unsubstantiated allegations regarding alleged design flaws with the leach pad and impacts on wildlife. In the absence of convincing supporting evidence, and in view of information to the contrary provided by Zortman, these allegations are also rejected.

Although we generally affirm BLM's decision, there are two unresolved questions that require specific consideration.

[4] The first concerns BLM's decision not to prepare an EIS for Amendment No. 10. Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA) requires preparation of an EIS in the case of "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C) (1988). Appellants have questioned whether BLM erred by granting this permit amendment without preparing an EIS. Several issues must be resolved in answering this question.

First, we must determine whether BLM used an EA that was "tiered" to an EIS prepared in 1979 by DSL in compliance with the State of Montana's Environmental Policy Act (MEPA), Section 69-6504, R.C.M. 1947, in connection with consideration of the application for the original mining permit,

so that no EIS was required for the permit amendment. ^{11/} We frequently affirm BLM decisions to prepare an EA rather than an EIS where the EA supplements or is tiered to an earlier EIS. See, e.g., Oregon Natural Resources Council, 115 IBLA 179, 186 (1990). Although an EA for an action may be "tiered" to an earlier EIS, the earlier document must contain adequate information to address the alternative. Id. at 186.

Over the last 11 years, Zortman's permit has been amended 10 times, and the environmental effects of each amendment have been addressed in the

^{11/} The Council on Environmental Quality (CEQ) has provided regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of NEPA. 40 CFR 1500.3 (1989).

The CEQ regulations describe "tiering" as follows:

"Agencies are encouraged to tier their [EIS's] to eliminate repetitive discussions of the same issues * * * ripe for decision at each level of environmental review ([40 CFR] 1508.28). Whenever a broad [EIS] has been prepared (such as a program or policy statement) and a subsequent statement or [EA] is then prepared or an action included within the entire program or policy (such as a site specific action) the subsequent statement or [EA] need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions ([40 CFR] 1508.28)." 40 CFR 1502.20 (1989).

Further,

"'[t]iering' refers to the coverage of general matters in broader [EIS's] (such as national program or policy statements) with subsequent narrower statements or [EA's] (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is: (a) From a program, plan, or policy [EIS] to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis[; or] (b) From an [EIS] on a specific action at an early stage (such as need and site selection) to a supplemental (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe." 40 CFR 1508.28 (1989).

context of an EA that was "tiered" to the original EIS. The original EIS considered the environmental impacts of 18-20 years of mining, but foresaw only 530 acres being affected in the life of the operation (EIS at 18). It appears that this acreage has been greatly exceeded (McConnell Statement of Reasons at 4; Red Thunder Response at 2). The failure to consider in the 1979 EIS the extent that the mine has reached does not conclusively establish that BLM's decision to prepare an EA was defective, however.

Under the CEQ regulations, the terms "effects" and "impacts" are synonymous. 40 CFR 1508.8 (1989). The term "effects" includes ecological, esthetic, historic, cultural, economic, social, or health considerations, whether direct, indirect, or cumulative.

We perceive two distinct varieties of possible effects here. First, there are "operational" effects, which abate when mining operations are completed. These effects are associated with actively mining and pro-cessing ore and arise from two principal activities: (1) removal and transportation of ore and roadbuilding, including disruption of surface drainages and vegetation, disruption of underground aquifers, siltation of drainages, contamination of water resources that come in contact with rock exposed by mining, noise of operations, visual impacts of opening the ground, and release of dust into the air; and (2) effects of removing gold and silver from the ore at the leach pad using cyanide solutions, such as release of hydrogen cyanide gas into the air 12/ or leakage of cyanide

12/ According to the Environmental Handbook for Cyanide Leaching Projects, prepared by Radian Corporation for the National Park Service, U.S. Department of the Interior in June 1986, cyanide used for heap leaching consists of an aqueous solution of sodium cyanide (NaCN) containing, among others,

solution into the groundwater or streams, where it might remain in solution. 13/

Many of these potential adverse operational effects can be and have been successfully prevented by design features and mitigating measures built into the mining plan as approved. When mitigating measures are proposed or required to reduce the environmental effects of the proposed action, a FONSI is properly affirmed. Idaho Natural Resources Legal Foundation, 115 IBLA 88 (1990), and cases cited. Unpreventable adverse operational effects have been adequately considered throughout the history of the Landusky mine and were specifically addressed in the original EIS. In sum, Amendment No. 10 presents no new operational effect that has not been fully considered in the past.

However, there are also possible effects associated with reclaiming the mine site after mining operations are completed, including erosion of

fn. 12 (continued)

cyanide ions (CN⁻), also known as cyanogen. "Cyanide ions readily hydrolyze (with hydrogen ions [H⁺] in water) to form hydrocyanic acid (HCN). * * * Hydrocyanic acid is a colorless liquid with a boiling point of about room temperature (25.5° [centigrade]). * * * Hydrocyanic acid vapor (HCN gas) is less dense than air, flammable and toxic." Id. at 2.

HCN gas forms readily, unless the pH of the solution is kept high, that is, HCN forms readily if the solution becomes acidic. Thus, in order to prevent the formation of toxic HCN gas, "it is important to maintain an elevated solution pH throughout processing operations." Solution pH is controlled by the addition of agents such as lime (CaO) or caustic soda (NaOH). Id. at 2-3. The record indicates that Zortman keeps the pH of the cyanide solution high by adding lime. EIS at 5 and 9.

13/ "A [cyanide] solution spill has potential impacts ranging from disastrous to inconsequential. The possible impacts on aquatic life in a receiving stream would not be uniform. * * * Fish, and in particular trout, appear to be among the most sensitive of higher organisms to free cyanide. In comparison, the acute toxicity of free cyanide to man and many other mammals is at least several orders of magnitude above the levels which may threaten fish[, that is, cyanide is less toxic to man and many other mammals than to fish]. Plants are much less susceptible to cyanide than are animals * * *." Environmental Handbook for Cyanide Leaching Projects, at 13-14.

reclaimed slopes and related siltation of streams, and release of cyanide gas into the air or leakage of cyanide solution from the reclaimed leach

pad. 14/ These impacts continue after mining operations are completed and accumulate as a larger area is mined and reclaimed. Thus, they fall within the definition of "cumulative impacts." 15/

There is presently a substantial question as to what the cumulative impacts will be of leaving cyanide solution in the spent ore on the abandoned leach pads. Although it is inevitable that some amount of cyanide will be left behind, the record clearly establishes that there would be no significant impact if only small concentrations of potentially free cyanide remain, or if the cyanide left behind is so "entrained" in the rock as not to be able to leave the dump site. 16/

14/ It appears that, in operation, the leach pads are fully loaded with ore and then treated for an extended period of time with a cyanide solution, and that the pads are not reloaded. Thus, the spent ore apparently is not removed from the pad, but simply remains in place after processing is completed.

15/ Under the CEQ regulations, "cumulative impact" is defined as

"the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

40 CFR 1508.7 (1989).

16/ In this regard, we are not impressed with appellants' greatly oversimplified assertion that BLM is allowing a "billion gallons of solution of deadly poison" to be left behind. Although there is some question as to whether potentially unfavorable conditions may exist in reclaimed pads and waste piles at the Landusky mine, the image of a billion gallons of lethal chemical liquid impounded there, leaking into streams and ground-water and polluting the air, is hardly accurate.

Cyanide rapidly reacts with other chemicals in the environment to become harmless:

"Unlike many pollutants which may accumulate in the environment, cyanide is a very reactive and relatively short-lived contaminant. As such, cyanide is considered to be a transient pollutant. * * * A number of processes have been identified as potentially significant in the natural

It is noteworthy that the amendment approved by BLM included a comprehensive mine reclamation plan which applies to all ore heaps at the Landusky mine, requiring cyanide neutralization of all spent ore heaps to continue until a leachate discharge of less than 0.22 mg/liter weak acid dissociable solution (WAD) is maintained over a 6-month period, including a snowmelt and spring runoff period (EA at 79; EA Addendum at 18). Thus, concern was raised about the cumulative impacts of past reclamation from the beginning of consideration of Amendment No. 10.

The fact remains that, even after BLM studied the question 17/ and even though it purported to conclude that there was no significant

fn. 16 (continued)

degradation or depletion of cyanide in effluents from many gold processing operations. These processes are volatilization, oxidation, biodegradation, photodecomposition, and cyanide-thiocyanate reactions. For solutions of high concentration, polymerization and hydrolysis may also be important."

Environmental Handbook for Cyanide Leaching Projects, at 5.

Cyanide is only toxic under certain conditions, generally involving high concentrations of the CN- ion in acidic solutions. In the present situation, the record shows that much of the cyanide solution is "entrained" in the rock and is therefore not free to migrate. Further, much of the CN- is "complexed" (joined with) metals (including cobalt and iron) under strong chemical bonds that are very stable, so that the CN- is not capable of converting to toxic HCN.

Thus, the concern is not necessarily with the volume of cyanide liquid solution, but the concentration of CN- present that is capable of leaking into drainages, migrating into the groundwater, or being converted to HCN gas. This concentration is measured as "weak acid-dissociable cyanide" (CN-WAD) and represents the maximum amount of potentially harmful free CN-that may be released.

BLM has established a CN- WAD concentration standard of 0.22 milligrams (mg) per liter for cyanide left in the heaps, greatly below the lower limit for human physiological responses. Zortman has calculated the residual CN-WAD concentration to be 0.08 mg/liter, but, as discussed below, BLM has required that the concentration remaining in abandoned pads and ore heaps be tested as a condition to allowing operations at the Sullivan pad, thus suggesting strongly that it remains unconvinced that this standard has been met.

17/ Cyanide retention in the ore heaps and heap neutralization were covered at length in the EA. Following completion of the leaching process, the cyanide solution is to be flushed from the spent ore heaps on the leach

cumulative impact from leachate discharge, BLM is evidently not convinced that the concentrations left behind will be safe. In the EA, BLM noted that reclaimed heaps might contain a large volume of residual cyanide that cannot be flushed from the heaps because of "blind-offs" (zones of low permeability inside the heaps) and "preferential flow paths" caused by migration of fine rock (EA at 34-35). BLM noted its concern that, "[a]fter rinsing, not all of the solution within the decommissioned heaps would dewater by gravity drainage," raising the possibility that "contaminated discharge could occur" (EA at 36).

BLM dealt with its concern on this question in the Addendum to the EA:

The potential for blind-offs is not as great as first stated in the EA due to additional data supplied by the operator regarding the amount of fines in the ore. However, the amount of retained solution still stands at more than one billion gallons for all the Landusky heaps. This amount is based on the specific moisture retention of the ore after rinsing optimistically assumed to be equal to the natural moisture content of the pit-run ore (4%). New calculations, involving rinsing with three circulation volumes, estimate cyanide concentrations in the retained solution at no more than a 2 ppm average compared to the 25 ppm originally stated on page 81 [of the EA]. This calculates to 19,200 pounds of cyanide retained in all the Landusky heaps instead of the 240,000 pounds [indicated] in the EA. This is assuming only minimal development of blind-offs affecting heap neutralization efforts.

(EA Addendum at 9). 18/

fn. 17 (continued)

pad using fresh water or oxidizing compounds. The flushing is to continue until the effluent solution reaches a level not greater than 0.22 mg/liter, at which time the heap is considered detoxified and ready for reclamation. Prior to reclamation, all fluid is to be drained from the heap, leaving behind residual solution (EA Addendum at 9, 19, and 29; Zortman Answer at 33-34).

18/ We are well aware that Zortman asserts that BLM's conclusion that blind-offs may have occurred is flawed. It argues that BLM has not

Nevertheless, BLM deemed it necessary to require Zortman, as a condition to granting the permit amendment, to undertake a study to research the following:

- a) Cyanide concentrations and specific moisture retention in the heaps after neutralization;
- b) Development of blind-offs within the heaps and their effect on heap neutralization;
- c) Infiltration rates as they relate to reclamation practices;
- d) Rates of natural cyanide degradation occurring over time in neutralization heaps; and
- e) Long-term seepage from reclaimed heaps to identify volumes, concentrations of metals and cyanide, and rates of natural cyanide degradation and metal attenuation which would occur following release of the solution.

(Operating Permit 00095, Amendment No. 010 (Sullivan Park Expansion), Stipulation No. 9). BLM expressly noted its uncertainty as to whether

fn. 18 (continued)

properly considered the effects of the rock types at the Landusky mine, noting that the rock placed on the pads has low clay content and is coarse, with a small percentage of fines. Further, Zortman argues that BLM, in considering the concentration of cyanide left behind, failed to take into account that the concentration of the cyanide initially placed on the heap (500-600 parts per million (ppm)) is greatly reduced by "natural cyanide degradation" that occurs when the heap is "rested" or "idled" after leaching to allow the facility to fully drain.

Zortman further asserts that it has core sampled "several heaps where leaching has been completed, but which have not been either rinsed or chemically treated to neutralize cyanide." Although each heap was sprayed with 500-600 ppm cyanide for several years before being idled, it asserts, "[n]atural degradation and flushing from precipitation events [have] reduced the total cyanide level in the rock by over 99 percent * * * to an average of 3.54 ppm," and that "[t]he WAD cyanide level * * * in the rock averages 1.58 ppm."

Thus, according to Zortman, BLM's "estimates of retained cyanide [after heap neutralization] are flawed since they begin with a cyanide level substantially above what will be experienced under field conditions" (Zortman Answer at Exh. 9-3). Zortman asserts that the residual solution retained in

existing reclamation techniques were adequate: "Study results will be used to determine the need for modification to the approved reclamation procedures or additional environmental analysis." Id. The results of this study will be critical to determining whether there is an environmental problem associated with reclamation of the heaps.

DSL has recognized that, in view of the need for further study of the concentrations of cyanide retained in the heaps, additional appropriate environmental review will be necessary (DSL Answer at 14). However, BLM's decision to require further study of the effects of heap leaching on the scale proposed by the Sullivan Park extension fails to make clear that further environmental study documents will be prepared when the study is complete. We therefore modify the decision to make clear that BLM shall determine, after completion of the study ordered by Stipulation No. 9, whether to prepare a supplemental EIS. This determination shall be prepared in conformity with 40 CFR Part 1500 (1989) and Departmental regulations. BLM's decision shall be subject to appeal.

[5] Secondly, appellants argue that the approval of the mining plan should be set aside because BLM failed to comply with Section 2 of the American Indian Religious Freedom Act of 1978 (AIRFA). Section 2 of AIRFA provides:

fn. 18 (continued)

the heap will be entrained in the voids and pore spaces of the rock, which will look and feel dry (Zortman Answer at 34, Exh. 8).

BLM will presumably consider such questions in connection with the study it has ordered in Stipulation No. 9 of the permit amendment approval.

On and after August 11, 1978, it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

42 U.S.C § 1996 (1988).

We note initially that, contrary to appellants' allegation, BLM obtained the views of the Indians in the project area before allowing the amendment. BLM held public meetings and technical briefings on the reservation prior to approving the amendment and solicited the comments of Indians there. These meetings brought to light concern among the Indians regarding the visual and audio effects of mining on individual and collective ceremonial and traditional rites practiced by members of the Assiniboin and Gros Ventre Tribes.

The only group rite at issue is the Sun Dance, group Indian religious ceremonies held annually for 4 days at the Pow-wow Grounds on the Fort Belknap Indian Reservation. In response to these concerns, BLM imposed a significant ameliorating measure, Stipulation No. 11, providing that blasting will be barred during the period of the annual Sun Dance ceremonies.

There is also the question of the negative impact of noise and visual impacts from the mining operation on the individual Indian religious rite of "vision questing" or "fasting," which is undertaken by individual

Indians and which (unlike the Sun Dance) may be undertaken at any time. 19/ The case record contains the results of a study by a BLM archeologist, based on a tour taken by him and several Indian people from the Hays and Lodgepole communities on June 8, 1990. This study identifies eight areas considered important "fasting" areas on public lands in the Little Rocky Mountains near the Landusky mine, outside the Fort Belknap Indian Reservation. 20/

Appellants allege that both blasting and the operation of mining trucks and other heavy equipment impinge on fasting and vision questing

19/ Appellant McConnell describes these activities as follows: "Fasting[,] also called vision questing, involves spending time alone on mountain tops or other isolated, high places. Before one goes on a fast, he or she must first attend a sweat lodge. Then they must go to the mountain top before the end of the same day by walking from the bottom of the mountain. A robe, pipe and staff [are] taken. Then 4 days and nights are spent on the mountain alone with the Creator and the grandfather spirits. No food or water is taken. The purpose of these fasts is to seek help for sick relatives, friends or people in general, to get names or religious songs, to find medicine, to accomplish manhood, and spiritual reasons. The fasting must be carried on alone and in a quiet, isolated area with no unnatural distractions. Activities such as mining, logging, [and] road building that create noise and visual disturbances cause problems in the process." (Red Thunder/McConnell Statement of Reasons, McConnell Affidavit at 2).

20/ This report is stamped as a "draft" and denoted as "proprietary data." The material was placed in the case record and has been referred to by BLM in official documents on the permit process. Thus, we do not see how it can properly be considered to be a draft. As to the proprietary nature of the report, BLM stated:

"The following [report] documents the location and the fundamental importance of the areas or sites considered to be sacred by Native Americans of the Fort Belknap Reservation who follow the traditional ways of the Assiniboin and Gros Ventre Tribes * * *. Locations of and reasons for the importance of these cultural resources are given. The native people who were willing to risk provision of this information did not ask that their privacy be protected, but professional ethics dictates that this be done. Accordingly, their identities are not disclosed. The information they provided is very sensitive, and must be treated with the respect for the continued cultural viability of these people. The locations of the cultural resources, or the reasons for the importance of these resources [are] not to be made available to the general public."

and that AIRFA therefore bars the granting of the amendment. 21/ Further, appellants fault BLM for not addressing these impacts more thoroughly in the environmental review process. No amelioration was addressed or implemented for effects on individual Indian religious ceremonies.

The impacts of noise from the mining operations appear not to have been addressed in the 1979 EIS.

The EA states as follows concerning "Native American Religious Concerns":

The Little Rocky Mountains have been identified as an area where Native American religious activities such as prayer, fasting and vision questing are practiced. To date, no specific sites have been identified by Native Americans as religiously significant that would be disturbed by the mine expansion. A class III cultural resource survey of the areas proposed for disturbance did not identify any sites associated with Native American use of the area.

Impacts to Native American religious use would be mainly in connection with visual intrusion should religious activities occur in the mine viewshed. Approval of the mine expansion would not add to the already substantial difficulty Native Americans would have conducting religious activities in this area.

(EA No. 10 at 74). 22/ The Addendum to EA No. 10 contains responses to some specific questions raised by Indians and Indian groups during the

21/ The issue of "light pollution" from artificial lights at night was also raised by an Indian commenter but not addressed by BLM (Addendum at 7-8). This issue has not been raised on appeal.

22/ The EA also repeats at page 41 that "[a] class III cultural resource survey of the areas proposed for disturbance did not identify any sites associated with Native American use of the area."

meetings, but does not significantly address impacts on individual religious practices, promising instead only to consider the impacts of blasting when making the permit decision and any new information provided during the June 8 field trip (Addendum at 6-7, 7-8, 11, 15, 15-16, 16).

EA No. 10 addressed impacts of noise levels on residences in Landusky, located from one-half to one mile from the mine, noting that noise is associated with mine operation equipment ("haul trucks, dozers and front-end loaders") and that this equipment was anticipated to remain "the same or very similar" (EA at 21-22). Thus, EA No. 10 implicitly found that the impacts from noise on individual Indian religious practices, some of which may be practiced as close as 1 mile from the mine, would also remain constant.

Concerning visual impacts, the EA notes that the "addition of the Sullivan Park heap would constitute an additional intrusion into the already altered landscape" (EA at 41). The EIS had earlier noted that the "natural visual and esthetic resources" of the area had been "heavily influenced by past mining activities," including road construction disturbance from exploration and mining (EIS at 72). It concluded as follows:

The proposed mining operations will not [significantly] impact the visual character of the area. The area has experienced large amounts of mining and exploration activity in the past that has altered the natural visual resources. Reclamation of the areas disturbed by the proposed operation will beneficially affect

the visual character of the area since reclamation will involve areas that are presently unreclaimed.

(EIS at 102). We do not entirely credit this statement. The record reveals that, during its operation phase, the Landusky mine is gradually removing an entire mountain peak from the Little Rockies. Although, in the long run, reclamation may greatly reduce it, there is undeniably at present adverse visual impact. Similarly, we do not doubt that day-to-day operation of the Landusky mine imposes some audio impact on areas identified by Indians as religious sites. One such area is located only approximately 1 mile from the Landusky mine, on a direct sight line to it (BLM report entitled Sacred Sites in the Little Rocky Mountains, Exh. 1). Further, it is undisputed that these effects are disruptive to individual Indian religious practices.

However, BLM is not required by AIRFA to preclude other public land use simply because Indians may not be in agreement with that use. The Blackfeet Tribe, 103 IBLA 228 (1988). Recent case law in similar situations and the legislative history of AIRFA confirm that it was not intended to protect Indian religious activities to the exclusion of conflicting land use considerations. In Wilson v. Block, 708 F.2d 735 (D.C. Cir.), cert. denied, 464 U.S. 956 (1983), the Hopi and Navajo Indian Tribes attempted to prevent development of a ski area on the San Francisco Peaks in the Coconino National Forest, Arizona. They alleged, as appellants do here, that such development would seriously impair the use of the peaks for their traditional religious practices. The D.C. Circuit Court of Appeals rejected this contention after reviewing the legislative history of AIRFA:

AIRFA requires federal agencies to consider, but not necessarily defer to, Indian religious values. It does not prohibit agencies from adopting all land uses that conflict with traditional Indian religious beliefs or practices. Instead, an agency undertaking a land use project will be in compliance with AIRFA if, in the decision-making process, it obtains and considers the views of Indian leaders, and if, in project implementation, it avoids unnecessary interference with Indian religious practices. [Emphasis supplied.]

Id. at 747.

The Supreme Court recently considered both the issue of the restrictions on land development imposed by AIRFA and the issue of protection of Indian religious practices under the Constitution. Lyng v. Northwest Indian Cemetery Prot. Assn., 485 U.S. 439 (1988). The Forest Service (FS), U.S. Department of Agriculture, having studied the effects of the project (including effects on practice of Indian religion) in an EIS, and having imposed measures to limit these effects, decided to construct a paved road through Federal land within the Chimney Rock area of the Six Rivers National Forest and to harvest timber there. As in the instant case, this area had historically been used by certain American Indians for religious rituals that depend on privacy, silence, and the undisturbed natural setting. The Indians asserted the road would have adverse effects on Indian religious practices, and the Ninth Circuit had permanently enjoined FS from proceeding with these projects, citing the Free Exercise Clause of the First Amendment. 23/

23/ The Free Exercise Clause of the First Amendment provides that "Congress shall make no law * * * prohibiting the free exercise" of religion.

The Supreme Court reversed. Quoting from Bowen v. Roy, 476 U.S. 693, 700 (1986), the Court ruled: "The Free Exercise Clause affords an individual protection from certain forms of governmental compulsion; it does not afford an individual a right to dictate the conduct of the Government's internal procedures." The Court found "no reason to doubt that the logging and road-building projects * * * could have devastating effects on traditional Indian religious practices * * * intimately and inextricably bound up with the unique features of the Chimney Rock area," and assumed "that the threat to the efficacy of at least some religious practices is extremely grave." But, even assuming that constructing the road would "virtually destroy the Indians' ability to practice their religion," the Court ruled that "the Constitution simply does not provide a principle that could justify upholding [the Indians'] legal claims. However much we might wish that it were otherwise, government simply could not operate if it were required to satisfy every citizen's religious needs and desires." Id. at 451-52. Noting that the Indians' need for privacy, intense meditation, and undisturbed naturalness during their religious practices "could easily require de facto beneficial ownership of some rather spacious tracts of public property," the Court concluded that "[w]hatever rights the Indians may have to the use of the area, however, those rights do not divest the Government of its right to use what is, after all, its land." Id. at 453 (emphasis in original).

As to AIRFA, the Court announced a ruling in accord with that of the D.C. Circuit in Wilson v. Block, supra. However, it stressed that "[t]he

Government's right to the use of its own land * * * need not and should not discourage it from accommodating religious practices like those engaged in by the Indian respondents." It noted that FS had planned many other ameliorative measures to minimize the road's impact on the Indians' religious activities, such as choosing the route that best protects sites of specific rituals from adverse audible intrusions, and reducing the visual impact of the road on the surrounding country. ^{24/} The Court concluded that providing such solicitude is adequate to meet the requirements of Section 2 of AIRFA. Lyng at 454-55.

The Court was also clear to reject the Indians' argument that AIRFA itself prohibits the Federal Government from infringing their religious freedom by enacting their interpretation of the First Amendment into statutory law. According to the legislative history, it held, the purpose of AIRFA was simply to ensure that "the basic right of the Indian people to exercise their traditional religious practices is not infringed without a clear decision on the part of * * * the administrators that such religious practices must yield to some higher consideration." Id. at 455 (quoting 124 Cong. Rec. 21444 (1978) (emphasis supplied). Thus, implicitly, if there is careful agency review leading to a clear decision that religious practice must yield, the requirements of AIRFA are met.

^{24/} Specifically, FS selected a route that avoided archeological sites and was removed as far as possible from the sites used by contemporary Indians for specific spiritual practices. The timber harvest plan provided for one-half mile protective zones around all the religious sites that had been identified. Lyng at 443.

It cannot be doubted at this point, 10 years after initiation of the impacts now complained of, and nearly 100 years after the area was opened to mining, 25/ that the Department has made a clear decision that the specified individual Indian religious practices may not prevent mining, which is a legitimate use of Federal lands. Accordingly, we hold that AIRFA provides no legal basis to block mining at the Landusky mine.

Appellants have not suggested any means (other than banning mining entirely) by which visual and audio impacts of the operation on individual religious practices can realistically be ameliorated. Operations at the Landusky mine are not the first in the area and are certainly not alone in disturbing the individual meditation practiced by the Indians. Many other modern-day activities, including some reportedly practiced by the Indians themselves, are bound to do so. 26/ We perceive nothing further that BLM could have considered to ameliorate impacts on individual Indian religious practices.

25/ Zortman states that the

"land where the [Landusky] Mine is located and where facilities are to be developed under Permit Amendment No. 10 was sold by the Tribe to the United States Government in 1896. It was the U.S. Government's explicit intent at that time to facilitate mining in the Little Rockies. Whatever uses the south side of the mountains were being put to by Native Americans was changed then, not by the advent of the current [Landusky] mine."

(Zortman Answer at 26).

26/ Zortman states that appellants'

"claims of harm to 'sacred' regions are inconsistent with what the Native Americans themselves have done to the region. Mission Peak, for example, may be called sacred by some but that did not prevent the Tribe from clear cutting a broad corridor through the trees to the Peak's apex to mark the Reservation boundary, nor did it inhibit timber sales and logging on the Peak's north flank."

(Zortman Answer at 26).

IBLA 90-457, etc.

Accordingly, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed as modified.

David L. Hughes
Administrative Judge

I concur:

Franklin D. Arness
Administrative Judge

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