

APPENDIX B

PUBLIC COMMENTS AND RESPONSES
LETTERS FROM ELECTED OFFICIALS
AND AGENCIES

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APPENDIX B PUBLIC COMMENTS AND RESPONSES and LETTERS FROM ELECTED OFFICIALS AND AGENCIES

INTRODUCTION

This section of the EIS is required under NEPA. It lists all the substantive¹ public comments and the Agency response to those comments. It is organized categorically, in an order similar to discussions within the Draft and Supplement Draft EIS. The comments that you see here are actual quotes; little editing and almost no paraphrasing has occurred. However, when many comments reflected the same general concern, idea, question, or statement, one comment was selected to represent them all. Comments are displayed in *italics*, responses are **bold**. Sometimes the same response applies to more than one comment; in that case, comments are listed sequentially, with a single response following. All letters received by the Forest Service and BLM were reviewed for substantive comments. Records regarding the comment content analysis are in the analysis files.

This Appendix is organized first by comments received on the DEIS, then comments received on the SDEIS. Some SDEIS comments are exact duplicates or very similar to comments received on the DEIS, but such duplication was not edited so that you may see the full range of comments received on both documents.

About 3800 letters were received regarding the DEIS, 500 on the SDEIS. Many other people signed petitions or indicated that they concurred with comments from environmental groups (for instance, the World Wildlife Fund sent the names of about 1600 people who requested No Action on the project). *Letters received from elected officials and other agencies are printed following the comments and responses.*

DEIS COMMENTS AND RESPONSES

LAWS AND POLICIES

Comment: NEPA Regulations require that in determining the intensity of the action agencies consider whether the actions threaten a violation of Federal, State or local law. The DEIS vaguely address this issue stating, "Mining Laws appear to conflict with policies of the FS and BLM aimed at protecting surface resources. None of the action alternatives meet all the standards and guidelines in the Northwest Forest Plan." This statement addresses only a few of many inconsistencies with the federal laws such as the CWA, ESA, MUSYA, NFMA, the Wild and Scenic River Act, and the Wilderness Act. Under NEPA all of the federal laws the proposed project would violate must be addressed and considered. In what way would the proposed alternatives be inconsistent with relevant statutory and regulatory laws such as Forest Service and BLM regulations. What is the statutory or other legal basis for the apparent belief that the proposed mining activities do not need to be consistent with these laws?

Comment: Page 4-26 of the DEIS, the preparer acknowledge the conflict between laws and policies and plans. These conflicts should be resolved before the Forest Service approves any

¹A substantive comment is one regarding the merits of the alternatives or the adequacy of the Environmental Impact Statement.

action.

Comment: The Forest Service and the BLM are showing a bias towards mineral extraction over environmental protection by attempting to meet the requirements of mining law over the requirements of environmental law, the Northwest Forest Plan, and many instances of current public policy. The Lead Agencies do not have the authority to be arbitrary and capricious in the determination of which law to uphold.

Comment: The proposed action would construct approximately 0.5 miles of new road in Riparian Reserves, which would violate the intent of the aquatic Conservation Strategy and the Riparian Reserve Standards and Guidelines in the President's Forest Plan. Pages 4-18 to 4-21 in the DEIS acknowledges this point. EPA strongly encourages the Forest Service to re-think this approach and exercise as much deference as possible toward the goals of the Aquatic Conservation Strategy.

Response: Throughout the EIS, examples of potential conflicts between laws, policies and plans are cited. The Purpose and Need section of the EIS lists some of the laws, regulations, policies and plans that apply to this project. The nation's laws provide the fundamental principle upon which the regulations, policies and plans are based. Where conflicts between laws and policies or plans occur, laws and regulations take precedence. For instance, the Northwest Forest Plan states that "None of these Standards and Guidelines apply where they would be contrary to existing law or regulation (page C-1)." The selected alternative (see ROD) will adhere to laws first and foremost, and will reflect the Agencies' attempt to meet all applicable standards and guidelines.

Comment: The DEIS's paraphrasing of the Mining & Minerals Policy Act of 1970, 30 USC, 21(a), misleads the public into thinking that the Forest Service is required to foster and encourage any mining operation.

Response: The statement in the EIS is accurate and reflects the policy of the federal government in relation to minerals management. The Forest Service is not required to foster and encourage any mining operation, but the policy in relation to minerals management is to foster and encourage the "private enterprise in the orderly and economic development of domestic mineral resources."

Comment: Work out a plan that will protect our natural resources, while still allowing the mineral extraction by NICORE per the 1872 Act.

Response: This comment reflects the purpose and need for action and is the intention of all action alternatives.

Comment: The BLM Area of Critical Environmental Concern which is included in NICORE's claim should be immediately withdrawn from mineral entry and all things non-native should be removed.

Response: The withdrawal issue is addressed in the Rough and Ready ACEC Management Plan (withdrawal was found to be inconsistent with the Medford Resource Area Management Plan. 'Things' non native will be removed from the ACEC if they are not authorized.

Comment: The DEIS does not discuss or disclose impacts of the mining claimant's residential and commercial occupancy of public lands on the Rough & Ready ACEC.

Response: Page 88 of the SDEIS states that the miner's residence is an issue that will be addressed separately by the BLM. The FEIS explicitly notes that a residence and shop structure currently exist at the location of the proposed stockpile and that the operator plans to continue to utilize those structures during the implementation of the proposed action. The BLM will address the needs of the operator to use and occupy the claims in relation to the specific mining alternative approved in the ROD. All mining claim uses and occupancies must be reasonably incidental to mining.

Comment: I particularly object to the plan to stockpile nickel ore on a BLM designated "Area of Critical Environmental Concern (ACEC)."

Comment: NICORE could buy the junkyard property close to airport site as a stockpile site.

Response: Requiring the stockpile site to be located outside the ACEC or off public lands was considered but eliminated from detailed study because the alternative stockpile site effectively resolves issues related to the proposed stockpile site. There are unpatented mining claims located on the lands administered by the BLM at the ACEC. The stockpile is an acceptable use of the mining claims at this location.

Comment: The DEIS does not list the Wild & Scenic Rivers Act, Clean Water Act, and the Endangered Species Act which also apply to the Nicore Project. A discussion of the implications of these laws and their implementing regulations and the agencies' obligation under these laws should be included in this section.

Response: These laws have been included in the FEIS. FS and BLM regulations include laws, regulations, and policies related to mining administration and environmental protection.

Comment: The Laws, Regulations, Policies & Plans section of the DEIS (1-3) misleads the public into thinking that the Forest Service & BLM decision makers do not have the option of selecting the No Action or other alternatives that would protect the public's interests.

Response: The Laws, Regulations, Policies and Plans section of the EIS is intended to characterize and summarize the laws regarding this mining plan. Mining is considered non-discretionary. The original plan of operations may be rejected on the basis that it is not appropriate for the current stage of development, but the miner must be given the right to perfect his discovery.

Comment: The purpose of this proposal should be reworded. It should say 'to determine if mining in the proposed project area is feasible with regard to other area resources'.

Comment: The purpose and need for action is superseded by the following stipulations. 1. The applicant has determined that the mineral deposit is a valuable mineral deposit. 2. The purpose of the applicant is to make a profit from the mining and milling of the mineral deposit,

and 3. society needs and demands those mineral deposits for a purpose.

Response: The purpose and need as currently written is consistent with existing laws of the United States of America; the rephrasing suggested here may not be consistent with existing laws and policies.

Comment: The DEIS should include a discussion of State rules and regulations to which the proposed Nicore Project must comply.

Response: This is the intention of the section on permits required from the state in Chapter Two. The miner will be responsible to meet all laws whether or not they are listed in the EIS.

Comment: I am given to understand the Forest Service, using the public's tax dollars, has financed the EIS for the project proponent. How is it that the public is made to pay for analysis?

Response: In accordance with the locatable minerals regulations at 36 CFR part 228, subpart A, the Forest Service must process proposed plans of operation within the framework of these regulations. Completion of the EIS process with full public involvement and disclosure is the best way to deal with the issues raised by this proposal. This is the responsibility of the federal agencies involved. A mining proponent may volunteer to expedite environmental analysis by paying part or all of the costs involved but the Forest Service cannot require the proponent to pay.

PLAN OF OPERATIONS

Comment: The U.S. Forest Service has, in the opinion of most observers, prematurely prepared a DEIS. Little if any scientific data was presented in the original DEIS. NICORE has revealed only a sketchy plan of operation that disclosed nothing of how the mining operation would work.

Comment: The degree of detail and indication of the completeness of the applications information, as provided in the NICORE DEIS and other information, is seriously deficient.

Comment: The refusal by the applicant to provide the necessary information for a complete and thorough evaluation prevents the Forest Service from conducting an adequate EIS.

Comment: The miner has failed to provide a detailed and complete plan of operation; including a reclamation plan, financial analysis proving the viability of his claims, dust and noise control, non-native plant control, and a plan for smelting the ore.

Comment: The DEIS fails to accurately describe the size, technology and abundance of the NICORE POO and other potential mining in the analysis area.

Comment: Despite repeated requests by the SNF and adequate opportunity during the past six years to do so, the applicant has not provided detailed information on the plan of operation under NEPA. This is an absolute requirement so that the full impacts of the proposed action can be analyzed by the agencies and public provided with an opportunity to comment on the mining plan and its impacts.

Response: Many people have commented that the Nicore Plan of Operations does not completely describe many aspects of the mining operation. As discussed in the EIS, the decisionmakers for the government (BLM and FS) decided that sufficient information was included in the Plan of Operations to complete this EIS analysis. Alternative 9 was developed to address the issue of unanswered questions about the operation. We do not agree that “little, if any, scientific data was presented in the original DEIS.” Many details about the mining operation, economic analysis, objectives for the reclamation plan, dust/noise, and non-native plant control measures are all addressed in the EIS. Uncertainties about the plan of operations are also disclosed as appropriate in the EIS.

Comment: If the dried ore is not smelted on the site then it will have to be reloaded and transported to whatever processing facility is identified. The loading and transportation of dried ore will also have impacts such as dust, noise, and increased traffic. These must be addressed in the revised DEIS.

Response: The BLM will do any needed analysis for this part of the operation once the processing facility is identified, depending on the selected alternative. No Plan of Operations will be approved prior to completion of needed analysis.

Comment: The reclamation plan for the proposed action (2-2) does not comply with the requirement of 36 CFR, 228.8(g) and 43 CFR Part 3809.

Response: The EIS discusses reclamation for all alternatives, including the Proposed Action, in Chapter Two. Any approved Plan of Operations will include a Reclamation Plan that meets legal requirements.

Comment: The proposed plan of operations states that the deposits are located in sections 22, 8, 11, and 16, yet the maps provided show no deposit site in 11, but one instead in 14.

Response: This inconsistency was addressed in the development of the Proposed Action. The maps shown in the EIS accurately depict the Plan of Operations.

Comment: No where do I see mentioned how long this ore might be stockpiled.

Response: The Proposed Plan of Operations would cover a ten year period, throughout which time, up to 40,000 tons of ore could be stockpiled at the site. The Preferred Alternative 9 would allow stockpiling up to 5,000 tons of ore for up to 5 years.

Comment: The plan evaluated in the Draft EIS fails to identify the means to beneficiate the ore.

Response: The claimant has expressed that the beneficiation process is proprietary. The Plan of Operations does not include ore processing beyond screening at the mine sites and transport to the stockpile site. The ROD will address this uncertainty.

Comment: The forest should request that the claimant provide a plan to address the volume and quality of the slag produced.

Response: Slag, by definition, is a product of the smelting process and is not addressed in this analysis.

Comment: There seems to be a contradiction in DEIS about how much mining will occur if this project proves successful.

Response: This EIS analysis covers the current plan of operations to mine 35 acres. Should this prove successful, the miner has indicated he would propose another Plan of Operations accessed from the same road system (see 10/97 Nolan memo). Future mining is not a foregone conclusion, especially given the economic conditions discussed in the EIS. However, cumulative effects analysis is based on 512 acres of nickel laterites mapped by Ramp (see Figure 13 in the FEIS).

Comment: Could all 35 acres be mined in one year upon approval of an amended plan subsequent to the approval of the plan?

Response: An alternative that would require all ore to be removed in one year was considered but eliminated from detailed study because it would require a larger stockpile site and may not be reasonable from an operations standpoint. The proposed (and alternative) stockpile sites would be designed to accommodate one-tenth (or less) of the total amount of ore. Changes to any plan could be considered subsequent to approval, however, they would be subject to any required analysis.

Comment: In a December 10, 1998 letter from Groen & Stephens to Mary Zuschlag, Mr. Freeman's attorney states that "[t]he Plan of Operations, which is awaiting approval and which is subject to the EIS, is the one submitted in 1992". However the plan the DEIS describes at (2-1 & 2) as the plan of operations proposed by the mine claimant, does not resemble the 1992 plan in extent or scope.

Response: The project history section describes changes made to the Plan of Operations since it was originally submitted.

Comment: The DEIS appears to treat the "mining operation", the "haul route", the "ore stockpiling", "reclamation", and "mitigation measures" as separate actions (1-1 through 1-5) when in fact they are all part of the proposed Nicore mining operation (36 CFR & 228.3) and must be considered as a whole in the Nicore DEIS (including the "processing/smelting"). Instead, the Forest Service and BLM attempt to put off disclosure and analysis of many significant aspects of mining operation such as mitigation, reclamation, monitoring and processing by assigning them to, among other things, a later or separated analysis (1-30, the approval of a final plan of operations (post NEPA) (2-2 - 5, 4-25), or collaboration between the land managing agencies and Mr. Freeman (post NEPA) (4-7). These proposals, mitigation measures and their impacts must be fully discussed and analyzed in the revised DEIS for the Nicore "mining plan of operation".

Response: All of these are connected actions. Most of these processes are discussed throughout the EIS, and guidelines, thresholds, objectives and other requirements are described. Potential effects related to smelting has not been analyzed. The level of detail included in the EIS process is sufficient to select one of the alternatives, but no Plan of Operations would be approved until all processes (including smelting) are considered.

Comment: The DEIS also fails to disclose reasonably foreseeable future mining operations both by Mr. Freeman and by other mining companies. For instance, in a letter to Mr. Steve Marsden, the BLM notes that "Mr. Freeman has also been discussing additional mining operations adjacent to his residence within the Rough & Ready and Woodcock Bog areas of critical environmental concern." (Letter to Mr. Steve Marsden from Robert Korfhage, Grants Pass Area Manager, dated November 29, 1995). Mr. Korfhage states that "Mr. Freeman's activities at the location of his residence and outbuildings are reasonably incidental to mining" and goes on to describe the "additional mining operations".

Response: Mr. Freeman's existing residence is being dealt with outside this process. The EIS finds that temporary quarters for security personnel would be appropriate at the stockpile site. Mr. Freeman has not submitted any additional Plans of Operations beyond those considered in the FEIS.

Comment: Another indication of the full extent of Mr. Freeman's undisclosed mining plans is the fact that he has filed for mineral patent. In doing so Mr. Freeman has signed a sworn statement that on each of the claims he's applied for ownership on he has discovered valuable mineral in amounts sufficient for a person of ordinary prudence to be justified in further expenditure of labor and means with a prospect of successfully developing a valuable mine. Thus, the DEIS's statement that "no evidence exists to substantiate this concern (that expanded mining operations are reasonably foreseeable)" 4-26, is directly refuted by the applicant's own sworn statement. The DEIS also states that the miner has indicated that should this operation prove successful, development of hundreds of acres accessed by the haul routes may follow.

Comment: In the draft EIS on page 4-26 there is reference to a 4,000 acre patent application submitted by the applicant. It would appear, based on the miner's intent, that indeed there is evidence to substantiate a concern here. A patent, if issued, would create the potential for a large cumulative impact related to this project.

Response: This section was rewritten for the SDEIS and FEIS. The Forest Service is aware of the patent application, however, no work has been done to determine whether Mr. Freeman has discovered a valuable mineral on all the claims included in the patent application. The 4,000 acre patent application does not match the mapping of similar laterite deposits as shown in Chapter Three (Ramp's map). Nor does it match the statements made by the miner that he would likely continue mining the deposits accessed by the same road system. The analysis uses Ramp's mapping of nickel laterites (see Map in Chapter Three) as the basis for reasonably foreseeable future mining (however, given the economic outlook, future mining is not a forgone conclusion).

ROAD DESIGN

Comment: The DEIS states, "Where feasible, water bars and/or cross ditches would be 'built in' for grades greater than 10%. Some annual maintenance would also be required." What is "Feasible", and how much is "some"?

Response: The statement is on Page 15 of the SDEIS. Some areas naturally lend themselves to building in waterbars. These areas would have the waterbars built in. Other waterbars and cross ditches would be added at the end of each season along with ditches and riprap, as needed, to reduce erosion and preserve the road over the winter.

Comment: In the DEIS about 15 miles of roads are planned. According to the patent application the roads will be 30 feet wide. That equates to 55 acres of roads to access 35 acres of strip mines. The total disturbance area is then 90 acres, not 35 acres.

Response: The road specifications are discussed in the EIS and analysis files. The roads would be about 12 feet wide. The patent application is not the basis for this analysis, rather the plan of operations submitted by the miner (as characterized in the Proposed Action in the EIS).

Comment: It is imperative that the USFS consult with experts in the field of road building and consultants from various ore truck manufacturers in order to find out what the actual specification for mining roads would really need to be.

Response: The ore truck planned for use has been stipulated as a Terex 25 ton articulated dump truck by the proponent. The specifications used come from the Caterpillar Performance Handbook, Edition 27. The 12 foot running surface for the road is adequate for this vehicle, which has a 9 ft. operating width.

Comment: As part of Alternate Route 1 plan, I understand that the USFS would require NICORE to pave the road.

Response: SDEIS and FEIS alternatives 6 and 11 would utilize the Rough and Ready Creek road as it passes through private land. Nicore would be required to pursue right-of-way from the private landowners if either of those alternatives were chosen (but if the landowners did not agree to provide right-of-way, the Forest Service would have to choose another alternative). Under Alternatives 6 and 11, the assumption that the private road would be paved is made to help disclose impacts. The Interdisciplinary Team believes that paving the road would reduce the impact of its use for ore haul. However, the decision about how to treat the private road would be up to the landowners.

Comment: I recommend a permanent surfacing of all haul roads with chip seal. This will reduce erosion and give the road a chance of surviving past the days of the mining if it is maintained by the mining operator as part of their reclamation plan.

Response: Permanent surfacing with asphalt or concrete products is not desirable given the long term management goals for most of the analysis area. Once the mining operation is finished, the roads would be closed and stormproofed.

Comment: Elements that could be incorporated in alternatives include:

- A. Ore removal by smaller vehicles.*
- B. Transport vehicles limited to five miles per hour to reduce dust, rather than pump and spray water on the roads.*
- C. The roads could be more like trails. The use of small transport vehicles can reduce the size needed for the access road.*

Response: Road specifications that apply to Alternatives 6, 7, 8, 9, 10 and 11 are the minimum necessary for safe ore haul. Speed limits would be established in the final plan, however, dust abatement would likely still be necessary for safety, visual quality, and air quality. The use of smaller vehicles is considered in Alternatives 6 and 10.

Comment: Roads developed on steeper side slopes can use "cut only" techniques so the fill material does not impact the downhill side.

Response: Full bench roads are used where slopes are greater than about 55 to 60 percent, in order to avoid long fill slopes.

Comment: Where would rock to rebuild the crossings each year come from?

Comment: The SDEIS fails to disclose where the rock [for road surfacing] will come from, and what is defined as rock surfacing. The rock pit or gravel mine area must be included in the calculation of the area of disturbance.

Response: Rock is expected to come from one of the four previously used crushing sites on the Rough & Ready Creek fan (3 on BLM, 1 on private land). If the new road is built to Site A, there would also be rock sites along that route. Rock surfacing is generally expected to be 3"-, except for portions of Alternatives 6 and 11, and the road between Highway 199 and the stockpile site in all alternatives which would use 3/4 "- or 1 1/2" -.

The miner has not yet proposed a rock source. Any source proposed would be subject to Forest Service/BLM approval, and would need to be similar to the native rock, and from a source free of POC root disease and noxious weeds. Any analysis required would be completed once a rock source is proposed.

Comment: The DEIS statement that "mitigation to reduce the risk of rock fall into the creek from bedrock blasting could be employed" is completely unsubstantiated.

Response: Several methods may be used to reduce rock fall into the creek. Examples include rock blankets to reduce airborne fragments during blasting, log cribs to catch rock fall, and special drilling and loading of powder to reduce overall movement and airborne fragments. These methods have been used successfully on other road building projects.

MERITS OF THE ALTERNATIVES

Comment: We are opposed to the installation and removal of temporary bridges because of the high probability that our water supply will become contaminated.

Response: Effects of temporary bridge installation and removal are discussed in the EIS. Sedimentation is likely during these operations; downstream surface water sources may need filtering.

Comment: From mine site "D" 280 major stream crossings per day is unacceptable.

Response: Your comments have been considered and the rationale for the decision will be in the ROD. Several alternatives have been developed to reduce the number of crossings, including a cable ore hauling system to avoid crossings, and elimination of mine site D altogether.

Comment: A new alternative should stay completely out of Rough and Ready Creek and away from any POC. Any roads leading to POC should be gated.

Response: No Action and Alternative 9 satisfy this suggestion. Currently, access to the area is limited by private ownership, creek crossings, wash-outs, and the low-standard nature of the roads. The Forest Service recognizes that the current condition of the roads do not fully meet the Aquatic Conservation Strategy objectives, and should be closed and stormproofed. Under the No Action Alternative, and Alternative 9, the Forest Service will consider road treatments in a future analysis. Under the other alternatives, Nicore would improve and gate the roads approved for mining access.

Comment: Because POC root disease has not been found in the area, it is extremely important to keep vehicles out. None of the alternatives in this DEIS would keep vehicles out of the watershed.

Response: Currently, vehicles can access the headwaters and lower reaches of the watershed. All of the alternatives would close the area to public traffic during operations, and two alternatives (No Action and Alternative 9) would not approve ore haul with trucks. An alternative that reduces current access is beyond the scope of this analysis (see alternatives considered but eliminated from detailed study).

Comment: River crossings perhaps need to all be bridged to prevent the forever loss of fish runs.

Response: Bridges are a feature of Alternatives 6, 7, 8, 10 and 11. Effects on fish are discussed in Chapter Four of the EIS. No alternative would lead to the “forever loss of fish runs.”

Comment: Parker Creek is without roads seen from Highways or trails. There should be no mining on Parker Creek side of divide.

Response: No mining is proposed in the Parker Creek watershed.

Comment: A ridge top road bordering the now uninfected Parker Creek drainage seems completely irresponsible since it would be impossible to keep vehicles off this road in the dangerous winter months. Access to this proposed road can be achieved easily through several pieces of private property.

Response: Gate closures can be effective. Placement and strength of gates are important factors in their effectiveness. Road closures require considerable attention to ensure that they are not broached. The difficulties associated with keeping traffic away from the ridge road are discussed in the EIS.

Comment: Despite the legal loopholes in the 1872 mining law, the Rough and Ready Area of Critical Environmental Concern (ACEC) and South Kalmiopsis Roadless Area are too fragile to withstand the impacts of the mining, road construction and operation of a smelter.

Response: Your comments have been considered. The rationale for the decision will be in the Record of Decision. Please understand that no smelter has been proposed on federal lands.

Comment: Mining is inconsistent with the botanical and geological values of this area; this inconsistency exists because of the antiquated 1872 mining law.

Response: Your comments have been considered. The rationale for the decision will be in the Record of Decision. However, concerns about the mining law are outside the scope of this EIS.

Comment: In the DEIS you clearly show that with all of the action alternatives listed there are too many risks involved, with too little assurance of completing the ten year operation without significantly damaging the sensitive ecosystem.

Response: Some significant effects are expected for all the full scale mining alternatives. These effects are considered in the decision-making process.

Comment: I believe that economics should play a part in this decision to allow the proposal to proceed.

Response: The SDEIS and FEIS address the economics and the rationale for the decision will display the logic of the decision maker.

Comment: I whole-heartedly support this enterprise for the local economy.

Response: Your opinion is noted. The rationale for the decision is in the Record of Decision.

Comment: The consequences of this mining operation, if it is allowed, will be a terrible devastation to the environment and local the economy. The economy is currently tourism and retirement based. It is my firm belief that this mine, if allowed would have a negative net employment factor an the Illinois Valley and could, indeed create an out-migration.

Response: Your opinion is noted. The effects of implementation on recreation, visuals, and interpretative development are displayed in Chapter Four of the SDEIS and FEIS.

MITIGATION, MONITORING AND RECLAMATION

Comment: The DEIS states that one of the "non significant effects" is reclamation effectiveness (page 4-25). This is a much more important issue than is indicated.

Response: The SDEIS omitted this reference to non-significant effects. The effectiveness of all recommended mitigation, including the reclamation objectives, is discussed in the FEIS.

Comment: How can any evaluation of effectiveness be made when no one knows exactly what the proposed reclamation measures will be?

Comment: While the extent of the environmental degradation potentially caused by mining activities is quite apparent from the Draft DEIS, it is unclear how these affects are to be ameliorated by FS and the mining applicant.

Response: The FEIS includes estimates of the effectiveness of proposed mitigation measures.

Comment: There are multiple problems with the vague listing of mitigation measures for the actions alternatives in the DEIS at pages 2-3 to 2-5. The proposed mitigation measure for Port-Orford cedar toot disease is aimed only at "reducing the risk of introduction and not preventing the introduction of the root diseases. In order for the term "reducing" to have any meaning the DEIS should address by what magnitude the proposed mitigation measures would reduce the risk of introduction . Mitigation #9, for example, states that motorized access to the North side of Rough and Ready Creek would be restricted from September 15 to June 15th "unless otherwise authorized by the Forest Service." Under what circumstances would access be authorized and at what frequency would the Service expect to allow access between September 15 and June 15th? Similarly, mitigation measures aimed to protect sensitive plants and animals is only required "To the extent possible." But does not define to all what would qualify as "possible" or impossible. The statement that "Several methods of dust abatement may be approved," lacks specificity. Mitigation measure #14 is similarly flawed because it sites that "The mine operator would be responsible for some ongoing monitoring guidelines are followed." Without giving any indications to the extent, nature or duration of these measures or how such monitoring would be enforced.

Response: The section on mitigation has been expanded in the FEIS to address many of your concerns.

Comment: Stringent runoff control and sediment containment measures should be required so the sediment does not enter the surface waters.

Response: Many mitigation measures will be employed to avoid sediment from entering streams, waterbars, road template design, road location and erosion control prior to the wet season. These are incorporated via Best Management Practices, as discussed in the EIS.

Comment: All roads should be restored to natural condition after the proposed mining is completed.

Response: The roads would be stormproofed and closed following proposed mining. They may not be fully restored to a natural condition, but would be treated to assure hydrological function (proper drainage).

Comment: Reclamation is not ONLY revegetation. In this ecosystem, reclamation necessarily includes re-establishment of native species and reestablishment of proper soil hydrological function and chemical balance.

Response: The FEIS provides further information about reclamation. Reclamation is not expected to restore all vegetation or soil function in the short term. Chemical equilibrium will always be present.

Comment: How long, specified date, for final reclamation?

Response: Reclamation would occur concurrently as operations progress. Final reclamation would occur once operations were completed, or as soon as practical if operations ceased for 12 consecutive months.

Comment: There is no mention of what agency will oversee the mitigation plan, nor what fines will be imposed if the plans are not followed. Who will patrol the area daily to monitor compliance?

Response: Ultimately, the operator is responsible for assuring that stipulations in the final Plan of Operations are followed. The Forest Service and BLM will also conduct site visits to assure that stipulations are being followed. Other state and federal agencies would also provide some ongoing monitoring. The Agencies could shut down the operation, require changes, or assess fines if the miner is found in non-compliance.

Comment: The only restoration/reclamation work that I see Nicore promise to do is to not let more than 5 acres of mining be an open pit at any given time. With the planned 3.1 acres to be mined a year, that means if mining starts on June 15th of one year, then no reclamation would be expected on a mining site until about August of the next year.

Response: Reclamation would occur prior to annual shut-down (see Proposed Action, Reclamation). The estimate of 3.1 acres per year mined is an average; potentially up to 5 acres could be disturbed at any one time and would need to be reclaimed before annual and final shut-down.

Comment: The EIS should require specific and continuous monitoring of applicant compliance. A clear process for halting or revising the mining operation should be established in case the applicant fails to meet the requirements of condition of any of the permitting or approving agencies.

Response: Monitoring is discussed in Chapter Two. Each agency involved in permitting mining has a process for ensuring compliance and shutting down operations that do not comply. Adaptation to monitoring results is expected. Changes to the Plan of Operations would always be considered relative to potential effects and the need for analysis or documentation under the National Environmental Policy Act.

Comment: Erosion and sediment control measures should involve both project design elements and performance standards.

Response: Best Management Practices (listed in Chapter Two of the FEIS, see Analysis Files for more detail) would be required to address these concerns.

Comment: Another undisclosed aspect of restoration is whether seeds and bulbs will be collected from proposed roads, pits and stockpiles before construction of each site can begin. Who will provide the expertise for disturbing these species so rare?

Response: Native seed and bulb collection is discussed in Chapter Two and Appendix G. The Forest Service and BLM botanists are qualified to determine how and when to collect seed or bulbs.

Comment: It has not been disclosed how the 5 foot deep pits, left after a back filling of the deep pits, will drain.

Response: Observations of previously mined areas nearby revealed that infiltration occurs, but that the infiltration rate may be exceeded during times of heavy precipitation. An armored overflow or underground pipe may be required and would be designed by a Certified Engineer (see the FEIS pit drainage discussion in Chapter Two in the section on Mitigation).

Comment: I am skeptical that the USFS and other agencies are sufficiently staffed to successfully inspect and enforce regulations pertaining to the mining operation.

Response: The USFS has the responsibility to adequately administer active mining claims.

Comment: Will organisms in the soil responsible for fixing nitrogen, phosphorus and sulfur for the vegetation perish or will they be maintained? If not, how will they be restored to the soil? How is vegetation to be replanted?

Response: See reclamation discussion in Chapter Two of the EIS. Collecting local seeds and seeding an area is usually the best method for re-establishing herbaceous plants. Shrubs and trees are best when planted from 1-2 year grown stock.

Comment: Will drainage, soil percolation, and evaporation be affected when the reclaimed soil is returned after being sifted? Will the slope of all areas be returned to the original percolation and drainage? Will additional soil be brought into the area to replace removed aggregate? If so, where will the brought in aggregate come from? Will the soil be compacted to the original state to avoid further erosion?

Response: The reclamation discussion in Chapter Two addresses the anticipated topography of the pits following mining. The soils at the sites will be different in terms of chemistry, physical characteristics and slope than the conditions that existed prior to disturbance. No additional soil would be brought in.

Comment: A detailed Monitoring Plan should be included for the Fish and Wildlife Service (FWS) and other interested agencies. The Department requests that the FWS be provided an opportunity to review the plan of operations prior to issuance of the permit.

Response: Monitoring is discussed in the FEIS Chapter Two.

Comment: Page 2-3 indicates that the refuse would be regularly removed and the work area kept clean. You need to be very quantitative and specific on the measurements you want done and on the level of cleanliness required of any operator in the woods.

Response: The Plan of Operations would specifically address work site cleanliness as a condition of an approved operation. Minerals administration would identify any deficiencies early-on and they would need to be corrected.

Comment: With mining depressions averaging 12 feet in the ground it appears that some depressions will be at least 24 feet deep. The replacement of the boulders and topsoil will not allow the sites to return to preexisting conditions. How will the ponds affect the groundwater?

Response: The pits will not return to pre-existing conditions. The effect on groundwater is discussed in the SDEIS and FEIS. A reclamation objective would be adequate drainage so that ponds are not created.

Comment: On page 4-15, it states that "native plants tolerant to disturbance are expected to be reestablished over time". What species does this include? What is the time period?

Comment: The EIS needs an evaluation of the feasibility of revegetation of laterite mining pits.

Response: There are several native species that colonize disturbed serpentine areas. These species vary depending on the site. The reclamation plan includes native seed collection to maintain genetic integrity. The seed will be used to revegetate the sites. The rate that plants will become established over the mined sites will depend on many factors and cannot be predicted. Plants are growing in previously disturbed sites throughout the analysis area. The EIS discloses that revegetation is likely to take longer in serpentine habitats than more typical habitats on the Siskiyou National Forest. Even if revegetation does not occur within the foreseeable future, the direct impacts would be limited to the 35 acres of mine pits under full mining alternatives. The cumulative impacts of 500+ acres of mining if all known, similar laterite deposits could be significant.

Comment: Studies by RF Smith and LK Burgess show that serpentine reclamation is not possible unless non serpentine soil is used as new topsoil. That is not reclamation.

Response: This is not an accurate reading of the Smith and Burgess report (which has not been cited or used in this analysis). Any topsoil or other fill material to be used in reclamation in this project would come from the project area. No non-native soils are contemplated (see EIS Alternatives considered but not developed).

Comment: From reading various documents including the DEIS, I do not recall any mention about reclamation/restoration work planned for the hauling roads.

Response: The section on mitigation applied to all action alternatives in Chapter Two describes stormproofing and erosion control along the haul route.

Comment: The DEIS stated, "Roads are not usually considered an irretrievable commitment of resources, however, these roads are not likely to be reclaimed through usual means". Roads should be considered an irretrievable commitment.

Response: The SDEIS addressed roads as an irretrievable commitment of resources (see EIS section on irretrievable and irreversible resource commitments).

Comment: The proposed road in DEIS Alternative 4 from the bench, southeast, should quickly distance itself from the creek to preserve some isolation enjoyed by the creek's users.

Response: Alternatives 7, 8, and 10 in the FEIS include the bench section (Alternative 4 has been eliminated in the FEIS). Approximately 0.2 miles of this route can be varied somewhat in the elevation on the hillside, but would still be in sight from the residences on the creek. The route enters the timber and goes around the hill as quickly as practicable.

Comment: The DEIS's treatment of mitigation measures (pages 2-3 thru 5) is inadequate under NEPA. Environmental Impact Statements must analyze mitigation measures in detail and explain the effectiveness of the measures.

Response: The effectiveness of the mitigation measures are discussed in the FEIS.

Comment: The reclamation proposal in the Proposed Action does not address: source of replacement soils; how to prevent introduction of weeds; whether the below grade reclamation of pits would retain water creating a different habitat; sources of native plant materials; and experience with feasibility of re-establishing a serpentine habitat.

Response: As stated in the EIS: soils will not be brought in from other areas to avoid contamination of POC and the introduction of noxious weeds. Native plants material will be collected from areas adjacent to the disturbed areas. The Agencies recognize that re-establishment of serpentine habitat is difficult and may not be practical or possible in the short term.

Comment: The amount of the bond required by the applicant needs to be stated in the DEIS, If the applicant, the FS, and the BLM do not have enough information yet to determine the bond amount then this DEIS should be withdrawn because it was drafted without sufficient information.

Comment: The mining company should have to put up a \$5 million bond that will pay for post closure maintenance of the roads. It is impossible to review the impact of a mining operation if you don't know what the reclamation plan will contain. The reclamation plan must be considered as part of the overall project act and therefore the existing document is totally inadequate.

Comment: Mandate that a large sum financial bond be placed by the mining company to protect any and all damage.

Response: Any Plan of Operation approved would include a reclamation plan and bond. The reclamation plan will be used to calculate the bond amount. The amount is based on multiple factors and calculated by the Oregon Department of Geology and Mineral Industries, the BLM, and the Forest Service. The bond can be changed during operations if need be. Whenever a bond furnished under an approved plan of operations is found to be unsatisfactory, a new bond would be furnished within 15 days. The bond was estimated for all action alternatives as about \$50,000 (subject to change given depending on final approved plan).

Comment: If NICORE declares bankruptcy or defaults on obligations, who would be responsible for completing the restoration, both physically and financially?

Response: The Forest Service (using the required bond) or a bonding company, would hire contractors to reclaim the site.

Comment: The DEIS states that the applicant will be required to submit a mitigation plan and obtain the necessary permits before commencing operations. There is not, however, sufficient information provided in the DEIS to enable those reviewing it to make informed judgements on the sufficiency of the proposed mitigation requirements.

Response: The section on mitigation has been improved for the FEIS.

Comment: Mitigation measures must include decommissioning and restoring all roads used for the mining operation.

Response: The FEIS discloses that the current condition of the roads does not fully meet Aquatic Conservation Strategy objectives, and that the Forest Service objective for much of the proposed haul route is “level 1 - closed.” Mitigation for all full mining alternatives includes annual and final stormproofing and closure. Under No Action and Alternative 9, the roads may be closed and stormproofed by the Forest Service, as part of the regular watershed restoration program.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Comment: The DEIS should contain a Preservation/Restoration alternative, and a Mining Other Claims Without Creek Crossing Alternative.

Response: These alternatives are discussed in Chapter Two, Alternatives Considered but Eliminated From Detailed Study. The Restoration Alternative is not an appropriate response to the miner’s Plan of Operations. A Mining Other Claims Alternative is not appropriate, since the miner has not indicated interest in mining any other claims.

Comment: I would also recommend that the mining plan evaluate an alternate transport system using trams instead of haul roads.

Comment: I offer an additional alternative: Transportation by aerial tram of the ore to a central location in Section 14.

Response: Alternatives 10 and 11 include an aerial cable system for ore haul from Mine Site D. The cable system is more expensive, but feasible. It would require some road development to implement.

Comment: The DEIS does not contain real alternatives, just slight variations of the unacceptable and invalid Proposed Action of the miner.

Response: The range of alternatives was expanded in the SDEIS (and FEIS) to respond to this comment.

Comment: The section entitled 'Alternatives Considered but Eliminated from Detailed Study' provides no justification of why the seemingly viable alternatives discussed there in are eliminated.

Response: The reasons each alternative is eliminated from detailed study is explained.

Comment: I suggest an alternative haul route with the fewest possible stream crossings with bridges rather than fords or culverts.

Response: Your comments have been considered and the rationale for the decision will be in the Record of Decision. Bridges are a part of Alternatives 6, 7, 8, 10 and 11.

Comment: The DEIS also eliminates an alternative that would withdraw parts of the Rough and Ready Creek Watershed from mineral entry from detailed study. This decision is based on the assumption that withdrawal would fail to meet the purpose and need and would be outside the project analysis (2-17). However, Forest Service erred in this determination. A withdrawal alternative is a reasonable measure "to protect resources on BLM and National Forest system lands" (1-2).

Comment: Siskiyou National Forest (SNF) S & G 10-2 says that areas with mineral potential should be recommended for withdrawal from mineral entry only when mitigation measures would not adequately protect other resource values which are of greater public interest. We urge you to adhere to S & G and initiate the process of withdrawing these claims so this area can be managed in a manner consistent with it's special values.

Response: Withdrawal from mineral entry is an alternative considered, but eliminated from detailed study. Withdrawal is not an appropriate response to a Plan of Operations in an area currently open to mineral entry. Withdrawal could be considered in a separate analysis.

Comment: Please include a Designated Special Research Area alternative.

Comment: Rough and Ready Creek should become the Redrock Rainforest National Monument.

Comment: Rough and Ready Creek and the South Kalmiopsis Roadless Area should become a National Conservation Area.

Response: These alternatives were considered, but eliminated from detailed study because they are outside the scope and would not meet the purpose and need (see FEIS Chapter Two).

Comment: Given the sensitivity of the area, I do not see why an alternative that included both bridges and a ridge route was not studied. I believe that such an alternative is warranted.

Response: The SDEIS and FEIS include alternatives that utilize bridges and the ridge route.

Comment: I have read the 5 alternative plans for the project, and I have a 6th. Landfills across the nation are being re-opened and mined. I suggest a land swap. Mr. Freeman could trade his claims for the closed Kerby landfill. He could get rights to all metal found, have methane rights and bulldoze to his heart's content.

Response: Mr. Freeman does not own the lands where the claims are located, thus the land swap you propose cannot be accomplished.

Comment: The Forest Service must develop an alternative or alternatives that would limit the scope of the mining operation and that would require the ore to be transported by helicopter.

Response: The SDEIS and FEIS responded to this comment and expanded the range of alternatives, including Preferred Alternative 9, which both limits the scope and requires ore transport by helicopter.

Comment: The Forest should request that the claimant demonstrate the validity of the process at commercial scale.

Comment: Page 2-17 discusses alternatives eliminated from detailed study. In the second paragraph, the DEIS stated that "A withdrawal would not affect valid, existing claims. A mineral discovery is assumed valid until otherwise proven." What is the definition of a "Valid" claim? Again, it is my understanding that economic viability is among the validity criteria. What does it take to prove a claim otherwise?

Comment: The EIS states "a mineral discovery is assumed valid until otherwise proven". Has the effort been made to prove otherwise?

Comment: The option of completing a validity exam is discretionary. This option should be explored in some of FEIS alternatives.

Comment: We believe that the NICORE DEIS is severely flawed because the proposed NICORE

mining plan in the Rough and Ready Creek watershed was never measured against an established mineral validity examination.

Response: A mining claim (not mineral discovery, that language has been corrected in the EIS) is assumed valid until proven otherwise. Agencies (BLM, Forest Service) initiate the expensive validity examination when a locator chooses to exert their rights, under the mining law, to gain title to a claim (patent) or they propose to conduct mining operations in areas that have been withdrawn from mineral entry. This area is not withdrawn from mineral entry, and the patent application process has been stalled through a moratorium imposed by the United States Congress. Alternative 9 is designed to resolve some of the operational and economic questions associated with the project.

Comment: The DEIS develops only a narrow range of alternatives to the proposed action. The DEIS eliminates from further consideration helicopter access, the only alternative method of transporting ore that minimizes the impacts to the environment because it would be extremely expensive to Nicore (see DEIS page 2-18).

Comment: The DEIS concludes that it did not consider helicopter access because it "would be extremely expensive to implement and would tantamount to denial of access." It seems that to make this determination the Forest Service must have information relating to the potential value of the mineral to be extracted as well as the costs of extraction. On the basis of what economic information was the determination of the economic feasibility of alternatives access requirements made? This information is necessary to understand how the FS and BLM came to its conclusion that helicopter access would not be economically feasible.

Response: Full scale helicopter mining was not fully developed because each ton of ore would cost about 24 times more to transport by helicopter than truck (using haul costs for Alternative 9 versus haul costs for Alternative 7). It would have an extremely low cost to benefit ratio (see Economic Analysis in Chapter Four for details). The limited amount of helicopter use contemplated in Alternative 9 may be reasonable, given the potential adverse effects of constructing, upgrading and using roads to conduct the sample and the economic and operational uncertainties discussed in the EIS.

Comment: Since the miners plan indicates that only about 3.1 acres will be mined per year, it would be reasonable to limit mining and road construction activities to one site until such a time as that site is spent.

Comment: Other alternatives that could be considered but were not, would be a scaled back proposal such as to allow mining in one pit (for example pit B) and see how the reclamation efforts go before allowing more pits to be developed.

Response: The miner has stated that ore must be taken from all sites because “ore needs to be removed from all sites and mixed...The various sites have ore composed of different percentages of nickel.” (See Stephens Feb 10 1997 correspondence). The Agencies recognize that completion of each site prior to entering the next site could be the most cost effective and environmentally preferred method. The Proposed Plan of Operations and all action alternatives would require that reclamation occur in disturbed areas each year, and that roads be annually stormproofed.

Comment: One way to resolve this as a win/win is for the US Government to buy back these claims at a reasonable and substantial price and then give to FS and prohibit further resource extraction.

Response: The United States maintains ownership of lands within mining claims and cannot “buy back” an interest that it has never relinquished.

PHYSICAL SETTING - ROCK, SOILS AND WATER

Comment: The DEIS states that "mine site D is on a hillslope above the south fork of Rough and Ready Creek. Ponding of water in the mine pit may lead to changed in subsurface drainage and instability." Is there a possibility that the hillslope at Mine Site D would become so unstable as to landslide?

Response: Stability analysis and design prior to operations is recommended in all action alternatives to avoid potential instability and landslides.

Comment: A complete chemical analysis of randomly located statistically significant number of surface soil samples and pit bottom samples should be presented in the SDEIS.

Response: The EIS utilizes information found in the Josephine County survey, as well as geologic reports. The EIS lists the soil types and their characteristics.

Comment: Will the alluvial fan at the mouth of Rough and Ready Creek be destroyed by sediment caused by erosion in excavations?

Response: No. Expected effects of the alternatives relative to erosion are discussed at length in Chapter Four of the EIS.

Comment: With regard to sediment, it should be stated that a NO ACTION alternative would pose **no** risk, not "little" risk as stated on page 4-3.

Response: The existing condition contains roads which are currently delivering some sediment to the system. There are localized sites that currently do not fully meet Aquatic Conservation Strategy Objectives. The watershed as a whole is considered “optimum” in terms of sediment impact to fish habitat.

Comment: What erosion and sediment control measures will be taken to prevent offsite movement of sediment from the stockpile site during wet weather?

Response: The stockpile site will be designed for grade and drainage control. The piles will be covered during the wet season.

Comment: The SDEIS needs to review the complete water needs of the NICORE project. How much water is required and at what times? Where is the water source? How will the water be used and at what rate? What water right permits would be needed?

Response: The SDEIS and FEIS contain specific discussions about the water needs for the project. Water would be needed primarily for dust abatement and in road improvement/construction activities. The FEIS stipulates that for all alternatives, the Forest Service and BLM would consider the water source proposed by the miner and decide whether to approve that particular source. The Forest Service and BLM cannot decide whether to allow the miner to take water from Rough and Ready Creek, but the analysis displays the effects on Rough and Ready Creek if water was taken from that source (a water right would be required and the state is responsible for determining whether to approve a request for Rough and Ready Creek water). Other dust abatement options exist and may be approved (subsequent analysis would be documented in an appropriate manner if water is not the final method chosen).

Comment: At a minimum, the failure of the DEIS to determine the specific temperature change for all alternatives fatally flaws the entire process. The DEIS conclusion that "Road development is not expected to significantly affect [temperature related] processes" is not supported by any detailed review.

Response: Temperature impacts are more fully addressed in the FEIS and SDEIS under the Stream Flow and Water Temperature issue.

Comment: The DEIS fails to: A) consider the effects of mineral mining and mineral structures, diversions and discharges on fish, other aquatic life and water quality. B) identify the analysis effects of mineral mining on aquatic systems despite the widely known and documented impacts and the difficulty of restoring aquatic systems. C) discuss and measure use of water for drinking water and other household and agricultural purposes.

Response: These concerns are addressed in the EIS and associated documents.

Comment: The DEIS fails to estimate the impacts of mineral mining on the supply and quality of water and soil for agricultural purposes.

Response: Effects on the water supply are discussed. Soil used for agricultural purposes would not be affected.

Comment: On DEIS page 3-1 the second paragraph gives fleeting mention of soils, but the information presented is incorrect. First, the language in paragraph 2 keeps referring to the soils as "deposits". These soils are NOT deposits, but rather residuum. Second, it states that the, "deposits that would be mined ...are shown in the Alternative Maps in Chapter Two." There is no such map.

Response: Discussions in the SDEIS and FEIS resolve this confusion. A map of the nickel-bearing laterite soils is now in Chapter Three. The word "deposits" is used colloquially to refer to the minerals that have concentrated within these soils. The soils are a combination of colluvial material and residual soils developed from weathering of the peridotite parent material.

Comment: The primary default issue with the EIS was that the Plan failed to delineate those activities required to insure groundwater quality would be protected. In particular: 1) The five acres set aside for ore drying will require enhanced institutional controls to prevent spills, an impermeable surface pad, leachate collection and treatment, and groundwater monitoring to assure and confirm no adverse impacts at these locations. 2) Those areas designated for ore and overburden removal require hydro-geologic characterizations to evaluate potential adverse impacts to groundwater quality due infiltration and seepage. 3) The delicate balance between groundwater recharge from streams, as well as discharge to streams along select areas was not investigated. 4) The proposed seasonal method of operation and the annual bridge and culvert installation and removal activities imply the surface water quality could be aggravated by this methodology, as opposed to more permanent structures.

Response: 1) The ore would be stored on a terrace of Rough and Ready. The ore would contain soils that have been in contact with atmospheric oxygen for millennia. There is no reason to believe that simple transport of this ore to a new location would result in ore toxicity. The ore storage site would provide for adequate drainage, and the ore would be covered to limit erosion during the winter months.

2) See above

3) True. Groundwater interactions with streams were discussed only to the extent that cold springs and seeps near the proposed road crossings were identified and impacts assessed. A complete study of the groundwater system is not necessary to compare alternatives.

4) Tradeoffs in sediment delivery between permanent and temporary bridges was discussed in the physical science report and the SDEIS.

Comment: Nickel and its associated minerals are highly soluble and toxic and will directly impact soil habitats. Toxic metals leaching into the surrounding surface soils from mining operations and road surfaces will change the PH of the already sensitive serpentine soil, possibly lowering the PH and creating highly unstable and sterile soil conditions.

Response: The potential effects of nickel and associated minerals that may be delivered to the watershed from the project were analyzed. Nickel concentrations are not expected to be measurably increased; water quality will be monitored in all action alternatives.

Comment: "The ore is not expected to contain toxic materials." I do not believe that this statement can be made without any evidence to back it up.

Response: Chemical analysis provided by the USGS provides adequate evidence to support this statement.

Comment: The Draft EIS indicated on page 4-3 that the amount of sediment introduced into the Rough and Ready watershed is not known, yet in the same paragraph and on the table on page 3-3, the amount of sediment in the creek is considered optimum. The final EIS should clarify the confusing point.

Response: The assertion that sediment levels are optimum is based on stream surveys, field observation and professional judgement, despite the absence of a sediment budget for the system. Beneficial uses (with regard to sediment) are met under current conditions.

Comment: No one has addressed the issue of the rare and endangered soils.

Response: There is no category in the regulatory framework for 'rare and endangered soils'. The soils have been discussed in the SDEIS.

Comment: Rough and Ready Creek is on the Oregon 303 (d) list of impaired water bodies due to temperatures that exceed State water quality standards. The EIS should not assume increases in sediment yield will not affect stream temperature (page 4-5, figure 15); it is possible that sediment delivery will further degrade water quality. The EIS must state that the mining operation will comply with the TMDL for Rough and Ready Creek when it is completed by the Department of Environmental Quality (DEQ). Further, the EIS must demonstrate that the mining operation will not exacerbate the existing temperature problem in the creek.

Response: The SDEIS disclosed that water temperatures would likely be increased in alternatives that use Rough and Ready water for dust abatement on the haul route; the Forest Service recognizes this is incompatible with the DEQ TMDL process. Low-water crossings are likely not compatible with the DEQ standards. The FEIS refines the discussion by adding that NO MEASURABLE temperature increases are likely, but decreased flow would TREND the watershed toward degradation.

Comment: There are no estimates given here as to the amount of sediment such actions would deliver in the stream channels. Rather there is a table, (fig. 13), in which "the relative risk rating compares the alternatives to each other, and has no absolute value. The Proposed Action was given an arbitrary value of 100, and all alternatives are compared to that value." Which means of course that the values mean nothing except to point out that the alternatives to the Proposal are relatively preferable. Preferable to what, is another question? What the level of sediments introduced in the streambeds, (though initial construction, maintenance and inevitable erosion) by the Proposed action is not know or even guessed at. All put together this is too much conjecture to satisfy anyone with real concerns about sediment delivery into stream channels though Road Development.

Response: The SDEIS and FEIS includes estimates of sediment volume, rather than a relative risk rating.

Comment: Will the impact of travel over these crossing by 25-ton articulated dump trucks, service vehicles and other heavy equipment, and the subsequent weekly/monthly upkeep of the crossing, supposedly by more coarse sediment integrated into the bedload, was taken into account. The figures given also have no allowance for the amount of fine sediment delivered though airborne particulates such as dust that will further compound this problem.

Response: These issues are addressed in the FEIS and SDEIS, in Chapter Four.

Comment: Figure 9A: This needs to be explained so people know what the water will look like. How does one compare a sediment delivery of 600 cubic yards to one of 1100 cubic yards, for example? This is not clearly explained later in Chapter Four either.

Response: The affect of sediment on the appearance of the water is related to the proportion of fines in the delivered material. The sediment numbers above reflect volumes of material associated with in channel crossing fills, the majority of which will be large rock that will travel as bedload. Nonetheless, turbidity will be associated with those fills as the material will break down with use. Only the Proposed Action proposes to use in channel crossings, as is discussed in the SDEIS and FEIS - all remaining in channel crossings have been modified to bridges in the action alternatives.

Comment: We are specifically concerned about the impacts from increased sedimentation, altered dissolved oxygen and water temperature, and concentrated heavy metals as a result of this mining operation. On Page 2-5, the DEIS indicates baseline water quality would be analyzed by the U. S. Geological Survey and the collected data would be correlated with aquatic insect and Macro-invertebrate sampling data. The FEIS should describe the type of biotic sampling and the sampling schedule in greater detail.

Response: This is discussed in the FEIS and SDEIS. The report by the USGS, Miller, 1998 is available as are the results of the macro-invertebrate sampling. Two types of data were collected: 1) Water samples were collected and analyzed for selected variables by the USGS Water Resources Division in Denver Colorado, and 2) substrate particle size was measured and benthic macro-invertebrates were collected by the Forest Service and enumerated by a private contractor for community composition. Total taxa is relatively high for all sample sites, ranging from 15 to over 45 depending on the site. Samples on the West Fork Illinois River and mouth of Rough and Ready Creek had the highest densities while upstream areas had the lowest. Of particular interest is the distributional record of *Cloeodes excogitatus* (mayfly species). This is a northern most record and the first found in Oregon. *Cloeodes* was found only in the tributary samples.

Comment: On page 3-4, the DEIS states: "...the Proposed Action and all action alternatives may result in fine sediment delivery that could degrade summer rearing and/or fall spawning habitat...". In addition, water quality overall could be degraded for the aquatic biota. Thus, the FEIS should require implementation of a water quality monitoring program for the duration of this mining project.

Response: Water quality monitoring is required in all action alternative.

Comment: The contribution of Rough and Ready Creek to water volume in West Fork of Illinois is not mentioned.

Response: Rough and Ready Creek contributes about 30 percent of the volume of the West Fork Illinois River. This has been added to the Physical Environment discussion in the FEIS.

Comment: My neighbors and I have been increasing the efficiency of our water use in order to return more water to Rough and Ready Creek. We do not look favorably on the prospect that our saved water will be used by NICORE in dust abatement.

Response: The effects of water withdrawal are discussed in the EIS. Ultimately, water use allocations are determined by the Oregon Department of Water Resources.

Comment: Pollution originating at the mine site directly threatens my family's health and that of my livestock through contamination of my water rights off Rough and Ready Creek.

Response: Contamination of surface waters is not likely under the action alternatives. The possible occurrence of a hazardous material spill is discussed in the EIS.

Comment: I have reason to believe there is a definite risk of undesirable toxicity from airborne nickel particulates.

Response: The EIS discusses dust and air quality. Tom Peterson from the Oregon Department of Environmental Quality has confirmed that dust from this operation is not expected to pose health hazards. Dust abatement would minimize adverse effects from dust.
Comment: A fuel spill into Rough and Ready Creek would make the water undrinkable and would also ruin our filters.

Response: This may be true depending on the location of the spill, the volume of the spill, and the proximity of the withdrawal point to the spill. Hazardous substances are discussed in the EIS.

Comment: Since the USFS and Mr Freeman can not guarantee our drinking water will not become contaminated, we insist that a well be dug for us.

Response: There is no evidence that a well is needed or required as mitigation.

Comment: Overburden can clog streams, and if it contains sulfur compounds it could react with rainwater to form sulfuric acid which may contaminate local soils and streams.

Response: No sulfur compounds are present in laterite soils in concentrations that would affect water quality. Additionally, overburden will not be stored adjacent to streams and runoff from the storage site will be controlled through grade and runoff design.

Comment: DEIS has not addressed soil chemistry change and possible effects on acidification of waters in Rough and Ready Creek.

Response: Acidification is not an issue in these well buffered waters (Miller, 1998).

Comment: Prior to earth disturbance, all water sources downstream need to be tested for quantity and quality.

Response: Specific sites have been tested and will be monitored should an action alternative be chosen. Not all waters downstream of the project would be impacted by a project of this size, intensity and duration.

Comment: The effects of using crushed rock for stream crossings were poorly considered. These will slow the stream and prolong the annual period of high stream temperatures.

Response: The effects of using crushed rock at the crossings is discussed more thoroughly in the SDEIS and FEIS, including potential effects on water temperature. Bridges would eliminate these impacts.

Comment: I believe that any additional water removal from Rough and Ready for dust control or material processing will have a small but real effect on the water level and water temperature of Rough and Ready during the sensitive summer months.

Response: These impacts are disclosed in the FEIS and SDEIS.

Comment: What will the cumulative effects of water withdrawal be year after year on downstream habitats?

Response: Water withdrawal could increase water temperatures during the summer months. The cumulative effects of annual water removal is the same as the direct effects. Neither are expected to be measurable.

Comment: The DEIS at 4-26 concludes that the impacts of removing water for "dust abatement" would not have adverse effects on stream flow. Because the DEIS acknowledges that downstream for the project area R&RC "almost runs dry during the summer and early fall." This assertion seems difficult to justify. How will the withdrawal of water from R&RC or its tributaries affect the existing shortage of water in the river noted on p.2-3 Are any downstream sections of R&RC listed as water quality limited for flow: If not, why not? If downstream area are listed then how can further withdrawals be consistent with CWA requirements?

Response: The FEIS provides a corrected estimate for potential water removal from Rough and Ready Creek and also discloses potential effects of that withdrawal. However, as disclosed in the EIS, a water right would have to be obtained through the State. Mitigation listed in Chapter Two also stipulates that any dust abatement method proposed in the Final Plan of Operations would be subject to Forest Service approval.

Comment: The SDEIS should study all domestic water sources in the O'Brien and Airport Drive areas.

Response: Potential effects on domestic water sources are discussed in the EIS; there remains no need to "study all water sources." The section in the FEIS on Hazardous Material Spills discloses that if a spill were to occur, at least one drinking water source could be affected. However, filtering through the groundwater net and porous spaces in the soils make it far less likely that any wells or springs would be contaminated. A Spill Plan will be required as a part of the Final Plan of Operations to contain any potential spills.

Comment: The Forest Service has not collected base-line data about turbidity, suspended sediment, streambed stability or fish densities (juvenile or adult fish/mile). Without this data, it will be difficult to determine empirically if the predictions in the DEIS are valid.

Response: Several cross-sections along Rough and Ready Creek were surveyed in the summer of 1997 and can be re-surveyed to assess channel bed and bank conditions over time. Level two fisheries surveys has been completed for the North and South Forks and mainstem of Rough and Ready Creek. Not all parameters mentioned in the comment have numerical baselines, however, this does not preclude making predictions based on field observations and professional judgement. The monitoring plan includes water quality parameters.

Comment: While recognizing that Rough and Ready Creek is listed as Water Quality limited by the State of Oregon, the EIS does not discuss the existing conditions in project area tributaries

that will be impacted by the proposed project. Descriptions should include streams characteristics such as amount of down woody debris, pool frequency, temperature, a description of all water quality limited stream, the aquatic species present including mollusks, and other relevant information.

Response: Level two fisheries surveys have been completed for Rough and Ready Creek, including portions of the North and South Forks. Information related to these streams are displayed in the West Fork Watershed Analysis, which is incorporated by reference into this EIS. Other tributaries were not deemed as significant in terms of fish habitat and were not surveyed. Impacts to resources were assessed based on field observations of potentially affected areas.

Comment: The DEIS (4-2) does not quantify the impacts from any of the alternatives in terms of amounts of sediment delivered to the stream channel or the mode of delivery. It does not explain what is meant by the Relative Sediment Risk Rating, and does not address the cumulative effect of sediment from road development, stream crossings and mine sites. The DEIS fails to state that volumes of sediment from road and mine sites are potentially much greater than those from stream crossing.

Response: The FEIS and SDEIS include estimates of sediment delivery (in cubic yards) for road development, mine sites, and stream crossings.

Comment: The EIS should also describe in detail the impact of the culvert and washed rock removal and installation.

Response: The impacts of culvert and washed rock removal and replacement are discussed in the SDEIS and FEIS in Chapter Four.

Comment: The DEIS acknowledges that Rough and Ready Creek is listed as a Water Quality Limited under section 303(d) of the Clean Water Act because temperatures in excess of 80 degrees have been measured within the analysis area. The DEIS, however, failed to consider in any detail how the proposed plan will exacerbate these temperature violations.

Response: This is addressed in the SDEIS and FEIS in Chapter Four.

Comment: The DEIS acknowledges briefly the "The Alberg Road currently is an active source of sediment," but fails to describe any details about this ongoing impact or how the Alberg Road impacting water quality and aquatic resources? How many miles of road currently exist in the analysis area and do those roads contribute sediment to Rough and Ready Creek and its tributaries? Have any surveys or monitoring been specifically performed to evaluate the sediment impacts from existing roads in the analysis area on aquatic organisms?

Response: These issues are addressed in Chapter Four of the FEIS and SDEIS. The analysis is based on formal surveys, extensive and varied field observations, air photo review, and professional judgement. The FEIS discloses that the Alberg Road does not currently meet Aquatic Conservation Strategy Objectives, however, overall, sediment is considered to be at optimum levels for fish habitat in the watershed.

Comment: We have a spring about a quarter of a mile, could be even closer, to where Walt will be digging his holes for his low-grade nickel. I do request at this time that, from the Forest Service, that water analysis be done on our property.

Response: Several springs on National Forest (but under permit for use by residents with proper water rights) were sampled prior and resulting data is included in the analysis files and summarized in the EIS. Concentrations of nickel in the springs are higher than Department of Environmental Quality standards, however, the amount of nickel in the water does not pose any human health risk (based on correspondence with the Oregon Department of Health). Alternative 9 and No Action would not lead to increases in nickel concentrations and slight increases are predicted for the other alternatives.

Comment: The West Fork Watershed Analysis identifies data gaps (p.3&4) that must be filled and the information included in the revised DEIS, For example the Watershed Analysis state that complete biological information is lacking for most plant and animal species. How can the DEIS analyze the impacts of the mining operation on the plant and animal species without the missing information being gathered first? The Watershed Analysis recommended that the depth to ground water and ground and surface water interactions be determined. Not only has the FS and BLM failed to fill the data gaps identified in the Watershed Analysis, there are critical information gaps not identified in the Watershed Analysis. For instance the Watershed Analysis recommends that West Fork watershed satellite imagery interpretation be completed for fens and then to use geo-hydro-solids input to delineate groundwater influence around fens but the FS and BLM in the Watershed Analysis and the DEIS have failed to map or otherwise identify the location of wetlands in the area that may be affected by the Nicore proposal and to disclose these to the public.

Response: There is no requirement that all data gaps be completed prior to initiating an action. Analysis of effects occurred using best professional judgement, data gathered from the area, observations from the area and similar conditions, and the scientific literature. The wetlands have been also been mapped using satellite imagery. Localized impacts to wetlands, especially wetlands that are adjacent to roads, is possible, as is disclosed in the EIS (Chapter Four).

Comment: There is no comprehensive discussion of impacts to wetlands (direct or indirect) or an analysis of wetland alternatives that would avoid or minimize wetland impacts.

Response: Impacts to wetlands are discussed in the EIS. Several alternatives were developed to minimize or avoid impacts.

Comment: Mitigation included in Alternatives to the Proposed Action should read: Oregon Water Resources Permit or Limited Licenses to withdraw water from Rough and Reedy Creek. (for use in dust abatement and other read activities). On Page 3-2, Water quantity, Our Department has made a number of streamflow measurements during 1997 and will be doing the same this year.

Response: This change has been made in the SDEIS and FEIS. The data collected by the Oregon Department of Water Resources has been referenced and used.

Comment: There has been no effort to map the springs and bogs of the area and the waterways that feed them. Undoubtedly digging large pits and use of water by miner will change the underground flow of the area.

Response: Springs and bogs located along potential mine pits and haul routes have been observed and discussed in the EIS. Pit construction will likely change the local groundwater infiltration and the shallow water table, but is unlikely to affect the deep groundwater paths. Springs and bogs have been mapped in a variety of ways (domestic water sources, rare plant habitats, riparian reserves).

Comment: A study is needed to show the effects of soil and rock disturbance on the rate of metal/trace element release into the watershed.

Response: The FEIS discloses that small increases in dissolved elements are possible, but are not likely to be measurable. This finding is supported by USGS analysis (Miller 1998).

Comment: The DEIS should have a complete chemical analysis of creek, spring and ground water samples gathered during all four seasons.

Response: Comparison between the alternatives was accomplished without this data set. Summer samples were taken and analyzed by the US Geologic Survey. Summer flows are sampled because those flows are likeliest to contain the highest concentrations of elements.

Comment: Forest Service "opinion" that water supplies of residents would not be affected is not scientifically defensible.

Response: The Forest Service opinion is based on calculations, professional judgement and observations of the area, considering the scale of the operation. The distance between the mine sites, and groundwater and surface water flow paths were considered in making this finding. Monitoring will be included to test this finding.

Comment: I request that the FS proceed with chemical analysis of all water supplies from point of diversion with high and low flow tested on a quarterly basis thereafter.

Response: The information requested is not needed in order to compare the alternatives, or monitor the impacts.

Comment: The DEIS should have described the past, present, and reasonably foreseeable future activities that negatively affect water quality. What activities occur in the analysis area that could negatively affect water quality? What is an estimate of the current amount of the sediment that existing roads in the project area input into Rough and Ready Creek and its tributaries? Approximately by what percentage would this level of sediment input be increased? What is the potential for other mining claims in the Rough and Ready watershed to be developed and how would development of these mines affect water quality and aquatic resources in conjunction with the currently proposed mine?

Response: Activities such as road development, ore stockpiling, road use and pit development would all contribute sediment to the stream system, as is disclosed in the EIS. Additional information regarding the potentially foreseeable effects of implementing mining on the full 512 acres has been included in the FEIS.

Comment: Soil structure of Site B is barely capable of supporting a load on roads and could start landslides.

Response: The road to Site B has been in place for decades and has supported several types of heavy equipment. There could be spots that will require rocking to help support equipment. Spot rocking is included and costed for all alternatives.

Comment: The estimate that 600 cubic yards of fine sediment will be released annually is low. The continued operation of industrial equipment over the course of a decade would have cumulative impact upon the areas over which such equipment would be opened. The dust abatement procedures to which the DEIS alludes (page 2-5) seem to indicate that water will be used for dust suppression. Thereby substituting one form of erosion for another. I see no evidence that this was taken into account in either the calculation of 600 cubic yard figure or the enigmatic "index" calculations.

Response: Estimates of sediment supply to the channel were recalculated in the SDEIS and FEIS, including contributions from dust. Water application for dust abatement is not likely to result in erosion of the road surface.

Comment: I believe the final EIS must address the following: 1) available database of temperature information 2) how the proposed actions meets the goals and objectives of the Oregon Water Quality Management Plan (WQMP) 3) establish who the claimant is responsible to in actions effecting water quality in the watershed. 4) how the actions of the claimant will be monitored and their effects evaluated.

Response: All water temperature information collected by the US Forest Service and Cooperators is available upon request at the Illinois Valley RD. Water withdrawals in Rough and Ready Creek may not be in compliance with standards for water temperature, even though temperature changes are not expected to be measurable. The claimant is responsible to obey all state and federal water quality laws. Water quality would be monitored (see Chapter Two).

Comment: The Plan of Operations and action alternatives of such a mine will violate the Clean

Water Act.

Response: Full scale mining may not meet all aspects of the Clean Water Act. Rough and Ready is currently listed as water quality limited with regard to temperature, thus, no increases (or trends toward increases) would meet the intent Clean Water Act. This is discussed in the FEIS. The Preferred Alternative 9 would meet all aspects of the Clean Water Act.

Comment: Under the Clean Water Act, federal agencies are required to comply with state water quality standards. The DEIS does not discuss the applicable water quality standards, and consequently does not address whether the project will in fact comply with these requirements.

Response: The FEIS includes appropriate discussions about existing water quality standards and potential effects of implementation.

Comment: The DEIS does not address the numerous seep and springs that form sensitive contact sports such as swimming. Nor does the DEIS address the aesthetic values of Rough and Ready Creeks exceptional water clarity.

Response: The values associated with excellent water clarity are addressed in the EIS and associated documents such as the West Fork Watershed Analysis and the Rough and Ready Creek Wild and Scenic River Eligibility Study. The numerous springs and seeps are also discussed. The beneficial use of primary contact recreation (swimming) is not likely to be negatively impacted by the action alternatives.

Comment: At a minimum, the failure of the DEIS to determine the specific temperature change for all alternatives fatally flaws the entire process. The DEIS conclusion that "Road development is not expected to significantly affect [temperature related] processes" is not supported by any detailed review.

Response: The SDEIS and FEIS include specific discussions about water temperature. Specific temperature changes are not expected to be measurable, except possibly under the Proposed Action.

Comment: The DEIS does not adequately describe the uniqueness and quality of the water in the Rough and Ready Creek system. It notes that fine sediment added to streams can increase turbidity (3-1) but provides no baseline against which to measure turbidity.

Response: The baseline used is that beneficial uses are currently being met; the beneficial uses are salmonids, water uses (domestic, industrial, stock, irrigation) and primary contact recreation.

Comment: The issue of pollution originating at the mine site potentially contaminating both surface and subsurface water was not addressed.

Response: No pollution is expected to originate at the mine sites.

Comment: The DEIS states that "some impacts to small wetlands and fens may occur from road development near Crossings 1-4." The EIS does not give any detail as to the impacts.

Response: The EIS states that the existing road system is re-routing water, altering the relationship between surface and sub-surface water, and moving road sediment during storm events. Changes over time from the original road construction are unknown. Road treatments would be designed to maintain the hydrological integrity of the riparian zone as intended by the Aquatic Conservation Strategy.

Comment: On p.4-16 and 4-17 the DEIS has no mention of water quality under EFFECTS ON RESIDENTS, while on p. 4-1 and 4-19 it stated that water quality may be degraded in all of the action alternatives. State water quality standards may be exceeded for short duration and distance downstream for the crossing. The SDEIS should quantify what constitutes a short duration and a short distance.

Response: Water quality is discussed elsewhere, but any adverse effects on water quality would also affect residents. The estimates of distance downstream and duration will vary with the size of the storm event. Bedload movement on coarsely bedded stream channels has been shown to be chaotic, with material moving 10's to 100's of feet downstream following flows large enough to mobilize the bed material.

Comment: The DEIS states on p.4-3 that three of the four mine sites are not prone to erosion and for mine site D, ponding of water may lead to changed in surface drainage and instability. According to the USDA SCS (NRCS)"Soil Survey of Josephine County, Oregon", mine sites A and B are located on soils that are.." subject to landslides and slumping because it is underlain by highly fractured bedrock and is very plastic" and mine sites C and D are located on soils where," runoff is very rapid and the hazard of water erosion is very high." The Forest Service needs to discuss this in the SDEIS and how it will affect sediment delivery to Rough and Ready Creek.

Response: These issues are addressed in the EIS and analysis file documents. Site D is considered at the highest risk of failure due to a steeper slope. Gentle slopes at sites A, B, and C are less susceptible to failure.

Comment: Contaminated streams may need to be piped to a source clean up by complex but capable equipment owned and operated by the U.S. Government.

Response: It is not anticipated that streams will be contaminated in any alternative.

Comment: The life expectancy of the mine is ten years. Water quality analysis should encompass a breakdown of the effects on the water for each of the mines in ten years.

Response: The effects of the mine operations over the ten year period are not expected to vary significantly from year to year, given the restrictions on haul period and the volume of ore planned for removal. Thus, direct, indirect and cumulative effects to water quality are not expected to vary on an annual basis.

HAZARDOUS MATERIALS

Comment: Risks of Hazardous Fluid Spills-hazardous fluids that may be spilled include oil, gas and hydraulic fluid." "The risk of a serious spill is low, however the consequences could be significant." What is not mentioned is the probable occurrence of frequent incidental spills which cumulatively could have significant impact. Nowhere in the DEIS is this addressed, I assume because such leakage is considered to be minor and a matter of course. Also, is the question of the tailings that will be left in the mining pits and their potential to leach heavy metals into the creek during periods of rain.

Response: Cumulative impacts in terms of multiple spills and leached metals are discussed in the FEIS.

Comment: The probable amount of petroleum products such as grease, oil, hydraulic fluid, gasoline, and diesel that will be released into the watershed due to the mining operations should be estimated in the SDEIS.

Response: Discussions under the Risk of Hazardous Substance Spill issue disclose that some of these substances are likely to leak into the soil or water. Amounts are expected to be low overall, given the scale and scope of the operation, with a low risk of an equipment failure that results in a spill at a stream crossing. The EIS discloses that one family drinks directly from the creek, and the consequences of a spill could be significant.

Comment: On p.4-4 the DEIS states that the ore is not expected to contain toxic materials, the SDEIS need to disclose that nickel and chromium are toxic.

Response: The EIS provides detailed discussion about these substances in response to concerns. Nickel is in elevated concentrations in water within Rough and Ready Creek, and currently exceeds ambient water quality standards. This is to be expected given the rock types in the watershed. However, the mining and associated activities are not expected to significantly affect these concentrations, nor are they toxic or do they present any short or long term health risks at current or expected levels (more information from the State of Oregon and the federal Environmental Protection Agency is in the analysis files).

Comment: The DEIS does not mention the presence of arsenic or heavy metals that will become dangerous to water sources via runoff from exposed tailing piles.

Response: Analysis and professional judgement, supported by USGS analysis (Miller 1998), concludes that ground water quality would remain safe in all alternatives.

Comment: The DEIS does not disclose how much ore would be stockpiled at a given time and what the effects of this and other activities at the stockpile area might be on surface and ground water and the ecological processes of the ACEC and surrounding area. EPA's 1995 Toxic Release Inventory found that Glenbrook Nickel ranked 4th for toxic emissions to the land in the State of Oregon. The revised DEIS must address the effects of these toxic releases into surface and subsurface flows and the water table.

Response: The EIS describes two options for ore stockpiling and the amount of ore the sites would be designed to accommodate. The stockpile site would be designed to accommodate up to 40,000 tons of ore (the miner told the BLM that the site would accommodate 25,000 tons of ore, and later told the FS that the site would accommodate 40,000 tons). The ore is not considered to be toxic, drainage will be routed away from the pile, the pile will be covered during the wet season to avoid leaching and erosion.

FISH AND WILDLIFE

Comment: The DEIS does not contain a cumulative effects analysis for steelhead trout, coho and Chinook salmon and cutthroat and rainbow trout.

Response: The cumulative effects analysis displayed in the EIS is based on the known nickel laterite deposits mapped by Ramp (see Chapter Three, Physical Environment). Cumulative effects analysis is addressed within section on fish.

Comment: The DEIS states that National Marine Fisheries Service (NMFS) was asked for consultation. The results of this consultation should have been included in the DEIS for public review.

Response: The Forest Service (FS) and NMFS discontinued consultation on this project. NMFS has requested that the FS consult on only the preferred alternative and not the entire range of alternatives. The finding for the Preferred Alternative 9 is No Effect (on any listed species or critical habitat); therefore, consultation is not required.

Comment: Page 3-3 presents a table of fish habitat condition in lower Rough and Ready Creek. The heading states that the definition of "optimum," "marginal," and "outside optimum range" have not been adapted to serpentine environments. This is an important factor and needs to be considered.

Response: The West Fork Watershed Analysis addressed the differences between serpentine habitat and more typical fish habitat, and explains that the lack of optimum conditions (for instance, water temperature) may be inherent to serpentine habitat. The findings in the Matrix of Factors and Indicators are based on standards set for all projects within Southwestern Oregon and provides comparative data across watershed and project analyses.

Comment: The DEIS's assessment of the "relative sediment risk" from each alternative gives little information about what the actual on the ground affect of the project would be. DEIS at 3-4 while such an analysis may show one alternative to be preferable to another in regards to fish protection, it does not show the impacts of even the least damaging action alternative and gives little guidance as to whether such an alternative is consistent with statutory and regulatory requirements. The EIS should in much greater detail address how salmon and steel head population will be affected by the proposed project.

Response: The SDEIS and FEIS uses actual volumes to estimates impacts. Page 65, the table identifies sediment as ‘further degraded’ for the PA. The discussion on page 66 further discusses these impacts, specifically impacts to spawning salmon, and to intra-gravel fines.

Comment: I take exception to the BE summary on page 4-6. The claim that the alteration of the Rough and Ready watershed is not likely to "cause a loss of viability to the population or species" it is a dubious claim.

Response: The Preferred Alternative is not expected to have significant adverse impacts on any fish species. The finding that all alternatives “will not likely contribute to a trend toward a federal listing or cause a loss of viability to the population or species” USFS Region 6 sensitive species (steelhead and cutthroat trout) is based on a professional evaluation the Matrix of Factors and Indicators. This judgement is based collaboration with several Forest Service biologists and informal conferencing with NMFS biologists. The extent and severity of the impacts is not expected to jeopardize the continued existence of any species; this finding is associated with some uncertainty that would be resolved through monitoring (see the Monitoring section of Chapter Two).

Comment: The SDEIS needs to substantially study the effects the mining proposal will have on wildlife within the analysis area. The discussion on wildlife on p.4-24 of the DEIS is inadequate.

Response: Based on the existing information, the West Fork Illinois River Watershed Analysis documents what is known about wildlife distribution and relative abundance within the watershed, including a list of species known or likely to occur. Given the scale of the operations and the amount of habitat that would NOT be affected, and mitigation (such as road closures) included in all alternatives, potential effects on wildlife are not considered to be significant.

Comment: Stating that the north and south forks are likely more significant spawning and rearing sites than the main stream is an opinion. I would like to know what surveys have been performed, when they have been performed, and their results.

Response: USFS Region 6 Level II Stream Surveys were conducted on Rough and Ready Creek in 1991 and 1994. The Main stem and the South Fork were surveyed in 1991 and the North Fork was surveyed in 1994. The results, documented in the survey reports, is the basis for the opinion that the north fork and south fork are more significant spawning and rearing sites for most anadromous fish. Key fisheries attributes, such as pool/riffle ratios, large wood, stream shade/water temperature are in relatively higher abundance in the south fork and north fork than the main stem of Rough and Ready Creek. The relative abundance of older age classes of juvenile anadromous fish, found to be present, was greater in the two tributaries than the main channel.

Comment: All alternatives except no action will hurt salmonids. Rough and Ready Creek already has a high existing temperature problem, increased sediment mixed with high water temperature can cause infection in fish.

Response: Water temperature increases would degrade fish habitat, as disclosed in the EIS. However, water temperature would not be measurably increased in any alternatives. Alternative 9 would not result in any increase in temperature.

Comment: The DEIS fails to provide data about existing fish densities and distribution and also fails to provide quantitative or qualitative estimates as to impacts to fish populations.

Response: Existing fish densities and distribution are documented in both the Rough and Ready Creek Level II Stream Surveys and West Fork Watershed Analysis, incorporated by reference into Chapter Three of the EIS.

Comment: The Forest Service has not collected base-line data about turbidity, suspended sediment, streambed stability or fish densities (juvenile or adult fish/mile). Without this data, it will be difficult to determine empirically if the predictions in the DEIS are valid.

Response: The existing Level II Stream Surveys serve as the base-line data for fish densities/distribution. In addition, stream cross sections were established by the Forest Service.

Comment: The DEIS does not address the potential uniqueness and importance of the native fish populations.

Response: The potential uniqueness and importance of native fish populations within Rough and Ready Creek is uncertain. Recent collection of specimens by NMFS in association with classifications of winter run steelhead trout within the Klamath Mountains, has not documented significant differences between Illinois River steelhead trout and Klamath River steelhead trout.

Comment: The DEIS (93-2 & 3) does not address non-salmonid aquatic life, such as yellow legged frogs, Olympic salamanders, crayfish and macro-invertebrates, to name a few.

Response: Many aquatic species were not directly mentioned by name in the EIS, however, the aquatic system as a whole is discussed. Effects on Yellow-legged Frogs was specifically identified in the DEIS on page 4-24. Macro-invertebrate surveys were accomplished and discussed in the EIS.

NOXIOUS WEEDS

Comment: The DEIS is clear on the topic of introduced species: "the proposed action is associated with the greatest risk of spread of noxious weeds. It increases access throughout the watershed. It also includes a stockpile site very near the known star thistle population."

Response: Measures will be taken not to disturb the star thistle population and attempts will be made to eliminate all non-native species introduced to the public lands at the stockpile locations.

Comment: The SDEIS should fully explain the plans to control the introduction of noxious weeds into the area.

Comment: Weed prevention is weak for all but the NO ACTION alternative.

Comment: The DEIS does not adequately address how the introduction of exotic weeds will impact the analysis area. The remarkable lack of exotic weeds throughout most of the analysis area should be recognized in the EIS.

Response: The EIS discusses noxious weeds as a significant issue. Mitigation includes vehicle washing, use of native rock in road work, and ongoing monitoring. Should monitoring show that noxious weeds are being introduced or spread along the haul route, stockpile site, or mine sites, they will be physically eradicated. The No Action alternative is also associated with some risk.

Comment: The Forest Service does not have the manpower for effective control of noxious weeds. How would they be able to meet the threat of noxious weeds that have been so far kept along the 199 corridor, being brought deep within the Rough and Ready Watershed by mining equipment? Who will visit all the sites and recommend ways to identify noxious weeds? Who will eradicate any outbreaks discovered.

Comment: If mining is approved, the area would have to be inspected for noxious weeds several times a year.

Response: The EIS discusses mitigation and monitoring related to noxious weeds.

Comment: Increased traffic could also introduce non-native, invasive plants that could eventually out-compete the rare native botanicals found.

Response: Monitoring for presence and subsequent removal of non-native species will be part of the approved plan of operations.

PORT-ORFORD-CEDAR ROOT DISEASE

Comment: The DEIS discusses the degree of risk of root disease introduction (4-7 & 8) but not the actual ecological impacts of disease introduction.

Comment: The DEIS fails to discuss the importance of the ecological role that Port Orford cedar plays in its sensitive riparian/wetland habitat.

Response: The SDEIS, FEIS, and the analysis files discuss the ecological impacts of disease introduction.

Comment: The DEIS states that POC grows on dry sites. This should be qualified or referenced because it would be highly unusual to find Port Orford cedar growing on dry sites without subsurface flows or high atmospheric moisture.

Response: The FEIS has been edited to omit the reference to dry site Port-Orford-cedar. POC within the project area grows both within and outside Riparian Reserves.

Comment: The DEIS can not defer the development of the specifics of the Port-Orford-cedar disease control strategy to the final plan of operation, after the completion of the NEPA process.

Response: A Port-Orford-cedar disease control strategy is discussed for all action alternatives in Chapters Two and Four. An example of a detailed root disease strategy for the preferred alternative is in Appendix J.

Comment: There are no studies offered in DEIS that present a plan to prevent the spread of POC root disease. The suggested washing of vehicles is not specific enough because it does not discuss frequency.

Response: A “Range Wide Study” is due to be published June 1999 and will discuss the overall plan for reducing the spread of the disease. Equipment washing would occur prior to operations starting each year and any time vehicles or equipment enter the area or leave and then return.

Comment: Using dust abatement methods by wetting roads would assist development of the root rot disease as wet soil facilitates the spread of the organism.

Response: Dust abatement would not assist the spread of root disease because application rates are low, the water would be free of root disease spores, and the area has no known existing infestations.

Comment: One of my concerns is importing POC root disease into the Rough and Ready watershed. With 15-20 round trips per day, it seems unlikely that the FS or BLM can monitor the cleaning of vehicles and equipment as stated on pg 2-4.

Response: Vehicles would not have to be washed between the stockpile site and the mine sites. Washing needs to be done to any vehicle entering the area or when conditions may warrant. Periodic inspections would occur to ensure compliance with control measures.

Comment: POC root disease is a serious threat to the POC in Rough and Ready Creek watershed. Sanitation of trees within 15 feet of haul route is not practical solution to potential problem. Only viable solution is No Action and close all roads.

Response: No Action is considered in the EIS. Closing of the roads would not occur in conjunction with No Action, but the existing condition of the roads does not meet all standards and guidelines for Aquatic Conservation.

Comment: Elsewhere on page 4-7 the FS seems to take a passive attitude toward introduction of the root disease into the area: residential traffic is likely to impact the disease in the foreseeable future. Residents could employ disease control measures such as roadside sanitation to reduce risk. Another potential introduction site is "MARS" swimming hole.

Response: Humans are responsible for most of the spread of POC root disease. The disease is present along the West Fork Illinois River and the area is traveled and used frequently by local residents. Cooperation between federal agencies and the public is a challenge and can increase effectiveness of any strategy.

Comment: The Forest Service Port-Orford-Cedar strategy is poorly designed. No indication is given of how many washing stations, where they will be located, etc.

Response: The FEIS includes this information. No wash stations would be required for the Preferred Alternative 9.

Comment: Streamside Port Orford cedar will be lost through the irreversible introduction of Port Orford cedar root disease.

Response: There are no known areas where POC has been extirpated by root disease. Local effects are discussed in Chapter Four of the EIS.

Comments: With the increased concern about Port Orford cedar root disease, would it be best to leave this area free of roads, or at least discourage road travel?

Response: The lowest risk of introduction of the disease is exclusion of human activities, but even that would not eliminate the risk altogether. All of the action alternatives include mitigation to reduce the risk of disease introduction.

Comment: There are multiple problems with the vague listing of mitigation measures for the actions alternatives in the DEIS at pages 2-3 to 2-5. The proposed mitigation measure for Port-Orford cedar (POC) root disease is aimed only at "reducing the risk of introduction" and not preventing the introduction of the root diseases. In order for the term "reducing" to have any meaning the DEIS should address by what magnitude the proposed mitigation would reduce the risk of introduction .

Comment: Merely stating that all the action alternatives would increase the risk of root disease is not the same as defining what the impacts would be if the root disease was established. To understand the risk that this project presents for the Port-Orford cedar and the species dependent of them the public and decision makers should understand both the likelihood that the root disease will be introduced and the consequences if the root disease is introduced. What is the approximate likelihood that over the expected 10 year life of the proposed mining that Port-Orford cedar root disease will be introduced into the analysis area in light of the proposed activities? By what magnitude does the proposed project increase the risk of root disease introduction? What studies or scientific evidence is relied upon to support these findings? How would the aquatic and terrestrial environment and associated species within the analysis area be affected.

Comment: The Port Orford cedar issue must additionally be put into a range-wide context, in the DEIS.

Response: There are a number of techniques being employed in the management of POC which involve reducing the risk of introduction. Currently there are no restrictions on use in the area by the public. Even total human exclusion would not eliminate risk of introduction because animals have been known to spread the disease. The FEIS includes comparative discussions about the risk and prevention of the spread of POC root disease, and a more detailed POC Containment Strategy for the Preferred Alternative. The effectiveness of the proposed treatments is not precisely known and is being studied across the range of POC. A Range Wide Assessment is due to be published in June of 1999.

Comment: The SDEIS should disclose sanitation means cutting and removing all POC trees.

Response: Silvicultural texts define sanitation as “the elimination of trees that have been attacked or appear in imminent danger of attack by damaging insects or pathogens in order to prevent these agents from spreading to other trees” (Smith 1962, Daniel et al 1979).

Comment: The DEIS fails to fully address the impact Port-Orford cedar root disease would have on loss of shading for understory vegetation.

Response: The EIS discusses specific analysis area locations where Port-Orford-cedar root disease could have significant local impacts.

Comment: What would be the impacts to the aquatic resources in Rough and Ready Creek and its tributaries if Port Orford cedar root disease was introduced?

Response: If Port-Orford-cedar root disease was introduced the direct impacts to aquatic resources would be a loss of both structural diversity within portions of the Riparian Reserve, and a loss of large wood recruitment within the aquatic environment. Large living trees and large wood (in-channel) play significant roles in overall habitat complexity and thus carrying capacity of the aquatic environment. The EIS discloses the specific locations where the effects of root disease introduction are most significant.

Comment: The ten perennial tributary crossings must have a workable plan to effectively mitigate the risk of root disease spread.

Response: The EIS and Port-Orford-cedar Containment Strategy include mitigation for the spread of root disease.

BOTANICAL DIVERSITY AND SENSITIVE PLANTS

Comment: The DEIS cites Standard and Guideline MA4-10 for botanical areas- "Every effort should be made to protect botanical resources, especially sensitive plant species." But the DEIS only proposes mitigation such as road design, minimizing road development within the Botanical Area, replanting affected species and monitoring. The DEIS provides no indication that these mitigation measures will be implemented or if implemented, their effectiveness.

Response: The EIS compares the effects of alternatives with the expectation that mitigation measures are implemented (mitigation will be specifically addressed in the ROD). There is uncertainty about how well plants can be avoided, given road development and use, pit development, crossing construction and use, etc. Mitigation would include avoiding plants, however, due to the uncertainty, the analysis discloses the numbers of plant sites at risk even with the mitigation.

Comment: DEIS Page 4-12 discusses some sensitive plant species. The first paragraph refers to Arabis macdonaldiana, and mention that the Mendocino population is currently listed, but that "the populations further north are not currently considered endangered". How much degradation does it take to consider a population endangered?

Response: The Fish and Wildlife Service decides which plant species and areas are listed. As discussed in the EIS, Arabis macdonaldiana was listed as endangered in Oregon since the release of the DEIS.

Comment: The SDEIS should consider what effect the dust deposits would have on the plant populations.

Response: Impacts from dust are considered in the FEIS. Dust is not considered a significant impact, based on observations of roadside vegetation in the Rough and Ready Creek watershed and along the Wimer Road, which do not adverse effects on individual plants or habitat. Dust abatement would be required on haul routes, mine sites and the stockpile site.

Comment: Lichen communities would suffer direct and indirect impacts from this mining project. Direct effects would include the local destruction of habitat, the potential destruction of rare lichen sites, changes in local lichen communities, and impacts to local biodiversity.

Response: Rare lichens and Survey and Manage species will be avoided through project design.

Comment: Dust created by project operations, road construction, and ongoing traffic is likely to adversely affect lichen communities.

Response: Dust abatement is a required part of the plan of operations.

Comment: I do not believe the Draft EIS addressed the protection of plant associations.

Response: Plant associations are discussed in the West Fork Watershed Analysis. The EIS discloses that some habitats may be degraded in the road development and mining operations, but that no late-successional habitat would be disturbed. No plant associations would be eliminated in the project.

Comment: We believe that the NICORE mining project would have significant negative impacts on lichens communities in the Rough & Ready watershed. We think it is likely that additional rare lichen sites or undescribed species may be negatively impacted or lost as a result of the proposed mining operation.

Response: The scale of the operation is very small in relationship to lichen habitats that occur throughout the watershed, therefore it is unlikely that significant negative impacts would occur. Surveys have been conducted for the Preferred Alternative, and “Survey and Manage” lichens will not be adversely affected.

Comment: Will habitat be restored for the existing species or will the ponds introduce new species?

Response: Reclamation objectives include designing mine pits so that they do not create ponds (the pits may contain water during some times of the year). However, the presence, abundance and distribution of species that would colonize the pits is likely to be different than species that currently occupy the sites.

Comment: There are many more rare plants not listed in your DEIS because they are not sensitive. The numbers and names of these species should also be listed in this analysis and not just be kept in the Analysis File.

Response: Information most pertinent to the decision is in the EIS, with supporting documentation available in the analysis file for those who request it. The PETS plant species are those that must be addressed, based on laws and policies of the federal government. Additional information exists but is not considered necessary to be published in the EIS.

Comment: The rare endemic plants depend on the undisturbed condition.

Response: Some rare plant species actually need disturbance to thrive. For instance, herbaceous plants in this watershed are likely fire dependent. These plants need fire to compete against shrubs. Other plants are pioneers that colonize a site once it is disturbed, for example, the plants that inhabit road cuts.

Comment: What documents/research do you have that shows that Calochortus howellii can be dug up and replanted?

Response: This mitigation measure was suggested by Dr. Frank Lang, as an experiment to gather information for the future. This was in case any bulbs of Calochortus howellii were destroyed by road upgrade. This species has invaded low grade road beds and other slightly disturbed areas, so it is thought that transplanting could be successful.

Comment: DEIS statements indicate surveys or inventories on threatened, endangered, and sensitive species have not been completed for the entire analysis area. Therefore your analysis is inadequate for addressing additional impacts or the magnitude of impacted sensitive species or other rare and sensitive species found during subsequent surveys.

Comment: On page 3-5 it states that the bench road and new construction on the route to mine site "B" have not been surveyed for rare plants. Your analysis is not complete without this survey.

Comment: The DEIS is inadequate with respect to data provided about sensitive species within the area and is unclear as to whether mitigation will adequately protect botanical resources within the area. The DEIS states that the action alternatives will contribute to a trend towards Federal listing or less of viability of Calochortis howellii, Perideridia erythrorhiza, Senecio hespreius, and Streptanthus howellii. Yet the DEIS also indicates only a small portion of the analysis area has been formally surveyed. Based on the incomplete surveys, your analysis must be considered inadequate for addressing additional impacts.

Response: All necessary surveys have been completed and the FEIS reflect's their findings. Surveys have been concentrated near affected areas, according to species protocols and standard survey techniques.

Comment: We request the Draft species management guides, that currently exist for species analyzed in the DEIS, be listed individually in Appendix A, index of analysis file.

Response: These reports are listed in Appendix A in the FEIS.

Comment: There are 33 rare, threatened or endangered species in 18 plant families which are known or expected to occur in this area. This fact alone makes the Rough and Ready watershed one of the most prized botanical areas in the state.

Response: The Siskiyou National Forest has several Botanical Areas. The Siskiyou National Forest recognized the uniqueness of these areas in the Land and Resources Management Plan.

Comment: Although the various alternatives to the Proposed Action attempt to lessen the effects of the operation bottom line is that they all traverse sites of the sensitive plants and thereby pose serious threats to extremely rare plant species which may very well lead to the "Loss of viability to the population or species." To go forward with any of the action alternatives would be highly irresponsible and again contrary to current regulations regarding the protections sensitive plant species.

Response: Impacts to plants are discussed in the EIS and will be considered in the final decision. Preferred Alternative 9 does not pose significant threats to any rare plant species.

Comment: Regarding page 4-10 and 4-11; Figure 16 indicated that approximately 45 to 60 sensitive plant sites would be degraded. How many plants would that mean?

Response: The analysis displayed in Chapter Four and Appendix G of the FEIS disclose known population and habitat size for the different plant species. The numbers of plants at each site varies.

Comment: The DEIS does not discuss habitats such as *Darlingtonia fens* that are, exceedingly rare on a regional, national and global scale.

Response: *Darlingtonia californica* is not a sensitive plant but is addressed in the EIS. The habitat occupied by *Darlingtonia* is also occupied by other rare plants. As part of the Aquatic Conservation Strategy, the fens will be protected.

Comment: "*Viola prmulifolia* ssp. *occidentalis*" is a Oregon natural heritage program list 1 plant and should receive a "will impact" determination under the criteria you specify on page 18 of the BE.

Comment: The DEIS also indicates that none of the alternatives will impact any *Viola prmulifolia* SSP. *occidentalis* site included in the Draft Conservation Agreement (CA) for that species. No range-wide study has been conducted to determine the critical populations of these species for inclusion in the respective conservation strategies, and it is clearly premature to conclude that one or more populations located within the project area will not be of importance to the overall conservation strategy.

Response: Chapter Four and Appendix G in the FEIS both address the sensitive plant analysis and biological evaluation. The finding for *Viola prmulifolia* for all alternatives except Alternative 9 and No Action is "May Impact, Not Likely to Adversely Effect" (Alternative 9 and No Action would have No Impact on this plant). For all alternatives except Alternative 10, the haul route comes near (but not through) the rare plant habitat and impacts are certain to be mitigated through careful road design and avoiding off-road activity in that area. Road improvement in Alternative 10 may impact one fen where this plant grows. Final road design will most likely be able to avoid this habitat, but there remains uncertainty about potential effects.

Comment: After only a cursory two-day examination of the area, we found several rare lichen sites that were within the proposed project area, including locations for 2 species believed to be new to science. We think that additional rare lichen sites or undescribed species may be negatively impacted or lost as a result of the proposed mining operation.

Response: The Agencies are aware of your findings. Given the scale of the project in comparison to the unaffected acres of similar habitat, we do not agree that any species may be lost as a result of the proposed mining operation.

Comment: There is considerable scientific evidence that lichens are extremely sensitive to air quality. Dust created by project operations is likely to adversely effect lichen communities.

Response: Dust abatement is expected to mitigate these concerns.

Comment: On page 3-5, it states the bench road and new construction on the route to Mine Site B have not been surveyed for rare plants. Your analysis is not complete without the survey. It appears that the ore stockpile site might also have other locations that is in the original mining proposal. This would also need to be surveyed for rare plants.

Response: Surveys have since been completed. The analysis continues to be refined, with up to date findings reported in the FEIS.

Comment: The sensitive species section of the DEIS lists, Arabis mcdonaldiana, as occurring at the site but does not recognize it as a Federally listed endangered plant. This plant species was recently documented as occurring in Oregon, and location the project site represents a range extension. The species is protected throughout its range, and the produced proponents may need to develop a biological assessment and initiate consultation, per section 7 of the Endangered Species Act of 1973 [as amended].

Response: At the time the DEIS was written, Oregon was not included as part of the range for the Endangered Arabis (the plant was listed in Mendocino and Del Norte Counties in California). Arabis macdonaldiana was on the Regional Six Sensitive Plants List. It was subsequently listed as Endangered in Oregon by the time the SDEIS was written and it was discussed as such in the SDEIS and FEIS.

Comment: The Nicore EIS must also address the cumulative impacts of other reasonably foreseeable or future mining operations to A. macdonaldiana. Other known occurrences of the species are in California in the North Fork Smith Botanical Area which is also subject to proposed nickel laterite strip mining by Cal Nickel and off road and 4-wheel drive impacts.

Response: The decision will consider impacts to A. macdonaldiana. The preferred alternative would have no impact on this plant. Cumulative effects are discussed in the FEIS.

NORTHWEST FOREST PLAN/AQUATIC CONSERVATION STRATEGY

Comment: Page 4-18: The Aquatic Conservation Strategy sounds too good to be true, Has such a strategy ever successfully been implemented under similar conditions? Please document successful projects and compare these to Rough and Ready Creek conditions.

Response: The Aquatic Conservation Strategy is part of the Northwest Forest Plan and applies to all projects considered by the Forest Service and BLM within the range of the spotted owl.

Comment: The Northwest Forest Plan requires that surveys for C-3 species must be completed "prior to ground disturbing activities that will be implemented in 1999 or later." Does the FS or BLM plan to have completed the surveys for the 71 species listed as C-3 species by the time the Plan of Operations is adopted?

Response: Surveys have been completed for the Preferred Alternative with results disclosed in the FEIS.

Comment: How can the FS and BLM justify permitting any of the potential action alternatives after correctly acknowledging that none of them will meet Aquatic Conservation Strategy objectives?

Response: The FEIS discloses that none of the alternatives, including the "No Action" alternative fully meet the Aquatic Conservation Strategy objectives. These effects of implementation are available to the Decision-maker and is part of the rationale for selection of an alternative.

Comment: The admission that none of the proposed alternatives are consistent with Northwest Forest Plan requirements (and therefore the Siskiyou LRMP as amended by the Forest Plan) highlight the need to create some alternatives that would actually be legal to implement.

Response: The range of alternatives was expanded in the SDEIS and FEIS. Any alternative selected will be legal to implement.

Comment: Riparian Reserves in the DEIS (4-2) have not been mapped adequately. Unstable area beyond the standard buffer widths have not been included within riparian reserves as required by the Northwest Forest Plan ROD.

Response: No field mapping of unstable areas has taken place. An air photo review revealed no unstable areas outside of the riparian reserves mapped for the West Fork Watershed Analysis. Mine site D is not now considered an unstable area, however stability analysis would be required prior to mining the site.

Comment: There is no discussion in the DEIS of the importance of withdrawn and roadless area watershed refugia to the Aquatic Conservation Strategy.

Response: The current condition of the watershed, as evaluated in reference to the Aquatic Conservation Strategy, is discussed in the EIS. The issue of mineral withdrawal is outside the scope of this EIS.

Comment: DEIS Page 4-21, paragraph 1, clearly states "Many sensitive plant species...may be adversely affected by the alternatives." This is a direct violation of the Riparian Reserves S&G #9.

Response: The EIS discusses the Aquatic Conservation Strategy and Riparian Reserve S&Gs. Some of the road development within the Riparian Reserves is not consistent with all Standards and Guidelines or Aquatic Conservation Strategy Objectives.

Comment: The Record of Decision of the Northwest Forest Plan states that the goal of watershed analysis is to determine whether the proposed actions are consistent with the objectives of the standards and guidelines (ROD, A-7) Project specific planning is supposed to use information developed from watershed analysis (ROD, B-21) and the information from the analysis is supposed to flow into the NEPA documentation (Northwest Forest Plan ROD, A-7). Site-specific information from the Watershed Analysis has not flowed into the Nicore DEIS, as intended by the Northwest Forest Plan ROD. It remains outside the NEPA process, generally unavailable to the majority of the public.

Response: The Watershed Analysis was used to characterize the Affected Environment and is incorporated into the EIS. It has become a part of the Affected Environment section, and is therefore part of the NEPA process. The Watershed Analysis continues to be mailed to anyone who requests it and has been available electronically at the Siskiyou National Forest web site.

WILD AND SCENIC RIVER

Comment: The DEIS has incorporated the Rough and Ready Creek Wild and Scenic River eligibility assessment into the DEIS. This assessment has not undergone NEPA.

Response: The Eligibility Study process is considered an inventory and is not subject to NEPA. The Eligibility Study report contains factual information pertinent to the Nicore EIS and is incorporated by reference.

Comment: The DEIS fails to disclose the terms of the legally binding settlement agreement of the American River appeal of the Siskiyou National Forest Plan.

Response: The part of the settlement agreement relevant to this project is discussed in the EIS. In summary, the Forest Service will protect identified outstandingly remarkable values and the highest potential classification of waterways that have been found eligible for Wild and Scenic River status until such time as they are found unsuitable or are made part of the Wild and Scenic River system by Congress.

Comment: The action alternatives all violate the terms of the July 15, 1991 settlement agreement with American Rivers and Oregon Rivers Council. Because the FS has not completed the suitability study, targeted for completion in 1996, there has been no NEPA analysis on the finding of the wild and scenic river assessments. The public now has no process to contest the FS's unsubstantiated conclusions about Rough and Ready Creeks ORVs and highest potential classification.

Response: The Wild and Scenic River issue is discussed at length in the EIS and those discussions will not be repeated here. In summary, the policy of the Forest Service is to protect identified outstandingly remarkable values and the highest potential classification of waterways that have been found eligible for Wild and Scenic River Status. The highest potential classification is a finding made by the Siskiyou National Forest Supervisor based on the Eligibility Study.

Comment: While the DEIS acknowledges that the FS must manage areas eligible for Wild and Scenic River status to "Protect and where possible and enhance the outstandingly remarkable values," the DEIS does nothing to consider whether the identified ORV's will be protected or enhanced by the proposed plan.

Response: The EIS contains a description of the outstandingly remarkable values and the effects of the alternatives on these values. Effects on the Outstandingly Remarkable Values (ORV's) will be considered in the final decision.

Comment: Why is the 12th issue, Wild & Scenic river eligibility (pg 1-7) left out of the table on "effects of the alternative in terms of the issues" (pg2-16)?

Response: The Wild and Scenic River issue was inadvertently omitted from the table and is fully addressed in the FEIS.

Comment: The main stem and North Fork of Rough and Ready Creek was found eligible for Wild and Scenic River Status. Current policy requires the Forest Service to 'protect and where possible enhance these Outstandingly Remarkable Values. The Proposed Action and Alternatives may have adverse effects of the ORVs. From this it seems clear that the Forest Service would be required to not approve any of the action alternatives.

Response: The effects on Outstandingly Remarkable Values are disclosed in the EIS and will be considered in the selection of an alternative.

Comment: Building roads is going to greatly impact the free-flowing character of the river. The FS is required to protect those values which make a river eligible until the river is either designated wild/scenic or found ineligible.

Response: Road development is unlikely to impact the free-flowing character of the river. None of the alternatives would result in long term blocking of the creek. The fords in the Proposed Action would be washed out annually. Other effects on Wild and Scenic River Eligibility are discussed in Chapters Two and Four.

Comment: Page 4-5: From reading this table [fish habitat matrix of factors and indicators], it appears that any alternative other than NO ACTION would degrade all factors on the Matrix. This is unacceptable in the light of the fact that this creek is under consideration for designation a Wild and Scenic River.

Response: Please review the matrix again. The Proposed Action would degrade several (but not all) factors in the matrix. The other action alternatives degrade fewer factors. This issue will be considered in the final decision.

Comment: Pages 3-9: I read the statement about the Rough and Ready Creek's eligibility for designations a Wild and Scenic River to mean that the stream must be managed to maintain its status as potentially a Wild and Scenic River. How could this happen if the stream were mined?

Response: No alternatives propose mining of the stream. Each alternative is considered regarding its impact on Wild and Scenic River values and eligibility in the alternative comparison in Chapter Two. The Proposed Action and Alternative 7 may degrade the “scenic” classification for a segment of the creek. This issue will be considered and rationale for selected alternative is in the ROD.

Comment: Placement of temporary crossings across streams [in the Proposed Action] is to be done using washed rock. The appearance of the imported washed rock will be different than the native gravels. What value does the Forest Service place on the appearance of foreign gravels in the wild and scenic creeks of the area?

Response: The washed rock would be derived from the similar material as in the area of the crossings, but would be broken. The amount of broken rock would likely be greater than presently in the area. Over time, and especially each winter, this broken rock would be scattered and rounded, and would eventually become less noticeable.

Comment: The FS asserts that the effects of mining activity on the Illinois, a designated Wild and Scenic River, will be diluted because of the analysis area is ten miles upstream from the Illinois. Please include scientific data to address this assertion.

Response: This assertion is based on the scale of the operation in relationship to the scale of Rough and Ready Creek watershed and the Illinois River. Impacts from the project are likely to be relatively localized, and impacts to Rough and Ready Creek itself would often be difficult to discern. Further downstream, along the Illinois River, impacts to Wild and Scenic River values would be impossible to discern.

ECONOMICS

Comment: Who pays for post-mining maintenance of the roads?

Response: The roads needed for mining would be maintained by the miner. The roads would be stormproofed and closed as part of the final reclamation. The miner would pay for the final reclamation.

Comment: It is unclear from the EIS who will be paying for the operations in the analysis area.

Response: All costs except necessary Forest Service administration of the operations would be paid by the proponent.

Comment: The SDEIS should present a table showing nickel, chromium, and iron concentrations in the Rough and Ready Creek watershed and compared to locations such as Riddle, Oregon and New Caledonia.

Response: The SDEIS and FEIS contain this information in the discussions about the economic viability of the proposed project, with further information in the analysis files.

Comment: It is fool-hardy to open a low grade nickel mine at this time of a world glut in nickel production.

Response: An economic analysis considering the world nickel situation is included in the EIS.

Comment: The Draft EIS attempted to evaluate to proposed operations within the sideboards established by the claimant for the context, scale, and duration of the project. The scale of operations proposed in NICORE may not sufficiently support an economically viable operation.

Response: An economic analysis considering this issue is in the EIS.

Comment: The Forest Service states that it cannot base its analysis on the possible lack of economic viability of the mining operation (P. 4-26). If this is the case then it also can not evaluate the conditions of approval on the possible economic impacts to the applicant. Either both economic issues need to be addressed or neither.

Response: The SDEIS and FEIS address the economics of the proposal and alternatives.

Comment: I see no input on the DEIS regarding a cost/benefit analysis of the proposed mining project.

Response: The FEIS includes a cost/benefit analysis.

Comment: There is no indication that the SNF has been provided a feasibility analysis, or that the applicant has conducted a feasibility analysis.

Response: The FEIS contains an economic analysis. Alternative 9 is intended to assure the project is feasible.

Comment: The condition of approval may be costly to the applicant, just as the mining operation will be costly to the environment. Mining these sites may not be an economically viable process at this time. This is a decision the applicant must make and is one all business ventures must face. It is not the FS's job to guarantee profits for potential mining operations.

Response: The Forest Service may require mitigation aimed at protecting surface resources, however these may not materially interfere with the operation. Cost is a factor in determining “material interference.” The Forest Service Decision Maker will consider the economics of the operation in this decision.

Comment: The claimant must prove marketability: show that his smelting process will produce stainless steel, that there is an established market for the product and that the price of the product will be high enough to make the mine profitable. If a mining claim such as this one appears to be invalid, then the Department of Interior (D of I) should hold a validity hearing. The D of I should contest this claim.

Response: Marketability is an element of proving the discovery of a valuable mineral deposit, which is required to prove validity. Forest Service initiates a validity examination when a locator chooses to exert their rights, under the mining law, to gain title to a claim or they propose to conduct mining operations in areas that have been withdrawn from mineral entry. The Bureau of Land Management, U.S. Department of Interior cannot contest a claim until after a mineral examination has determined that the claim is not supported by a discovery, or a location contains an incurable defect and is within a withdrawn area. The EIS does discuss the apparent economics of the project, and that issue will be addressed in the Record of Decision.

Comment: The Forest should have the claimant provide a careful analysis of the nickel market situation at present and over the expected life of the venture

Response: The SDEIS and FEIS includes such an analysis. Nickel prices are currently low and are expected to remain at depressed levels.

EFFECTS ON RESIDENTS

Comment: I bought property particularly because it borders a National Forest. I wanted that land because it's quiet, and because I knew it would be protected.

Response: Effects on residents, specifically related to noise, is discussed in the EIS. The assumption that land bordering a National Forest will always be quiet is not based in fact. Several types of operations that make noise are permissible on National Forest.

Comment: The ambient noise level needs to be measured at the nearby residences.

Response: The noise issue was examined in detailed and mitigation measures for each alternative have been designed to ensure compliance with the applicable noise regulations. Monitoring will show how well the operation meets state regulations.

Comment: We feel we should not have to listen to his trucks and excavation equipment much earlier than 6:00 AM and no later than 6:00 PM. We also demand that USFS put limits on the noise levels from the NICORE operation which propagate into our immediate area.

Response: Mitigation discussed in Chapter Two of the EIS restricts operations to between 7 am and 7 pm. Noise limits are established through state law.

Comment: We demand that a team of certified acoustical & bio-acoustical experts in these fields be commissioned to create an acoustical attenuation map of the area surrounding the proposed mining, haul route, stockpile area, and any other place that any type of noise generating will be located or driven.

Response: This type of map is not necessary to determine whether the project can meet laws related to noise. The operator will be responsible for meeting all laws. Monitoring noise levels is part of the plan shown in the EIS.

Comment: I don't think its reasonable to ask the residents along their private road to become a commercial byway.

Response: The EIS discusses that the residents ultimately control the private road and the Forest Service cannot require that they provide access for ore haul. The use of the private road would eliminate the need for at least one crossing of Rough and Ready Creek and would reduce the need for new road construction.

Comment: The proposed new road in Alt 4 is less than ½ mile from the church camp. NICORE's plan should be modified to eliminate Site C because this would reduce noise pollution experienced by the church camp as well as for other reasons.

Response: Noise pollution is expected to be within acceptable limits as defined by Oregon law (see FEIS discussion about noise impacts).

Comment: The quarter-mile limit for addressing impacts to property owners is arbitrary (4-16) . The cursory treatment of impacts under social settings must be expanded to address the real concerns and the extent of the impacts to the property owners in the O'Brien and Cave Junction area in the revised DEIS.

Response: The section regarding impacts to residents is based on professional judgement and is appropriate for the scope of the activity proposed.

Comment: The idea that property values would increase with the mine is a complete misconception.

Response: The EIS discloses that property values are not expected to be significantly affected by the proposed operation.

Comment: The DEIS goes into little detail on property values on p.4-27.

Response: The SDEIS and FEIS provide further information about potential effects on property values.

Comment: Quality of life, like peace and solitude, is why people live in Illinois Valley. This needs to be considered in any property value study.

Response: These concerns are discussed in the EIS. They may determine whether someone buys property in a particular area.

Comment: The beneficial effects of road improvement were mentioned as potential to increase property values, but no mention was made of the loss of solitude, quiet, clean water and pristine beauty. Property values could go down in spite of the road improvement because of the mining operation.

Response: The property values discussion in the FEIS addresses these issues.

Comment: Mr Freeman be required as a precondition to starting his mining operations pay for three independent appraisals of private land values so that baselines can be established for value comparison.

Response: A baseline for property values has been established using data from the Josephine County Assessor's Office.

VISUAL QUALITY, RECREATION, INTERPRETIVE DEVELOPMENT

Comment: Page 4-17: Under "Recreation" what does "User Conflict" mean? Wouldn't it be better closed off entirely to the public?

Response: The Proposed Action does not include restrictions on access to the general public (non-mining traffic). This would potentially create safety hazards and conflicts between those using the road for mining and those for other uses. Other alternatives would close the roads to motorized vehicles, but hiking, biking, and horsebackriding could still occur. There is a potential for conflicts between people engaged in these activities and the mining operations. Alternative 9 includes a closure during helicopter operations. Similar closures are routinely part of air operations during logging and firefighting activities.

Comment: NICORE project will hurt tourism. Some of best things in Illinois Valley are scenic beauty, solitude, and amazing diversity.

Response: Potential effects on tourism are discussed in the FEIS under the Visual Quality, Recreation and Interpretive Development issue.

Comment: Recreation Department (OPRD) is concerned that additional truck traffic due to mining access near Rough and Ready State Natural Area will result in further deterioration of the site.

1. As a natural interpretive site, the truck traffic associated with a mining operation could be quite disruptive from both a site and noise perspective . We request that the number of truck trips per day be limited and that scheduling of these trips be tightly controlled through your permit process. We recommend that truck trips be limited to weekdays, only.

2. Dust associated with both the truck traffic and overall mining activity could have negative effects of the highway traffic, recreational users of the site and the health of the plants in areas where dust would fall Dust abatement should be strictly monitored and controlled.

3. Proposed stockpiles could significantly detract from the beauty and interpretive potential of the site. We propose that the piles be very low profile, used for short term storage only , be located well away from the creek, and be covered with either earthtone colored tarps or vegetation.

4. Overall visual effects of the operation should be considered from the highway, the OPRD Natural Site and from other vantage points and corridors.

Response: These concerns are addressed in Chapter Two within the section on mitigation and Chapter Four on Visual Quality, Recreation and Interpretive Development. A stockpile site that is away from view from the highway and Botanical Wayside is part of all action alternatives to the Proposed Action.

ROADLESS CHARACTER

Comment: How would the proposed road development and use affect the potential for portions of the analysis area to be designated wilderness? What are the current management standards for the inventoried roadless area and how are any of the proposed action alternatives consistent with this standard?

Response: Road development and use could affect the potential wilderness character of portions of the analysis area (see Roadless Character issue). Congress could designate the area as part of the National Wilderness System regardless of alternative. There are no current management standards that apply specifically to the South Kalmiopsis Roadless Area; rather, there are standards for the management allocations within the area.

Comment: The roadless character analysis fails to address the spiritual value of the area as it currently exists.

Response: Spiritual values are difficult to describe or resolve because they are specific to individuals and vary widely. The EIS states that roadless areas are valued for the lack of human intrusion and opportunities for solitude. These are spiritual values. The West Fork Watershed Analysis (incorporated by reference into this EIS and available in the analysis file) invited people to address the question: Why Rough and Ready Creek Watershed is Important to Me.” Most respondents identified personal or spiritual values they associate with the area.

Comment: How would the proposed road development and use affect the potential for portions of the analysis area to be designated wilderness? What are the current management standards for the inventoried roadless area and how are any of the proposed action alternatives consistent with this standard?

Response: Many standards and guidelines apply are associated with the various federal land allocations present in the project area. These are discussed at length in the EIS. The FEIS discussion of roadless areas discloses that road development and use would degrade the roadless character in the area, but is unlikely to diminish the area's wilderness potential. Congress could (and has) create a Wilderness or other special designation for an area regardless of the presence of a mining road or mining activity.

Comment: This analysis does not address the impacts to recreational and ecological values, nor the overall impact to the wilderness character, potential and values of the South Kalmiopsis.

Response: Effects on recreational values are discussed in Chapter Four, under the issue titled "Visual Quality, Recreation and Interpretive Development." Ecological values are discussed throughout Chapter Four, in the sections regarding Soil Productivity, Slope Stability and Erosion, Stream Flow and Water Temperature, PETS Fish Species, Port-Orford-cedar, Noxious Weeds, Botanical Diversity, Aquatic Conservation Strategy Objectives, and elsewhere. Wilderness character is similar to Roadless Character, which is also discussed. The FEIS has been expanded to discuss the wilderness potential of the area.

Comment: The DEIS should include a map of the eastern portion of the South Kalmiopsis Roadless Area.

Response: The portion of the South Kalmiopsis that is within the project area is clearly depicted on the maps. The rest of the area is unlikely to be affected by the project.

Comment: With Chief Dombeck stating it is unwise to allow extractive practices in roadless areas, it would seem this mining would be very contradictory.

Response: The range of alternatives include the "No Action" alternative and Alternative 9, neither of which would have significant effects on the roadless character of the area.

Comment: No road construction or reconstruction should be allowed in the fragile South Kalmiopsis Roadless Area.

Response: The analysis has addressed roadless character as an issue with a range of alternatives.

Comment: Preserving its unique scenic beauty, rare plants, and the wilderness character of the South Kalmiopsis Roadless Area are far more important to me than the nickel ore.

Response: Your comments have been considered and the rationale for the decision will be in the Record of Decision.

AIR QUALITY

Comment: The DEIS states that "none of the alternatives would have significant impacts on air quality." DEIS at p.4-25. Outside of a passing reference to dust abatement, absolutely no support or analysis is given for the bold statement.

Response: Further details are in the FEIS Chapter Four, Air Quality Effects.

Comment: A new smelter would be subject to new source performance standards (NSPS). Nickel and some metals likely to be contaminants in the ore are hazardous air pollutants which must be controlled as required by the Clean Air Act.

Response: As discussed in the EIS, a new smelter has not been proposed nor analyzed.

Comment: A mine associated transport, and the smelting operation would have an adverse impact on visibility and regional haze. As EPA finalizes the new regional haze rules, the impact of this proposed mine must comply with those requirements.

Response: The operator would be responsible for meeting all laws and regulations that apply to the project.

Comment: Please address the requirement under the Clean Air Act pertaining to the increase in vehicular traffic into the area as well as the potential smelter operation.

Response: Traffic is not expected to increase beyond levels already experienced in the area with past logging, mining exploration, residential development, and the mill and airport. Dust abatement is an important part of the mitigation required to maintain good air quality. An air quality monitoring station has been placed at the airport and would register any anomalies. No smelter has been identified and none analyzed.

Comment: There is no indication in the EIS that monitoring has been done to determine the pre-mine impacts so they can be compared with the emissions expected upon commencement of this operation.

Response: An air quality monitoring station has recently been installed near the project area. Comparative data will be available and is discussed in the Monitoring section of Chapter Two of the FEIS.

OTHER QUESTIONS

Comment: How can we justify destroying the environment for the sole benefit of a private corporation and never see the land restored?

Response: Nothing in the EIS suggests that the “environment” would “be destroyed” as a result of this project. Nor is there evidence to suggest that the land would never be restored following mining. The laws, regulations, policies, and plans discussed in Chapter One provide the basis for the decision making regarding this plan of operations.

Comment: The DEIS inadequately discusses the effects of the Nicore mine in relation to past, present, and future mining and related activities in the Rough and Ready watershed. In particular, present and future mining and related activities in the Rough and Ready watershed. In particular, there is a absence of discussion of the potential scope of the Nicore project over time, and the extent of the patent for which Nicore has applied.

Response: These discussions are included in the EIS in the sections on project history, Affected Environment, and the Environmental Consequences. The EIS discloses that Nicore has applied for a patent, but goes on to explain that the patent application is beyond the scope of this EIS. The Chapter Three map of known laterite deposits is used as the basis for cumulative effects analysis.

Comment: The NICORE EIS should be withdrawn and replaced with an adequate analysis. Develop data which discloses the abundance, location and surface coverage of mining claims on Federal land within the analysis area and areas affecting the analysis area. Petition the EPA to direct state-delegated authorities to prohibit all new or additional pollution discharges from mineral mining operations into waters on Federal land. Withdraw from mineral entry and exploration all roadless areas, areas of ecological significance, and riparian conservation areas in and surrounding the analysis area, subject to valid and existing rights.

Response: The abundance, location, and surface coverage of mining claims with known nickel content are mapped and evaluated through the cumulative effects. Changing state actions are outside the scope of this analysis. Mineral withdrawal is addressed in the SDEIS and FEIS as outside the scope of this analysis.

Comment: The DEIS fails to consider the large number of existing mining claims and to evaluate mineral mining in a cluster analysis.

Response: Mining claims may exist for years without any activity (other than annual assessment work) or significant surface disturbance. It would be more appropriate to consider the number of claims with active operations within the watershed. No other Plans of Operations are approved in the analysis area. Cluster analysis is generally used to classify individuals (e.g. medical cases, plants, etc) into groups or communities, and variation within them. It is unclear how cluster analysis relates to mining claims and “mineral” mining, particularly since no variables were identified. This type of multi-variate statistical analysis is not needed to make a reasoned and informed decision.

Comment: A detailed and readable map of the existing network of all roads should be included in a supplemental DEIS. All roads including Forest Service, BLM, and private roads, should be included regardless of whether the roads are maintained, abandoned or otherwise in disrepair.

Response: The maps show all roads that could be part of the project. The existing condition map shows the inventoried roads on federal lands. A detailed road log, describing the condition of the roads, is in the Analysis Files. Forest Service Road Management Objectives are summarized in the EIS and discussed in more detail in the Analysis Files.

Comment: The DEIS needs to explain further the existence and reclamation of the roads.

Response: Most of the roads west of Highway 199 in the project area were built to sample the nickel laterite. Notable exceptions include residential roads on private land, and the McGrew Trail and Wimer Roads were part of a wagon route between the coast and the Rogue Valley. The FEIS includes discussion about the need for stormproofing and closure of identified roads in the area, and reclamation discussed in Chapter Two of the EIS includes rehabilitation of the haul route.

Comment: The DEIS needs to study the legality of the existing roads.

Response: This question is addressed in the EIS, noting that the mining roads were likely constructed with little Forest Service oversight, that documents about the original road construction are not available, and that no evidence that the roads were built illegally exists. Roads on the National Forest belong to the US Government unless a right-of-way or right of ownership has been given to others.

Comment: There is more disturbance than indicated if you consider the road construction widths and your plan does not address restoring roads.

Response: The SDEIS and FEIS include specific discussions about road construction widths and reclamation of roads.

Comment: The DEIS indicates 35 acres will be mined over a 10-year period but the acreage does not include haul routes, stream crossings, rock and gravel pits and stockpile areas.

Response: Estimates of total areas of disturbance (including the mine sites, haul routes, and stockpile site) are in the SDEIS and FEIS.

Comment: The DEIS does not indicate how many miles of existing and new road will be insloped by alternative. It does not display the effect of in-sloping on stream flow or sediment delivery, and it does not address the effect of increased stream flow and sediment deposition on the *Arabis macdonaldiana* occupying alluvial flats and gravel bars down stream.

Response: Page 16 of the DEIS stated that all roads would be outsloped except on flats and the road to Site B. The section of road to Site B to be insloped is the portion on the hillside which is about 3/4 mile in length. Alternatives using this road section are the Proposed Action, 6, 7, 8, and 11. Culverts would be placed approximately where there are existing cross ditches and waterbars, so the stream flow would not have much change, and therefore would have little effect on *Arabis macdonaldiana*.

Comment: The concept of bridges ought to be further explained in order to understand the potential pollution they propose.

Response: Temporary bridges are not risk-free in introducing pollution to the site. The installation will require heavy equipment to place temporary bridges each season, and then to lift each end while supports are placed under the bridge. Travel on bridges will deposit grease and oil on the deck which may eventually allow some to get into the water (this would be a reduction of petroleum products that could get into the stream if there were no bridge). Removal of temporary bridges will also require a cat or crane at the site to move the bridge and end supports. Some grease and oil on the bridge deck will most likely be washed off during the winter at the storage site.

Comment: The EIS also fails to describe the existing road density in the project area and the impacts on the water quality, as well as wildlife, the existing roads are having.

Response: Existing road density is addressed in the Fish Habitat Matrix of Factors and Indicators in Chapter Three and effects are discussed in a similar chart in Chapter Four. The existing and predicted road density does not have a significant adverse effect on wildlife within the area.

Comment: Cumulative effects analysis is inadequate: Pg 3-4--amount of past sediment is unknown; pg 4-4--no other activities are known but pg 4-26 says development of hundreds of additional acres is planned; pg 4-7--effects of past activities on fish are unknown; pg 4-15--future mining is likely to have further impacts.

Response: The cumulative effects section has been expanded to include more detail both in the SDEIS and the FEIS.

Comment: We request that the DEIS present the complete results of the chemical analysis of the samples recently gathered by the BLM from the Queen of Bronze mine drainage waters.

Response: The Queen of Bronze mine is located in a sulfide deposit, these conditions are not met in the Rough and Ready area and as such the information would not be helpful in comparing alternatives.

Comment: The effect of dust on plants, animals and the environment requires a detailed analysis. Since several methods of dust abatement may be approved, the impacts of all methods being considered must be discussed within the DEIS.

Response: Dust abatement is expected to reduce impacts. Water is considered the most likely method and is analyzed in the EIS. If the miner requests another method, appropriate analysis will be completed.

Comment: Rough and Ready Creek could have harlequin duck habitat. Has this watershed been surveyed for harlequin ducks?

Response: The watershed has not been surveyed for harlequin ducks. A review of the Siskiyou National Forest wildlife observations data base does not reveal any harlequin duck observations on Rough and Ready Creek watershed and the species was not seen during the 1991 and 1994 stream surveys of the watershed.

Comment: The DEIS fails to identify the amount of existing and potential Federal land mineral mining. Consequently the environmental social and economic impacts of changes in Federal land uses attributes to the NICORE POO, including the number of recreation and tourism jobs at risk compared to the number of jobs produced by the NICORE mine.

Response: The analysis does discuss the potential cumulative effects of mining. No impacts to recreation and tourism jobs are at risk. However, the effects of implementation on recreation are displayed.

Comment: The Forest should request that the claimant demonstrate how the experimental direct reduction technology provides NICORE with a comparative advantage likely to last before others in the industry adopt the favorable technology.

Response: That is beyond the scope of the FEIS. The ability to maintain proprietary confidentiality is speculative.

Comment: The issue of sanitary waste facilities at the mine site was not addressed.

Response: State law requires providing latrine facilities at all locations where people are working (this may be included in Oregon DEQ Water Pollution Control Facility Permit). Page 22 of the SDEIS in “4” states that “All refuse would be regularly removed from federal land.” This would include latrine wastes.

Comment: The issue of fire hazard was given only a cursory examination. The increased access associated with the action alternatives is only likely to increase the fire hazard.

Response: The effects of implementation have been updated to include those effects.

Comment: The DEIS mentions the Mendenhall fire on page 3-8, a fuller explanation of this event and its relation to proposed and historic mining in the area is necessary.

Response: The Mendenhall Fire event itself is not related to proposed or historic mining and is more fully discussed in the West Fork Watershed Analysis (which has been incorporated into this EIS). In suppressing the 1994 fire, the Forest Service constructed a fireline. Under several of the Nicore Alternatives, the fireline itself would be improved (road construction) to accommodate ore haul.

Comment: The Surface Use Determination (SUD) report raises many issues and questions not addressed in the DEIS.

Response: The Surface Use Determination has been published as Appendix C. The issues and questions raised are a part of the analysis and are part of the basis for development of Alternative 9.

Comment: The discussion of irretrievable commitment of resources in the DEIS failed to include the permanent change in biotic communities associated with disturbance with the project, even after reclamation is conducted.

Response: No permanent changes in the overall biotic community is predicted to result with the proposed disturbance/project. Change in the number of individuals and or groups of individuals that occupy the disturbance sites is expected, even after reclamation is conducted.

Comment: I believe you made a mistake when you wrote the DEIS. Your overall scope was to small, giving the impression to many people that the Rough and Ready Creek drainage is a very small, geologically and biologically unique area. The fact is the peridotite sheet is huge, 350,000 acres or more, all of which is similar biologically.

Response: The EIS provides many discussions about the scale of the operation relative to the amount of peridotite habitat. The Rough and Ready Watershed contains habitat, particularly in the lower reaches, which is recognized as unique to this region.

Comment: The maps in the Draft EIS do not indicate the topography.

Response: A topographic map has been included in the FEIS.

Comment: The DEIS fails to consider the effects of mineral mining on the economic and social contributions of recreational opportunities.

Response: This is discussed in Chapter Four of the EIS, under the Issue: Visual Quality, Recreation and Interpretive Development and in the Economic Analysis.

Comment: One persistent problem throughout the DEIS were the vague references to various analysis files without citing any specific page numbers in those analysis files or providing any summary of the information being referred to in those files.

Response: Analysis file information will be summarized in the FEIS when referenced.

Comment: The probable future impacts of road development are significant and need to be acknowledged in the DEIS. Increased infrastructure, especially roads, changes the level and use of an area.

Response: Increased infrastructure indeed may change the level and use of an area. This is discussed in the EIS (see Effects on Recreation, Residents, and Roadless Character). The mitigation discussed for this project make it unlikely that use would be increased, since bridges would be removed during periods of non-operation and roads would be gated during periods of operation. The roads will likely be closed once they are no longer needed for mining.

Comment: The section in the DEIS on the social setting (3-7) has failed to discuss the educational, scientific and amenity values of the Rough and Ready Creek area. This section of the DEIS must be expanded to reflect the breadth and depth of the social issues regarding the Nicore Proposal.

Response: These issues have been discussed throughout the documents incorporated into the EIS, including the Wild and Scenic River study and the West Fork Watershed Analysis. The FEIS has been expanded to summarize these discussions.

Comment: Figure 1, on the DEIS does not show Rough and Ready creek. Throughout the DEIS the Wing and Farren ditch is misspelled (not Ferren).

Response: This misspelling has been corrected in the EIS. Rough and Ready Creek is named on maps in the FEIS.

Comment: The SDEIS should include an itemized list for the entire Rough and Ready Creek watershed of all mining sites including their area, depth, age, and reclamation method and results. A map should also be presented in the SDEIS showing each of those mined sites.

Response: Extensive mineral sampling has occurred throughout the watershed. The recovery/revegetation of these sites varies. These facts are disclosed in the EIS. An itemized list is not needed to differentiate between alternatives or disclose environmental effects.

Comment: The DEIS fails to evaluate the demand for, and thus, the value of preservation of natural landscapes, compared to the contribution of the Nicore Mine and other existing and potential mineral mining in the analysis area.

Response: Several issues address this subject, including wild and scenic river eligibility, visual quality, recreation, and interpretive development, and roadless character. The effects are displayed in Chapter Four.

Comment: The DEIS fails to mention, let alone identify, the number of potential mining claims in the analysis area and surrounding areas.

Response: The EIS addresses this in Chapter One, in the section titled The Analysis Area, and in other descriptions of the existing condition.

Comment: The cost of Road Development and estimated to be between \$527,030 and \$625, 560 depending upon which action alternative is looked at. That is a high price for the American Public to pay for the potential destruction of a pristine area that is widely know for its botanical diversity and number of rare plants, and was found eligible for inclusion into the National and Scenic River System, five short years ago.

Response: The American Public will not pay for the costs of road development related to mining.

Comment: The DEIS does not list any biologists or zoologists involved in the preparation of the EIS; why not?

Response: The Lead Biologist on this project was inadvertently left off the list. The FEIS lists all of the biologists involved in the project.

Comment: There should have been a date on the document. I have no idea what month it was put out.

Response: A date (month/year) is on the first page (abstract) of the FEIS.

Comment: The legend map of figure 2A shows items with very poor to no contrast.

Response: The maps have been improved in the FEIS.

Comment: The map on Figure 2 shows the proposed locations of the stockpile, but the other maps for other alternatives do not show their proposed locations for the stockpile.

Response: This has been added to the SDEIS and FEIS.

Comment: EPA believes that the alternatives analysis here is very limited and does not accomplish the purpose of the Council on Environmental Quality's (CEDE) NEPA regulations 40 CFR Part Specifically, we believe that more information needs to be gathered in order to generate alternatives that truly present options that would have a range that impacts on the environment. The following should be addressed in the final EIS:

- 1) Possible locations for siting of an alternate stock pile.*
- 2) A fuel storage, transportation plan and a spill plan.*
- 3) Mitigation plans for the ore stockpiling site.*
- 4) Various approaches to mine site development*
- 5) A detailed description of water uses on site and any potential discharges.*
- 6) Alternative access routes to the mine site.*

Response: These have been added to the FEIS.

Comment: I believe that the DEIS did not adequately address fueling on the National Forest.

Response: As discussed in the EIS, for the Proposed Action and full mining alternatives, fuel would most likely be taken to the sites in pickups or small trucks and pumped to equipment as needed. For the Sampling Alternative 9, fuel would be transported in containers via helicopter. For all action alternatives, spills are possible. The proponent will be required to submit a spill plan, which will include clean-up procedures.

Comment: According to Ramp it is clear that the total ore reserves are much greater than suggested in the DEIS.

Response: Ramp's work was used as the basis for cumulative effects analysis.

Comment: The details given in DEIS are much too sketchy for evaluation and seem to be conservative in regards to ore reserves and time required to open pit the ore bodies.

Response: The analysis is based on the plan of operations submitted which only alludes to development of 35 acres.

Comment: Alternatives should include analysis of the amount of time ore would be stockpiled. This may be connected with the economics for the proposal. If the miner is waiting for a time when he can process the ore and this not in the foreseeable future, the 5-10 acre stockpile site could be occupied for a very long time.

Response: The action alternatives require completion within a 10 year period, except for Alternative 9, which would require completion within 5 years. The reclamation plan would require reclamation of the stockpile site upon completion. In addition, no more than 40,000 tons of ore would be stockpiled at one time.

Comment: Monument information from the National Geodetic Survey (NGS) data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affecting the proposed project. If there are any planned activities which will disturb or destroy survey monuments, the NGS requires not less than 90 days notification in advance of such activities in order to plan for the relocation.

Response: No monument sites are likely to be affected.

Comment: Your office could produce a more meaningful analysis if you would give the reader some idea of the relative scale of the impact of the project compared to the environment as a whole and other impacts. For instance: from a geographic and geologic perspective, there are about 500 square miles or approximately 320,000 acres of ultramafic terrain in the Klamath Range; Nicore is proposing to disturb 35 of the acres.

Response: The EIS endeavors to share analysis of the impacts at a variety of scales. Some of the impacts appear less significant when viewed at a larger scale (35 acres in relationship to 320,000). However, some impacts would not be meaningful discussed at a larger scale, but are significant to a local area or situation (such as potential water temperature increases at ford sites).

Comment: No comprehensive study of the biological resources of the area yet exists. The capacity of the plants and animals to survive on serpentine soils has not been fully examined.

Response: Studies regarding serpentine habitats have been completed as part of Forest Planning and Watershed Analysis across this type of terrain. Areas have been allocated for protection of biological resources. The analysis in the EIS incorporates these studies and discusses how the project meets the Standards and Guidelines specific to land allocations in the analysis area.

Comment: It appears to me, in reading the Draft Environmental Impact Statement, that the drainage below mining site B in the Woodbury Creek into the west fork in not being considered.

Response: Woodbury Creek is specifically mentioned in the SDEIS and FEIS and in the Physical Scientist's Report in the analysis file.

Comment: If NICORE expands in the future, how is the public included in these alterations and expansions of operations on their public land if the final EIS does not allow further public comment in the future?

Response: Changes to any approved plan of operations (beyond what is disclosed as the decision in the Record of Decision) would be subject to further analysis and documentation (level of documentation depends on the nature of the change).

Comment: The statement that Naue Way and Airport Drive receive frequent use by heavy trucks and equipment is questionable and needs to be referenced and qualified.

Response: No studies have been done to determine the use of these roads by trucks and equipment. The level of residential, agricultural, and small woodlot development in the area would indicate that trucks and equipment are a common, if not frequent, sight on these roads.

Comment: The scope of the analysis area has been artificially and incorrectly confined to only about 15,000 acres of the 23,000 acre watershed.

Response: The "effects analysis" area varies depending on the resource being studied. In many cases, enlarging the area would artificially reduce the impacts (percentage of affected area would become smaller). The area shown on the maps covers the areas where direct impacts would occur.

Comment: The Rough and Ready Creek watershed should be closely surveyed for archaeological sites and artifacts. We have heard from three people that they have seen artifacts in the area.

Comment: The DEIS does not address the historic trails.

Response: The area was surveyed for cultural resources. Cultural resources are discussed in Chapter Four. No cultural sites were found in areas that could be impacted by the project.

Comment: The SDEIS should include an analysis by a qualified Industrial Hygienist of the effects on human health of the dust, water quality degradation, and sound from the mining operations.

Response: Analysis is included on dust, water quality, and noise, among other items. An Industrial Hygienist is not considered necessary to understand or mitigate impacts.

Comment: The miner should be required to conduct a industrial hygiene study of it's mining practices, fuel storage, and use of mining chemicals.

Response: All legal requirements (including Mine Safety and Health Act standards) will be met as a condition of the Plan of Operations. No mining chemicals are proposed for use.

Comment: The DEIS fails to analyze the economic and social effects of restricted access to public land related to the Nicore POO and other existing and potential mineral claims and operations.

Response: Access is currently limited by private land, road conditions, and unmaintained stream crossings. No additional economic or social effects of restricted access are expected. Potential conflicts between users of the area are discussed in Chapter Four.

Comment: The DEIS fails to analyze the historical and potential impacts of Siskiyou National Forest and BLM mining operations which are not subject to a plan of operations approved in advance of operation in the analysis area and surrounding area.

Response: Any operation that is not subject to plan of operations approval would be covered under a Notice of Intent. By definition, an activity covered under a Notice of Intent is not expected to result in any significant disturbance of surface resources.

Comment: The following is an expanded description of the principle physical impacts of mining related to the factors above, which must be considered in the Nicore DEIS, mining waste, acid drainage, metals and dissolved pollutants, transportation storm water, ground water quality, site stability, and soils.

Response: These issues are addressed in Chapter Four of the SDEIS and FEIS.

Comment: The DEIS also fails to consider the multiple factors related to mineral mining which could have wide-scale effects individually and collectively. The DEIS also fundamentally errs by not analyzing the individual and cumulative effects of small scale mining operations.

Response: Direct, indirect and cumulative effects are discussed throughout Chapter Four.

Comment: Why is there not a soil scientist among the list of preparers? There are issues associated with soil chemical and physical changed that should be addressed by a qualified soil scientist. The "Affected Environment" and "Environmental Consequences" section are seriously deficient in discussion of the soil resource.

Response: The discussions related to the physical environment were expanded in the SDEIS. The list of preparers includes specialists skilled in geology, hydrology and soil science.

Comment: We must take in consideration that the reason there are still old roads in this area is because the vegetation growth of a serpentine area is so painfully slow.

Response: The EIS discloses that plants grow slowly in many parts of the analysis area, that complete restoration of vegetation is not expected in the short term, and that roads are likely to remain evident on the landscape for centuries and may be considered an irreversible commitment.

Comment: DEIS is fine document identifying the outstanding and remarkable natural values of Rough and Ready Creek. It also clearly points out the adverse consequences of mining laterite within this watershed.

Response: These considerations will be explored, and the rationale for the selected alternative will be in the Record of Decision.

Comment: We appreciate the very readable quality of the DEIS and especially the excellent maps.

Response: The EIS Team appreciates your comment, and has continued to strive to improve the document and the maps.

SDEIS COMMENTS AND RESPONSES

LAWS AND POLICIES

Comment: The summary of the 1872 mining law states that “all valuable mineral deposits in lands belonging to the United States are to be free and open to exploration.” This summary needs to show how this law actually requires the FS/BLM to grant a patent to mine. Also, exploration is to be allowed only for all valuable mineral deposits. There is considerable doubt as to whether or not these nickel deposits are valuable, thus precluding even exploration. Since nickel exploration has occurred since World War II, but have not resulted in actual mining, it would appear that these deposits are not valuable.

Response: The patent process is not addressed in the EIS and is not a part of the proposed action. An economic analysis is included in the EIS.

Comment: The “Decisions to Be Made” section incorrectly fails to state that the Responsible Officials may also decide that the “No Action” alternative is the in the best public interest. It also needs to state why the alternative is to be included if it is not be considered, which would generally be a violation of NEPA and administrative law.

Response: The No Action alternative is within the range of alternatives to be considered by the decisionmakers.

Comment: The Project History section needs to outline the required steps taken by the applicant which gives him whatever “rights” he has under the 1872 mining law.

Response: Under 30 USC Section 26 , a locator “shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations, and of all veins, lodes, and ledges throughout their entire depth,...”. The locator’s rights are subject to the Surface Use Regulations of the US Forest Service (36 CFR 228) and the Bureau of Land Management (43 CFR 3809).

Comment: Mr. Freeman has rights to use this particular access route to service his claims under the 1872 Mining Law. A 1959 Solicitor’s Opinion held that roads built by miners without the grant of an express right-of-way were “roads constructed under clearly implied statutory authority as way of necessity.” This particular access route built by Mr. Freeman’s predecessors for the purpose of accessing the same mining claims cannot be denied. Mr. Freeman also has rights to access his claims by means of the existing roads pursuant to the Alaska National Interests Conservation Act.

Response: Public highways cannot be claimed on National Forest Lands after it has been removed from the public domain. ANILCA applies only to private inholdings and does not apply to mining.

Comment: The first mitigation listed states that all necessary permits would be obtained, and lists several state permits that may be required (page 21). Proper permitting should be a prerequisite to operations rather than a mitigation.

Response: Proper permitting is a prerequisite to operations. The State and other permitting agencies are responsible to administer and enforce regulatory requirements within their jurisdiction.

Comment: There is no legal authority for the statement: A mineral discovery is assumed valid until proven otherwise.

Response: This statement appears in the SDEIS on page 18. It is incorrect and has been corrected in the FEIS to read: “A mining claim is assumed to be valid until proven otherwise.” Once a claim is located the courts have held that the locator may continue to work to develop his claim and confers upon him a possessory right against all other locators. The Forest Service does not initiate a mineral examination until the locator proposes to conduct mining operations within an area that has been withdrawn from the mining laws or applies for patent.

Comment: Since the miner has not submitted a plan of operation that meets requirements of the Forest Service’s mining regulations and that provides the information necessary for the Forest Service to prepare and EIS that complies with NEPA, the Forest Service must suspend analysis of the Nicore mine until the needed information is provided.

Comment: Under NEPA, ore processing is clearly a connected action and therefore must be fully addressed in the Nicore SDEIS. Mineral resources are not mined to be stockpiled. Processing or smelting is a direct, connected, and cumulative outcome. If smelting does not occur, there is no need to remove the ore.

Response: The Nicore EIS complies with NEPA. It states that the ore processing facility has not been identified, however no Plan of Operations would be approved until the site is identified and any needed analysis is completed. The miner has stated that he needs a decision from the FS and BLM regarding selected alternative in the EIS before he can arrange for a processing facility.

Comment: Botanical Diversity/Sensitive and Endangered Plants, Aquatic Conservation Strategy, and Riparian Reserve Standards and Guidelines, Wild and Scenic River Eligibility. All of these designation were put in place subsequent to the submission of the Plan of Operations and cannot legally restrict access to the ore-body, unless the federal government chooses to pay just compensation for the loss of Mr. Freeman’s rights.

Response: These issues are related to effects of the Plan of Operation, and have been used to develop alternatives to reduce impacts on the land. They help characterize the ecological conditions and concerns in the area. Indeed, Forest Service standards continue to become more restrictive over time. No law, regulation, or policy provides unrestricted access to a miner holding a claim, however, the Forest Service is required to minimize environmental impacts.

Comment: Nicore must disclose it’s proprietary process to a panel of certified metallurgical experts in order to demonstrate that this process can indeed magically produce marketable stainless steel directly from the low grade ore present in this area.

Response: There is no legal requirement of this nature.

MERITS OF THE ALTERNATIVES CONSIDERED

Comment: Although not stated in the EIS, an underlying Purpose and Need for this project is to mine nickel ore to supply a nickel demand. If there is insufficient demand, the need for the project is low and must be weighed against the environmental costs to this biologically diverse area. We believe the economic viability of the project and the need for the project must be ascertained and presented to the public before a decision to allow the mine to proceed. Therefore, in light of the uncertain economic viability of this project, the preferred alternative 9 is a reasonable and cautious approach if the laws, regulations and policies governing the development of a mining claim truly prohibit the FS and BLM from denying outright the plan of operations. We [EPA] prefer No Action, but support the preferred alternative if the FS and BLM give rationale on why they cannot select No Action.

Comment: Alternative 9 is the best of the action alternatives because it would have the least impact.

Comment: If the decision is to allow the claimant his right to mine, the only acceptable action would be Alternative 9.

Comment: The only alternative that does not impact Rough and Ready Creek's outstanding values are the no action and Alternative 9 (if equipment was required to be flown in).

Comment: The Proposed Action is unacceptable to me. The adverse environmental impacts are adequately described in the SDEIS and are the reasons I oppose the Proposed Action.

Comment: Alternative 6 is unacceptable to me because of the new road construction and reconstruction within a roadless area.

Comment: Alternative 7 is unacceptable to me because of the new road construction and reconstruction within a roadless area. I also object to the irretrievable and irreparable commitment of resources associated with bench road construction.

Comment: Alternative 8 is unacceptable to me because of the new road construction and reconstruction within a roadless area, and the bench road construction.

Comment: Alternative 10 is unacceptable to me because of the new road construction and reconstruction within a roadless area.

Comment: Alternative 11 is unacceptable to me because of the new road construction and reconstruction within a roadless area.

Comment: Most of my concerns are well-addressed in the Preferred Alternative 9. I commend you for this.

Comment: The main purpose of the original Proposed Action was to move the haul route away from residential uses along Rough and Ready Creek Road and Naue Way. Three of the Forest Service Alternatives (6, 9 and 11) would impact those residential neighbors much more seriously than the Proposed Action.

Comment: Alternatives 7 and 8 are objectionable because they require construction of a new road.

Comment: Alternative 8 does not fulfill the project purpose because it denies access to Site D, where a significant portion of the ore body is found.

Comment: Alternative 10 and 11 are objectionable because they deny access to Site A where a significant portion of the ore body is found. These Alternatives also incorporate cable haulage without any documentation of whether such a system is reasonable.

Comment: The Proposed Action should be preferred because use of existing roads is less disruptive of the environment than any of the Forest Service proposals suggesting fully engineered roads.

Comment: I believe that ore removal via existing roads and reasonable other roads would be in the best interest of the USFS, BLM, the public and the Nicore Project, within the confines of existing laws.

Comment: The Forest Service evaluation of the economics of the proposed action and its alternatives demonstrate that Nicore's mining plan...is associated with negative present net values. [Therefore] the Forest Service and BLM have an affirmative duty to choose the no-action alternative.

Comment: Alternatives 6, 7, 8, 10 and 11, as well as the Proposed Action all have inherent risks that are too great for this sensitive and botanically rich and rare ecosystem to be viable options.

Comment: Concerning Alternative 9, while it is the most desirable of all the action alternatives, it seems to me that all it does is stall the clear decision-to adopt the no-action alternative.

Comment: I did my Ph.D. research on a group...of species...including *Arabis macdonaldiana*. I consider the serpentine and peridotite areas to be one of the botanical gems of our nation. The minerals can be found elsewhere, the rare and endemic plant species cannot. Were this a wartime crisis, or were our economy in a crisis, we might wish to reevaluate the costs-benefits of mining versus not. However, considering our nation at this time, I can see no justification for impacting this biological treasure in this manner.

Response: These comments represent public opinions that require no response. The rationale for the selected alternative will be in the Record of Decision.

Comment: All haul routes converge in the heart of the Botanical Area. Roads are not compatible with the protection of the sensitive plants. The development and use of these roads would fragment the botanical area into pieces, interfering with the natural life processes of many species. Scientists from all over the world visit the Botanical Area to study the values that must be protected.

Response: Effects on the botanical area are disclosed in the EIS and will be considered in the decision.

Comment: I believe the risk and consequences of POC root disease introduction are greater than your document indicates. Based on consideration of POC alone, I believe that there is a good case for excluding all mining. Even your preferred alternative poses risks far beyond those justifiable for a money-losing mining operation.

Response: The EIS reflects the analysis done for the project. Opposing professional opinions are recognized. The ROD will discuss rationale for the selected alternative.

Comment: Alternative 9 is unacceptable to me because taking ore samples will not resolve the economic and operational uncertainties associated with the project. The range of concentrations of minerals is already known, and more precision will not change the operational costs, abundant world nickel resources and resulting depressed prices.

Response: The Agency recognizes that the concentrations of minerals is not subject to change. A sensitivity analysis examines a range of operational costs. Information on the abundant world nickel resources is part of the process records. Alternative 9 is part of the range of analysis designed to help resolve these uncertainties.

Comment: Alternative 6 also inappropriately places part of the haul route in privately owned land. The Forest Service can neither require a private property owner to allow its property to be used as a haul route, nor can the Forest Service condition Mr. Freeman's rights upon acquiescence by a private party.

Response: Under Alternatives 6 and 11, the EIS discloses that if access cannot be secured by the claimant, the agencies would be required to provide access via federal land.

Comment: Nicore has, on three occasions, informed the Forest Service the need for a 5,000 ton bulk sample no longer exists because a sample has been successfully reduced to a high quality alloy, and that full scale mining is not contingent upon results of a bulk sample.

Response: The bulk sample is one alternative among a range of alternatives. The sample alternative would remove some uncertainties associated with processing, economics, and final product. It would allow the orderly development of mineral resources and allow a test to determine feasibility of full scale development. Alternatives other than the Proposed Action have been developed by the Forest Service to help resolve issues with the Proposed Action.

Comment: The SDEIS attempts to make the proposed plan of operations appear to be unworkable while proposing alternatives which are clearly impossible to implement. It is clear that the purpose of the alternatives analysis is to place insurmountable obstacles in the path of rational project development in continuing violation of the General Mining Law and the Minerals Policy Act of 1970.

Response: The EIS analyzes a range of alternatives which respond to issues with the Proposed Action. The purpose and need is described in the EIS, and does not include an objective to place insurmountable obstacles in the path of project development.

Comment: Alternative 9 will not resolve the uncertainties surrounding the Nicore proposal. There are no conditions in Alternative 9 that give oversight of the bulk sample's tests to Forest Service and BLM mineral examiners, or that guarantee access to the information that is necessary to determine whether Nicore's mining operation is economically viable or reasonable. There are no provisions in the preferred alternative that Nicore will have to provide FS and BLM examiners the information needed to resolve other present uncertainties-including but not limited to where and how the ore will be processed, transported, what other raw materials are needed and whether these are available, and at what costs, and what the costs are of complying with environmental laws. The economic and operation uncertainties surrounding the proposed Nicore Mine are as much associated with Nicore's refusal to disclose how and where the ore will be processed as with the glut on the world market of much higher grade ore and the limited market for the stainless steel that Nicore is proposing to produce.

Response: The bulk sample is one alternative among a range of alternatives. The concept behind the alternative has been clarified in the FEIS. The sample alternative would remove some uncertainties associated with processing, economics, and final product. It would allow the orderly development of mineral resources and allow a test to determine feasibility of full scale development. The Forest Service would have full access to information associated with sampling. In fact, development beyond the sampling stage would be dependent upon that data.

Comment: Because the Nicore project will not meet Aquatic Conservation Strategy Objectives, it cannot go forward.

Response: The alternatives described in the Nicore EIS provide a range of responses to Aquatic Conservation Strategy Objectives. None fully meet all aspects of the strategy (including No Action). The EIS includes an evaluation of Aquatic Conservation Strategy Objectives relative to the alternatives; this evaluation will be addressed in the Record of Decision.

Comment: The Forest Service's Economic Report notes that the value of other resources in the Rough and Ready Creek watershed includes ?potential wild and scenic river resources, the water quality of Rough and Ready Creek and the fisheries resource? among other things. As the report states, "these values are becoming increasingly scarce in the United States and consequently are increasing in value." Indeed, usable water comprises one of the most important parts of a human society's resource base, therefore, any efforts to preserve the integrity of freshwater supplies is in the best interest of all segments of society. The proposed Nicore Mine and all action alternatives places all these invaluable resources at risk.

Response: Chapter Four displays the range of effects of implementation. The Record of Decision documents the rationale for the decision.

Comment: The Nicore SDEIS demonstrates that none of the action alternatives would be profitable even when counting only the costs of mining and processing the ore. Add to this the low grade of the Rough and Ready Creek ore bodies and the fact that, despite the historic location of a nearby smelting facility at Riddle, Oregon, none of southwestern Oregon's nickel laterites have been commercially developed.

Response: The SDEIS and FEIS recognize the effects you have stated.

Comment: The SDEIS declares that 7 of 19 species would likely be adversely affected by the Nicore Proposed Action. In other words, 37 percent of the sensitive plants species would be adversely affected. I am not arguing that allowing the mine to proceed would necessarily cause the listing of plants or damage to their populations. Clearly, there is some concern about the potential for this. There are two important considerations to keep in mind: one is the potential to contribute to a trend towards federal listing and the other is the loss of viability of the population or species. These two phenomena are related, one is political and the other is ecological. The FS might wish to manage its resources in such a way as to result in the listing of 37 percent of the sensitive species in a given area as Endangered, but it ought never permit a biogeographical area to suffer such as reduction in biodiversity.

Response: The effects of implementation for botanical resources are listed in Chapter Four. The rationale for the decision is in the Record of Decision.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Comment: I urge the Forest Service to withdraw areas protected for their biological values from mining.

Comment: Under Alternatives Considered but Eliminated from Detailed Study, the Forest Service found that an alternative to withdraw part of all of the Rough and Ready Creek watershed from mineral entry would not meet the purpose and need of the analysis and would be outside the scope of project level analysis. But mineral withdrawal is just the sort of alternative that meets the purposes of NEPA, and according to the Siskiyou National Forest Plan and other documents, mineral withdrawal is not outside the scope of project level analysis. The Siskiyou National Forest Plan prescribes mineral withdrawal when mitigation measures would not adequately protect other resource values which are of greater public benefit (S&G 10-2). Also, the Forest has declined to address mineral withdrawal at the forest planning level, stating recently in the environmental assessment revising the SNF LRMP with regard to mining riparian reserves that "the option of looking at specific stream reaches for withdrawal can be considered on an individual project basis at any time."

Response: Withdrawal may be considered for Rough and Ready Creek or any other area. However, it will not be considered in this EIS, since mineral withdrawal is outside the scope of the EIS, as defined by the Purpose and Need.

Comment: The revised SDEIS must include an alternative that would not approve surface disturbing activity until it is determined whether Nicore has discovered a valuable mineral.

Comment: The statement in the SDEIS that mining claims “are assumed valid until proven otherwise” is based on agency policy, not rules, regulations or law. This policy does not address the 1872 Mining Law’s stipulation that the right to mine public lands is conditioned on whether or not a valuable mineral has been discovered. Forest Service analysis and information provided by the public demonstrate there is little likelihood that Nicore’s mining claims contain a valuable mineral. Therefore, it is unreasonable for the Forest Service to hold to their assumption of claim validity.

Response: This comment reflects some people’s request that a mineral examination be done to determine that a valuable mineral exists. The Forest Service does not initiate a mineral examination until the locator proposes to conduct mining operations within an area that has been withdrawn from the mining laws or applies for patent. The areas proposed for operations have not been withdrawn from mineral entry. A validity determination is not required to approve a plan of operations. The No Action alternative would not approve any surface disturbing activity and is in the range of alternatives considered. Alternative 9 reduces impacts to a great degree, and is intended to resolve questions about the operation.

Comment: I do not believe that an alternative that 1) would withdraw the area from mineral entry, 2) creates a National Conservation Area, and 3) buys out the miner’s claim is an inappropriate response to the Plan of Operations, especially given the questionable economics.

Response: Refer to the purpose and need of the analysis listed on page 7 of the SDEIS and “Decisions to be made” listed on page 8 of the SDEIS. Those alternatives you mention are outside the scope of this purpose and need and analysis.

Comment: Since every effort should be made to protect botanical resources (per the LRMP) then the only acceptable alternative is no action or creation of a National Conservation area with greater protection.

Response: This alternative was eliminated from detailed study, as discussed in the EIS. Consistency with the LRMP is part of the required findings in the ROD.

Comment: I believe that the Rough and Ready Watershed would make a good Port-Orford-cedar sanctuary--a gene pool, as it were.

Response: That comment is outside the scope of this analysis. There is an ongoing assessment to address Port-Orford-cedar on a range-wide scale.

Comment: Modify Alternative 10 so that access to site C is by tram. The lower terminal would be on the powerline route in Section 14 on the south bank of the Rough and Ready Creek before the first creek crossing. The tram would be about the same length as proposed to access Site D and could be relocated from one site to the other. The bench road, and reconstruction on the 438 road would not be required. Stream crossings would not be required.

Response: This modification was considered but not fully developed. The range of alternatives as described in the EIS provide an adequate basis for decisionmaking. The cable option is feasible as proposed, a feasibility study has not been completed for other sites.

Comment: The Nicore EIS must include alternatives that prescribe permanent road closures since your own Watershed Analysis and the work of experts agree that exclusion of the vehicles is the preferable action.

Response: The purpose and need of this document is listed in the EIS, road closures would not meet this need. Permanent road closures are not included in any of the alternatives, but could be analyzed in a future project that would have a purpose and need to improve watershed condition by reducing the road network in the West Fork.

Comment: On what basis was full scale helicopter ore haul deemed too expensive to implement and eliminated from detailed study as an alternative, relative to the losing economic prospect of any action alternative?

Response: The relative haul costs of using a helicopter is about 24 times as expensive as hauling ore in trucks (about \$7.00 per ton for Alternative 7 versus \$168 per ton for Alternative 9). Page 19 of the SDEIS (and the FEIS) address this point under alternatives considered, but eliminated from detailed study.

Comment: The fact that helicopter mining is extremely expensive to implement does not constitute a denial of access.

Response: In this case, even the cheapest haul methods do not appear to be economically viable. Helicopter haul costs about 24 times more than using trucks. Therefore, full scale ore haul with a helicopter would likely be so expensive as to preclude the operation. Bulk sampling with a helicopter is reasonable, since it would move a small amount of ore (1/80th of the full scale amount). Results from the sampling could be used to determine the economic viability of full scale mining.

Comment: I question the need for the applicant to sample 5,000 tons of rock to find out if this is viable ore. Why can't he, or an unbiased third party, take representative samples of only a few pounds? These samples could be packed out by a person with a backpack, a horse or a trail bike, thus negating the need for the disturbance caused by improving old roads. It would also alleviate the concern about the helicopter flights.

Response: A sample of this size is required to perfect the processes needed for full scale production. Bulk sampling is a common and accepted practice within the mining industry.

BUREAU OF LAND MANAGEMENT/AREA OF CRITICAL ENVIRONMENTAL CONCERN

Comment: Why is Mr. Freeman not required to stockpile the bulk sample on his private land, rather than damaging BLM and USFS public land?

Response: Mr. Freeman did not propose stockpiling on any land that he owns. However, stockpiling on other private lands in the vicinity of the proposed operation was considered. Stockpiling on unpatented mining claims is considered an appropriate use of the BLM lands.

Comment: We also believe that regardless of the alternative chosen, Mr. Freeman should be required to immediately remove his dwelling, outbuildings, and junkyard from the ACEC, and be required to restore the land to its original condition.

Response: Mr. Freeman's use and occupancy of the BLM lands within the ACEC will be reviewed following the issuance of the Record of Decision. Those uses and occupancies that are considered reasonably incident to mining, as approved through the ROD and BLM Approval Letter, will be allowed to continue subject to Mr. Freeman's compliance with the BLM Mining Claim Use and Occupancy Regulations.

Comment: The lands of the BLM ACEC appear to have no mineral deposits yet are claimed under the 1872 Mining Law. Thus, absolutely no mining activity can occur on these lands since there is no possibility that the claims contain a valuable mineral deposit within the meaning of the law.

Response: The BLM administered land within the ACEC is open to mineral entry. Mining claims may be located within the ACEC along with the exploration and development of those claims. A determination of the mineral potential of the BLM lands within the ACEC has not been made.

Comment: The Plan of Operations submitted to the Medford District of the BLM states that there are two possibilities for ore processing - one, transportation of the ore to an off-site processing facility, and two, processing ore on the Rough and Read Creek ACEC utilizing an electric arc furnace. Processing must, therefore, be fully addressed in the Nicore SDEIS, not in a later document.

Response: Mr. Freeman withdrew his original request to place a processing facility on the BLM land. At this time there is no proposal to smelt ore on either BLM or National Forest lands.

Comment: In reference to the need to cover all the stockpiles, does this include piles ready to load into helicopters or trucks at the mine sites, and the piles before and after drying and processing, or just the major ore pile at the stockpile locations? Would plastic be used to cover the stockpiles? Be careful, plastic splinters easily and causes havoc further downstream in watersheds.

Response: All stockpiles will be required to be covered with a cloth/canvas material that would not deteriorate through exposure from the weather.

Comment: All haul routes converge in the heart of the Botanical Area. Roads are not compatible with the protection of the sensitive plants. The development and use of these roads would fragment the botanical area into pieces, interfering with the natural life processes of many species. Scientists from all over the world visit the Botanical Area to study the values that must be protected.

Response: Effects of the alternatives on the Area of Critical Environmental Concern, the Botanical Area, and botanical resources are discussed in Chapter Four of the EIS. Rationale for the decision will be in the Record of Decision.

Comment: Specifically where the helicopter loads will be dumped should be identified.

Response: Under Alternative 9, helicopter loads will be placed at the stockpile site (see Alternative 9 map for stockpile site). A rough design for the stockpile site is in the analysis files.

Comment: [The statement that] the Proposed Action may degrade scenic quality...is untrue. Mr. Freeman has previously agreed to locate the stockpile out of view of Highway 199 and the Botanical Wayside. Moreover, the SDEIS is incomplete because it fails to disclose that Pacific Power and Light was allowed to construct a major power substation on BLM land within view of 199 on property just across US 199 to the east.

Response: A BLM specialist reviewing the proposed action has stated that the proposed stockpile would be within view of a proposed trail within the ACEC and within view of Highway 199. Mr. Freeman may have verbally agreed to locate the stockpile out of view of Highway 199, however, his proposed action specifically identifies the location of the stockpile near his existing shop and residence. The Pacific Power and Light substation is not on BLM administered lands.

ROAD DESIGN AND DEVELOPMENT

Comment: The SDEIS needs to state what portions of the project, if any, would be paid for with public funds, including reclamation, road improvements, mitigation, bridge and culvert replacement, monitoring, etc. I believe the claimant should pay since the project necessitates all of these expenses.

Response: All costs of the operation would be paid by the proponent except for Forest Service administration of the permit and plans required of the proponent.

Comment: The terms “outsloped” and “insloped” need to be defined.

Response: These terms relate to the cross slope of the road surface. An inslope would be sloped down toward the cut slope. An outslope would be sloped down toward the fill slope.

Comment: It is imperative that the USFS consult with experts in the field of road building and consultants from various ore truck manufacturers in order to find out what the actual specification for mining roads would really need to be.

Response: The ore truck planned for use has been stipulated by the proponent as a Terex 25 ton articulated dump truck. The specifications of a similar truck in the Caterpillar Performance Handbook, Edition 27 is used. The 12 foot running surface for the road is adequate for this vehicle, which has a 9 foot operating width.

Comment: The construction of the bench road across the steep peridotite rock outcrop in Section 14 is very destructive visually to this area. The scars will be there for many years. Rehabilitation would be expensive and difficult and probably not done. If you were to construct access across this face, how about constructing a viaduct out of steel and timbers. It would be much easier to remove afterwards, leaving minor visual scars.

Response: A viaduct is not considered reasonable for this project. A temporary road may be needed to set footings for such a structure, and the concrete footings and temporary road could have more of an effect on the creek than the proposed road.

Comment: On page 15, the SDEIS states that "Road grades will not exceed 25% except a few short pitches that may be up to 30%." These are extremely steep grades, especially if it is not to be paved! When I create a road for land partitions in this county I am required to surface them with asphalt if they exceed 12 and they are never allowed to be over 18%. I have seen a lot of 18% gradient roads which are only surfaced with gravel, and they all have erosion problems, I've never seem a road much steeper than 18% unless it was called a jeep trail. 25% is way to steep for either safety or erosion control.

Response: These are steep roads but are expected to accommodate the equipment as discussed in the EIS. Sediment from the roads is likely as has been disclosed.

Comment: As to the costs associated with removing the ore, the SDEIS has both faulty premises and gives false impressions. For instance, the comparison of costs of the various alternatives assume that Mr. Freeman will be required to build fully engineered roads consistent with the Forest Service's practice for permanent roads associated with timber harvest. This is inappropriate for several reasons. One, the roads in the Proposed Action are not permanent, nor are they intended to be permanent. They will be reclaimed and they will not be used by the general public. Two, roads designed to be permanent such as those associated for timber harvests are more disruptive to the environment than the temporary roads in the Proposed Action. Three, and most importantly, the Forest Service's own records demonstrate that its practice is not to require fully engineered permanent forest service roads when approving mining plans of operation. Instead, it appears that this requirement is being imposed on Mr. Freeman solely to make the Proposed Action appear more costly than it really is.

Response: The intent is to build very simple roads with idea that they would not be permanent, with the knowledge that the roads may be visible for long periods, regardless of who built them. The planned road widths are about the same as the existing mining roads, and many of them are used as is except for minor repairs and surfacing. However, some of the mining roads in the area are troughs that collect and channel water. These “troughs” would be filled in with borrow material and the road built up with surfacing. New construction would use borrow material over small rocks and boulders rather than dig them out to avoid building channels. Borrow and surfacing would build the road surface above the surface on the flatter ground. Water bars and cross ditches would be built in or installed prior to winter to allow water to cross and get off the road surface. Details about road conditions and proposed improvements are summarized in the EIS and available in the Analysis File.

MITIGATION, RECLAMATION AND MONITORING

Comment: The SDEIS acknowledges that a reclamation plan detailing how reclamation would be accomplished is a required part of a plan of operations, but defers development of reclamation to final approval of a plan of operations. The proposed action’s reclamation plan only addresses the mine sites. It does not address reclamation of the stockpile area, the roads, the area where road surfacing material will be mined, the area of disturbance of the installation and removal of the stream crossing structures, and the reclamation of the areas where these will be stored.

Response: The SDEIS describes reclamation objectives for drainage and erosion control at the mine sites, restoration of native vegetation at the mine and stockpile sites, and stormproofing and erosion control along the haul route.

Comment: What is meant by “A full monitoring plan...” that would be developed under mitigation 14. What parameters would be monitored for each of the elements listed? Who would be responsible for such monitoring and how would it be enforced? What actions could or would be taken in the event adverse effects were observed during monitoring such as the spread of POC root disease, noxious weed invasions, mass wasting or water quality impairment as a result of the mining activities?

Comment: The SDEIS states that a “full monitoring plan would be developed for the final plan of operations”, then lists the elements that would be monitored. The SDEIS must discuss each component of the monitoring plan in adequate detail so that its effectiveness in maintaining water quality and other resources can be determined.

Response: Further discussion about monitoring has been added to the FEIS. The operator will be responsible to develop a detailed monitoring plan based on the information provided in Chapter Two.

Comment: If the miner’s operating period would be between June 15 and October 15, that would allow less than three weeks to have the season’s reclamation work finished before the winter wet season.

Response: The operating period proposed in the Proposed Action (and for Alternative 9) is June 15 through October 15. Full scale mining alternatives described in the EIS have a more limited operating season (June 15 to September 15). In all cases, the reclamation work for each mine site would have to occur during the operating season.

Comment: Another discrepancy is that seasonal bridges and/or culverts are removed by September 15. So, does the miner drive through the creek for the last month of operation each year?

Response: The operating season would be limited to the time that bridges and/or culverts were in the ground. These would be removed, and no access would be approved until the following season.

Comment: Even though the proposed action calls for restoration with native vegetation, the present diverse plant communities could never be duplicated, even by professional botanists. Our rare, endemic plants are rare for good reason. They don't reproduce well, and they often live in symbiotic relationships, which once torn apart can be difficult to put back together. From my experience restoring logged areas, in the better soil areas more common plants come in so thick that the slower to establish plants either don't germinate or are stressed from competition. And in the poor soil areas, nothing grows. It is definitely not a once-over deal. Restoration must be an ongoing commitment. The mining pits, from what I have seen, will not be restored in our lifetime.

Comment: Several members of the IVGC have strong horticultural skills, with hundreds of years of combined experience. Our members have experimented with the propagation of local plants...with poor results. The plants at Rough and Ready Creek Watershed cannot be reintroduced successfully. The truly rare and fragile plant communities are lost forever when the surface is disturbed. Dealing with serpentine soils and specialized sensitive plants makes any reclamation effort a waste of time and effort. Far better to protect the surface from disturbance to begin with.

Response: The difficulty in restoring native vegetation within the mine pits is acknowledged in the EIS. The reclamation plan emphasizes minimum disturbance.

Comment: Listing three reclamation objectives does not adequately satisfy the NEPA review process...stating that "best management practices would be incorporated into all aspects of road work and project design" and that such BMPs are listed in the analysis file does not comport with the NEPA requirement that a plain and understandable statement of the mitigation measures for the alternative be made available. How can the public assess the environmental effects of any alternative without having a detailed reclamation plan available for review prior to a final decision being made on approval of any alternative?

Response: Further information about the reclamation plan is in the FEIS. Best Management Practices are identified, and the effectiveness of all mitigation measures is assessed.

Comment: The SDEIS lists possible mitigation measures, but does not discuss them in adequate detail nor does the SDEIS discuss or disclose the effectiveness or efficacy of the mitigation measures, or whether they will in fact be implemented.

Response: The FEIS discloses the effectiveness of the mitigation measures. The Record of Decision explicitly discuss which mitigation measures will be adopted for the selected alternative.

Comment: The reclamation plan is to bulldoze material that was scraped off the bank onto the sites that will be below grade. Is there evidence that an adequate seed and bulb bank is present and would survive a move?

Response: The stockpiling of overburden and later placement within the pits is likely to result in some revegetation of plants that can survive disturbance. Some trees may be planted in the area. The reclamation plan acknowledges the need to respond to site conditions as the mining progresses.

Comment: Why is there no indication in the SDEIS that application has been filed with the Josephine County Planning Department for a Development Permit for this mining operation. The Rural Land Development Code (RLDC) is clear about the necessity to follow very specific procedures to develop a mining operation in the county.

Response: Mining on federal lands is not subject to a County permit. However, there are State and other permitting agencies that are responsible to administer and enforce regulatory requirements within their jurisdiction. Required permits must be obtained before mining begins.

PHYSICAL SETTING/WATER QUALITY ISSUES

Comment: The lack of long term seismic records or recording stations near the site area preclude an evaluation of local seismic risk. Nonetheless, awareness of the major fault and its potential for additional fault movement is important.

Response: The mapped fault that defines the contact between the Josephine Peridotite Sheet and the Galice formation was discussed in the West Fork Watershed Analysis. The potential for movement along the fault cannot be predicted and does not affect project design. No permanent structures are proposed near the fault.

Comment: Rough and Ready Creek supplies water to the Illinois Valley and the Rogue River. As such, it is subject to the Diack decision...that prohibits the use of surface water and the issuance of new surface rights into Wild and Scenic Rivers.

Response: Bruce Sund, Josephine County Water Master, advised the Forest Service that the Diack prohibitions were valid until 1994, when the state decided how much water must be retained in the creek. The Diack prohibitions no longer apply, and the state will consider the in stream needs before granting a permit for Nicore to use water from Rough and Ready Creek.

Comment: Modification of stream beds and streamflows by filling necessary for equipment crossing, and disruption of subterranean water movement by excavations for roads and mining pits may in some situations disrupt the perched water tables and the consistent water levels that I believe are required for maintaining some stands of POC.

Response: Under the Proposed Action, some ponding will likely occur upstream of the rock ford crossings. This may inundate tree roots and potentially kill some trees, resulting in a small loss in stream shade. The analysis discusses areas on the haul route that have denser POC populations; outside of these areas, POC does not appear to provide a lot of shade (the relationship between POC and water temperature has not been specifically established, but the relationship between vegetation density and shade can be observed). There are no POC present in the immediate vicinity of the pits and therefore effects to the species from mining at the pits is unlikely.

Comment: One aspect of root rot exclusion that was not considered is control of drainage from roads, which should be directed as far as possible from POC populations.

Response: Road improvements are designed with consideration given to POC protection.

Comment: The SDEIS assumes that a water withdrawal permit for Rough and Ready Creek would be granted. How will dust abatement occur if a water right is not granted?

Response: The SDEIS relied on the use of water for dust abatement because water use was considered by the team to minimize effects on other resources (e.g. water versus paving, lignin etc.). If Rough and Ready Creek is not used for water withdrawals, an alternate source subject to Forest Service (and possibly other agencies) approval would be used.

Comment: I feel that stream temperatures increases would be measurable in the Proposed Action, given water withdrawal, low flow timing of operations, and fords. Alternatives 6, 7, 8 and 10 may also increase water temperature.

Response: The SDEIS discussed that that water temperatures may increase under alternatives 6, 7, 8 and 10, but that this increase is not likely to be measurable. Measurable increases were disclosed as possible under the Proposed Action. Recalculations between the SDEIS and the FEIS have resulted in a dramatic reduction in estimated water withdrawals. The FEIS now reflects that no alternative will likely result in measurable increases to water temperatures, given the potential effects relative to the proposed actions.

Comment: What chemical compound expresses alkalinity, such that it can be expressed in terms of concentration (75-182 ppm)?

Response: HCO₃ (Miller, 1998).

Comment: The statements within Chapter Four that say “decreasing low flow could exacerbate already high water temperatures” contradict the Chapter Two Alternative Comparison that states that measurable increases in water temperature are not expected.

Response: The statements are not contradictory. The analysis points out that some actions would result in a TREND toward a higher temperature, but that these temperatures are not likely to be MEASURABLE. The ability to measure stream temperature changes and find that they represent a statistically distinct value involves many factors, including: instrument precision, environmental variables (stream shade, air temperatures, and flow levels) and sample size.

Comment: I am unclear how the Outstandingly Remarkable Value represented by large substrate will be protected if the alternatives result in sedimentation to the creek.

Response: The EIS discloses that the Proposed Action may result in sedimentation that will be visible. Alternatives that construct the bench road may also result in sedimentation, at least for the summer and fall months prior to winter storms. Winter storms are expected to transport much of the construction debris downstream. It is possible, however, that some of the construction debris will be very large and remain where it falls. However, the large substrate is expected to dominate the area and would still be considered outstandingly remarkable.

Comment: Regarding toxicity of the ore, the concern is not whether “new elements would be introduced into the watershed” but whether or not their concentrations would change such they would become a source of toxicity.

Response: Toxicity is relative to the affected organism, the path of contact (ingestion, skin contact, airborne, etc.) and the concentration of the element(s). The existing laterite soils are not considered toxic, removing some of the soil will not increase the concentration of elements in the area. Excavation of the soil may expose some new surfaces to weathering. This issue is discussed in the EIS, particularly as it applies to nickel concentrations in the water. In conclusion, no adverse effects on human health or aquatic organisms is associated with the project.

Comment: The No Name Fan area is unique. The creek there lies on a bed of shifting sands that are the source of cold spring water. It is not stable ground and not the place for a road. Any roads in this unstable area is bound to add much to the sediment load of the creek.

Response: The No Name stream channel appears to migrate during storm events. Under the Proposed Action, some erosion could occur during storm events that overtop the banks. This erosion will result in some sediment delivered during storm events. All other alternatives avoid this area.

Comment: The potential for polluted storm run-off seems real and large. Will the Nicore Mining Area be considered a “point source” for pollution as outlined in the Clean Water Act?

Response: The project does not fall under the point source provisions of the Clean Water Act. With the exception of the Proposed Action, the amount of sediment ‘pollution’ associated with the alternatives is not expected to be “real and large”.

Comment: It is not clear how the 5,000 ton removal would affect the 4 mine sites. On page 28, it says about 0.5 acres would be affected, and on page 41, it says 5 acres. It would be informative to list each site and the maximum planned acreage, the sample size in terms of acres and ore weight, the estimated number of helicopter trips and flight time, and costs.

Response: This information has been in the analysis files and is now published in the FEIS. The SDEIS page 28 discussed the amount of land disturbed from sampling 5,000 tons; page 41 discussed the amount of land disturbed from both sampling and stockpiling.²

Comment: Merely acknowledging the need for a permit to pollute (p. 60) does not abdicate the Forest Service from its responsibility to maintain the high water quality of Rough and Ready Creek.

Response: The EIS includes alternatives and mitigation measures intended to protect water quality; the responsibility for maintaining water quality is shared by many agencies (including the Forest Service). The miner would ultimately be responsible to follow all guidelines and stipulations in the approved Plan of Operations.

Comment: The SDEIS lists vehicle and equipment washing as a mitigation measure, but does not identify the water source, calculate the amount of water required, or disclose the impacts of water withdrawal.

Response: Vehicle washing water requirements have been added to total withdrawals in the FEIS. Volume estimates of water needed for dust abatement has been corrected between the SDEIS to the FEIS.

Comment: The SDEIS in one place says that all the action alternatives are expected to maintain in-stream flows sufficient to create and sustain riparian and aquatic habitats. Elsewhere it states that water withdrawal for dust abatement...could exacerbate already high stream temperatures and affect aquatic organisms. It cannot be both ways.

Response: The water withdrawal estimates have been corrected between the SDEIS and the FEIS, resulting in a decrease in the estimated quantity of water needed. However, some of the alternatives may still trend toward an increase in water temperature. However, in-stream flows sufficient to create and sustain riparian and aquatic habitats would be maintained in all alternatives.

Comment: The increased sediment from development of haul routes and from stream crossings is not going to be flushed out of the system in one big whoosh as the SDEIS would have the public believe. The scenario is more likely that the sediment will fill pools, and how long it will take to flush out of the pools, and where it will go next cannot be calculated by Forest Service models, expectations, or assumptions. For instance, in defiance of the Siskiyou National Forest's stream power model, the sediment still has not flushed out of the Diving Board pool...

²The size requirements for the stockpile site was found to be larger than discussed in the SDEIS; the FEIS discloses that 10 acres may be needed to accommodate helicopter operations.

Response: Sediment transport is dependant upon many variables; stream power, sediment supply, channel roughness and frequency of flows capable of transport. Pools fill in and riffles aggrade when supply exceeds transport. The analysis finds that Rough and Ready is capable of transporting the relatively minor quantities of sediment associated with Alternatives 6 through 11 (this finding is based on an evaluation of the project compared with the scale of the watershed). The Proposed Action may supply sediment in excess of sediment transport, likely resulting in local deposition. The Forest Service did not attempt to predict how long the sediment would remain in deposited areas.

Comment: The SDEIS states that fine material is expected to have a very low clay content, and thus would settle out of the water column rapidly. This statement is not in agreement with the West Fork Watershed Analysis which states that “if disturbed, serpentine soils may contribute fines. Much of the serpentine weathers to clay.” Whether the fine sediment settles out of the water table, or not, the discharge of sediment violates OAR 340-041-0026(3)(a)(c).

Response: The soils in the watershed vary in their clay content. The roads and mine pits intersect many soil types. Observations of Rough and Ready during storm events show that the stream is exceptionally clear, indicating the low levels of disturbance and the low percentage of clays in transport. Discharge of sediment is permitted under Oregon statues but the duration and percent above background is regulated.

Comment: If the water is withdrawn for dust abatement from Rough and Ready Creek or most any other stream in the Illinois Basin, water quality standards will be violated and the ACS objectives will not be met. If water is not used for dust abatement, then the SDEIS must analyze the effects of the chosen dust abatement measures.

Response: Water withdrawals were recalculated; the highest estimated use is now expected to be less than 2% of 4 cfs (an August low flow value). Water quality standards are not likely to be violated, given the water withdrawals described in the FEIS . Water withdrawals are regulated by the Oregon Department of Water Resources.

Comment: The Forest Service's analysis of the Nicore proposal admits sediment will be introduced into Rough and Ready Creek. The Forest Service must establish a baseline for turbidity that the Nicore proposal can't exceed.

Response: The baseline is that water quality currently supports beneficial uses, which is the standard against which sediment delivery would be measured and monitored. There is no requirement to establish a baseline for turbidity.

Comment: The SDEIS does not disclose how it came to conclude that the risk of serious hazardous fluid spill is low.

Response: Observations of various operations over time led to this conclusion.

Comment: The physical science report excuses this violation of the Clean Water Act [sediment from stream crossings] by stating that the majority of the proposed crossing sites have been used in the past and the disturbance has already occurred. While primarily two of the stream crossings have been bladed with a bulldozer under the guise of erosion control, the other crossings (except for Alberg Creek) have not been disturbed for many years. The last time the approaches to crossing 5 were bulldozed, fine sediment coated the substrate below the crossing, remaining in the creek until winter high flow flushed it out.

Response: The physical science report discloses that sediment is likely to be delivered as a result of road construction and use.

Comment: The Forest Service and BLM have not gathered site specific information nor conducted studies to understand the hydrological processes that are key components to the ecological/botanical, scenic/aesthetic, recreation/quality of life values and water quality. The SDEIS's characterization of the hydrological regime of the Rough and Ready Creek watershed is, in fact, piecemeal, not based on site specific analysis and may be inaccurate or at least inadequate to provide the basis for the analysis of impacts.

Comment: The Watershed Analysis characterizes most parts of the Josephine ophiolite as having shallow, rocky soils with little capacity for water storage, leaving less water for the summer low flow season. However, this representation of geology and its effects on the hydrological regime of the Rough and Ready Creek area may not be completely accurate. The Forest Service must map and study the springs, fens and shallow wells of Rough and Ready Creek and address the essential processes of infiltration and recharge of the Rough and Ready Creek aquifer.

Response: Forest Service specialists use a combination of survey data, field observations, air photo interpretation and professional judgements to provide the analysis in the SDEIS. The analysis is thought to be adequate given the scope and scale of the operation and potential impacts.

Comment: Literature on hydrological regimes in general notes that recharge of groundwater sources is never uniformly distributed, but occurs in areas that are favorable for infiltration. Where are those areas in the Rough and Ready Creek watershed, and where are they in relationship to the proposed mine sites, haul routes, and stockpile and ore processing sites?

Response: The extensive mine sampling that has occurred within the watershed previously does not appear to have measurably altered hydrological conditions. Given the scale and scope of the operation, the type of analysis suggested here is not necessary to understand effects of the alternatives. Potential risks associated with hazardous substances leaking into the groundwater is discussed in the EIS.

Comment: Along with the geology and topography of the peneplains, there is another indication that the Rough and Ready laterite deposits may be important recharge areas. Similar to the ore body at Eight Dollar Mountain, the laterite soils at the proposed mine site B are also saturated as indicated by the March 16, 1992 Nicore mining plan of operations. The Nicore plan states that, “[d]uring the wet months, the laterite deposits such as the one that is the subject of this plan of operations, become “red bogs” - a condition that probably occurs at all of Nicore's proposed mine sites. One possibility is that the deep undisturbed laterite soils of the Rough and Ready Creek watershed, covered with their native vegetation, act as a sponge promoting infiltration to the boundary at the base of the laterite deposit and from there to fractures and shear zones in the bed rock to be stored and emerge as springs or otherwise contribute to the aquifer. Because alterations in ground surface less severe than strip mining can reduce infiltration and thereby causing a reduction of groundwater recharge, the impacts of the proposed Nicore mine may have irreversible long term impacts on the water resources of Rough and Ready Creek and its surrounding area.

Response: The maximum number of acres proposed for treatment is 35, roughly 6% of the 512 known acres of nickel-bearing laterite in the watershed. These 35 acres sit within a 23,000 acre watershed. Given this scope and scale, effects on water infiltration and storage are unlikely to have “irreversible long term impacts” to water resources. Infiltration can be expected to occur within the pits.

Comment: The SDEIS does not address the indirect effects of roads on sensitive species and biological diversity. Roads act as interceptors of surface and subsurface water that would normally flow down slope and in part infiltrate into soils. Road 445 for example is now a foot or more below the land surface. The condition has worsened significantly in the last 12 years despite the mining claimant's “erosion control.” The road now acts as a stream channel diverting natural drainage patterns. Change in drainage patterns and infiltration could affect sensitive species or species diversity in the Rough and Ready Creek corridor. Some plant species, while they may not be obligate hydrophytes, are still dependent on being able to send their roots down to the water table or to the capillary fringe overlying the water table and in order to obtain a perennial and secure supply of water. These plants are known as phreatophytes. For instance, plants growing on Rough and Ready Creek's floodplain may be tapping into the shallow water table. The development of the haul route may change natural drainage patterns and impact plant communities and microhabitats. Port Orford cedar and western azalea may fit into this category.

Response: Continued use and development of roads in the area may affect local drainage patterns and individual plants or habitat. This is discussed in the EIS in Chapter Four.

Comment: A characteristic of Rough and Ready Creek's outstanding geology is the fractured bedrock which provides for the numerous springs and seeps along its banks which maintain summer flow and form sensitive plant wetlands. The SDEIS has not adequately addressed the impacts of the proposed Nicore mine on this feature.

Response: The mining proposal would remove some of the ‘geologic’ material in Rough and Ready Creek but the fractured bedrock that provides for springs and seeps is not likely to be affected. Effects from the operation on physical features and rare plants are discussed in the EIS.

Comment: Why hasn’t the need for permitting through the Army Corps of Engineers been discussed in relation to filling or altering wetlands in the project area? Must permits be obtained from the Corps before the project is approved?

Response: The miner is responsible for obtaining any needed permits. The permits that are most likely to be required are listed in Chapter Two. The Forest Service and BLM are not responsible to identify all necessary permits required by other agencies.

Comment: Has the miner provided evidence of a Water Use permit from the State of Oregon authorizing the use of sufficient water at appropriate times of the year?

Response: A water use permit would be required prior to removal of water from Rough and Ready Creek.

Comment: How will removal of vegetation and road development in riparian areas affect water temperature in Rough and Ready Creek and its tributaries? How will the potential introduction of POC root disease and removal of POC trees in riparian areas affect water temperatures?

Response: This is discussed in the SDEIS and FEIS. Proposed road development within riparian areas is not likely to result in increased water temperatures, but fords proposed in the Plan of Operations (Proposed Action) may result in water ponding and a trend toward temperature increases. Areas where Port-Orford-cedar is providing substantial shade are disclosed in the POC discussion in Chapter Three. Local water temperature increases could occur if trees in this area became infested with root disease.

Comment: On page 62, there is a misleading and erroneous statement “Each CFS is equivalent to 646,272 gallons of water.” A CFS is actually a rate of flow, not a volume. On page 35, “Implementation of the Proposed Action could lead to the withdrawal of between 0.35 and 1.56 CFS of water each day.” This does not make sense, since cfs is not a measure of volume.

Response: The FEIS has been corrected and the estimated volume of water needed for each alternative is displayed in gallons.

Comment: On page 35, it is stated that, “Temperature increases are not expected to be measurable”. I strongly disagree. Streamflows are directly proportional to temperature increases, all else being equal. And as your flow estimates make clear, when viewed in conjunction with the data that are shown on page 47 (existing flow rates as low as 3.6 CFS), the amount of water withdrawn for dust control is almost half the streamflow. And it would be more than half at certain times of the year and in certain locations.

Response: Water withdrawal estimates have been corrected between the SDEIS and the FEIS, and have dramatically decreased. Measurable temperature increases based on water withdrawal for dust abatement are not expected.

Comment: Page 87 makes reference to “The presence of asbestos in the project area may not be linked with health concerns related to other asbestos minerals.” However, I have received information from an agency of the Superfund Legislation which would question this. According to reports, asbestos is found at dangerous levels in virtually all the samples of serpentine. Many miles of roads which were surfaced with crushed serpentine rock in northern California had to be paved over with asphalt by the EPA in order to stop the dangerous levels of asbestos which was finding its way into homes adjacent to these roads. Most disturbing, according to these reports, it is the high levels of a type of asbestos known as tremolite. Tremolite, associated with serpentine rock, tends to stay trapped in the lungs for life and is considerably more potent than chrysotile in the development of mesothelioma (a fatal form of cancer affecting the lungs).

Response: The presence of asbestiform tremolite (linked to health concerns) in the analysis area has not been specifically field researched, but previous mineral sampling has not revealed the presence of this mineral. Phone conversations with geologic researchers familiar with the area (Dr.’s Gregory Harper and David O’Hanley) revealed that the likelihood of this mineral being present is low, but is greater than zero. The risk of exposure to tremolite that might become airborne would be related to (1) a source of the mineral and (2) the frequency of interaction with airborne particles of tremolite. Road surfacing and dust abatement would limit exposure to any airborne particles.

Comment: The nearest domestic water source is only about 0.25 miles below mine Site B, not 2 miles as stated in the SDEIS. The water that feeds several domestic water sources originate at or near mine site B and people have been drinking this water untreated with no ill effects for many years. Those water sources have been granted water right certificates by the state and those rights are not allowed to be injured.

Response: Background water chemistry tests on several springs were conducted in the Fall of 1998. These sites would be monitored under an approved Plan of Operations. The nickel dissolved in the domestic water sources exceeds state standards, and is a condition inherent to rocks that are in contact with the water. The amount of nickel currently in the water is not associated with any health risks. The mining operation will not be allowed to result in any increase in nickel concentrations, nor is it expected to be adversely affected in any other way.

Comment: We reviewed the USGS report referenced in the SDEIS which reported on the analysis of water samples collected in the Rough and Ready Creek Watershed. The report states that no precipitation occurred during the time that samples were collected. However, our records show that more than 0.8 inches of rain fell during the two day sampling period. What effect does this unreported rainfall have on the reports conclusions? Why was this information omitted from the report?

Response: The lack of precipitation is a quote from page 2 of Miller, 1998. Even if rainfall did occur, it would not likely result in enough of an increase in Rough and Ready Creek stream flows to have affected his reported results.

Comment: The Water Quality - Sediment report assumes that crushed rock will be used on the road surfaces, however the SDEIS states that native peridotite rock will not be crushed. So is foreign rock going to be introduced into the watershed? This discrepancy needs to be resolved.

Response: The FEIS resolves this discrepancy. There was a recommendation in a USGS report (Miller 1998) to avoid use of peridotite material in road surfacing, however, the report also stated that even if peridotite was used, adverse effects would not be significant. Given the potential effects on using “foreign” rock, peridotite is a better option and would be used in road development.

Comment: There are 3,390 round trips identified annually (page 16). This includes only the haul trucks; how many round trips will the support vehicles make annually? The table on page 83 and 85 should show all vehicle trips (not just haul trucks) for all alternatives.

Response: For the Proposed Action and Alternatives 6, 7, 8, 10 and 11, support vehicles are estimated to add 10 to 20 percent more traffic during the activity period. This information is now included in the EIS.

Comment: According to the SDEIS, page 48, nickel concentration in the water is elevated. What is the standard concentration of nickel found in the water samples and what is the EPA safe drinking water standard? How much and how fast will nickel concentration increase in our drinking water?

Response: The existing condition is 11-33 parts per billion (ppb) in the surface waters of Rough and Ready, according to Miller, 1998. Results from sampled springs indicate values of 30-40 ppb. The EPA does not have a national primary nor secondary drinking water regulation for Nickel, but these values do exceed the State of Oregon ambient water standards. These concentrations are not associated with short or long term health risks (Kauffman, 1999). The rate of nickel concentration change in Rough and Ready Creek following any action alternative will be monitored, but is not expected to be measurable.

Comment: The proposed water application rate for road dust control conflicts with the POC root disease measures.

Response: The mitigation measures, including dust abatement, do not conflict with the disease control strategy.

Comment: The key to understanding cumulative effects is finding the right set of resources to analysis. In “Cumulative Effects of Forest Practices in Oregon,” Robert Beschta, et al. (1995) identified several conditions that area required for accurate analysis of cumulative watershed effects, including: 1) accurate understandings of natural variation in environment; 2) reliable baseline information at the local and regional scale; 3) accurate assessments of the probable effects on key resources of past, present and future activities; 4) development of reliable models that relate resource conditions within a dynamic spatial framework; and 5) establishment of levels of acceptable change in the environment.

Response: Dr Beschta’s recommendations were followed in the EIS analysis:

1) Watershed analysis and other previous work, along with current observations of the existing condition provide the basis for understanding natural variation. 2) Baseline information has been collected in the form of level 2 fish surveys, water temperature readings, Miller’s 1998 geochemistry study, and limited alkalinity and turbidity data collected by Rilling and Ullian. 3) The assessment of the alternatives is believed to be accurate and thorough. 4) Bedload transport was modeled. 5) The levels of acceptable change are included in state regulations governing water quality.

Comment: The SDEIS did not address my Quality of Life concerns in any acceptable manner. The only attention paid to the water quality issue is the testing of three springs, at best this is only a beginning in addressing water quality. To my knowledge, no substantive studies have been done on mineral contents and how it will affect the neighbor’s water quality.

Comment: Water quality is fully addressed in the EIS. A geochemical study of the surface waters of Rough and Ready Creek was performed by Miller, 1998 of the US Geological Survey. Three springs were also sampled to provide baselines for monitoring. Exhaustive testing was done on the water to determine mineral contents. The results were within expected ranges for waters in contact with ultramafic rock. In general, water quality is excellent. Nickel concentrations are greater than the ambient water standards established by the Oregon DEQ, however, they are not great enough to be associated with any human health risks (Kauffman, 1999). No measurable increases in any metals is expected from the project (see FEIS analysis).

Comment: EISs must include the exact width of roads at various segments and how much they would be widened, where rocks and template would come from and how that could be crushed into fine sediment of asbestos.

Response: The analysis comparing the alternatives used an average 12 foot road width to estimate impacts. The source of rock for road surfacing will be from a local peridotite rock pit located within the watershed (see engineering report). The threat of asbestiform tremolite in associated serpentinite exists, but is thought to be a low risk to human health (see previous responses to questions about asbestos).

Comment: Who is Miller, 1998, who basically says “The mining of the laterite should present no problem to the chemical quality of the waters within the watershed? I am interested in Miller’s background as far as historic facilitation to assist extractive industries.

Response: Dr. Miller is a geochemist with the US Geological Survey. His history regarding ‘extractive industries’ is not known to the US Forest Service, nor is it relevant, since he used accepted scientific techniques in his published analysis.

Comment: There is a range of estimates in various documents as to how much mining of nickel-laterites could be reasonably foreseen to occur in the Rough and Ready watershed and vicinity. The Physical Sciences Report by McHugh says that 93% of the watershed has serpentine/peridotite soils. Yet the SDEIS says that 512 acres is the maximum feasible to mine. On the top of page 6 of the Rough and Ready Creek Eligibility Study it says, “At least 14 deposits of ancient lateritic soil containing iron and nickel are known to occur in the Rough and Ready Watershed. These cover about 3,000 acres.”

Response: These statements are not contradictory. The laterite soils are a sub-set of the total range of serpentine/peridotite soils. The laterites are located in patches scattered throughout the watershed. About 512 acres of laterites similar to those proposed for mining under the Plan of Operations were mapped by Ramp, and provide a reasonable basis for cumulative effects analysis. This was confirmed by the miner, who stated that “it would be possible to mine up to an additional 400 acres within the next 50 years, depending on the market...This additional acreage would likely be in the vicinity of the 35 acres proposed for mining at this time.” (See Nolan 10-97 memo) Ramp also mapped other areas (including the Rough and Ready alluvial fan) that may have lower concentrations of nickel and are far less likely to be mined in the foreseeable future.

Comment: Is there evidence that the pits drain adequately, or does this reclamation plan create ponds?

Response: The pits would be designed to drain, rather than create ponds. During periods of heavy precipitation, infiltration may be slower than the rate of accumulation, and water is likely to fill a portion of the pit. To mitigate for this risk, an engineer would be required to consider including an armored outflow and/or drainage structure at the bottom of the pit. Any design would be subject to approval by the Forest Service.

Comment: The SDEIS states that road development and use, pit development, and ore storage would disturb ultramafic soils and lead to a loss of productivity. The implication is that the soil is productive and that the loss of productivity would be significant. Due to the high mineral content of the ore in the mining area, the soil’s productivity is quite low and the level of reduction applied to such risk is practically meaningless.

Response: The EIS and incorporated documents (specifically, the West Fork Watershed Analysis) discuss the differences between ultramafic areas and other parent materials. Site productivity in terms of total biomass production is lower within the proposed mine sites, than non-serpentine sites. However, serpentine sites that have been disturbed are less productive than nondisturbed serpentine sites. This effect is apparent from the extensive sampling that has occurred; the disturbed areas has less vegetation and plants tend to be smaller. The EIS also discloses that the extent of this loss of productivity is relatively small, given the acres proposed for mining compared to total acres in the watershed.

Comment: A second paragraph refers to nine smaller tributary crossings. The SDEIS allows a false impression to be drawn...by failing to mention that all but two of these crossings are dry during the summer months. The tributaries will not be functioning as tributaries during the time when crossings will occur.

Response: The nine tributary crossings are associated with the Proposed Action. Most of these crossings are on Alberg and No Name Creeks, or on side channels of Rough and Ready Creek. All are mapped as perennial streams. Even if they are seasonally dry, they are part of the stream systems and are subject to Riparian Reserve Standards and Guidelines.

Comment: The SDEIS states that the use of water would lead to lower flows and higher temperatures. This statement is misleading because summer flows are already low. That fact would not be altered whether or not the project is developed..

Response: Stream temperature and flow are directly proportional (Brown, 1972). The EIS states that high water temperature are inherent to the area and that temperature increases (from water withdrawal) are not likely to be measurable. Because Rough and Ready Creek is water quality limited for high temperature, even a small increase would not meet state standards.

Comment: The SDEIS fails to identify what “other hazardous substances” are. Consequently, there is no way to know what this risk really is and whether the consequence of such a spill is significant.

Response: Page 63 of the SDEIS identifies hydraulic fluids, gas and diesel as the most likely hazardous substances associated with this proposed operation. The EIS discloses that the significance of such a spill is related to many factors. Even a small spill could affect aquatic organisms, and because at least one family drinks water directly from the creek, a spill could affect human health. The EIS also states that groundwater may become contaminated, but the likelihood that downstream wells may be affected is very low, given the underground filtering that would occur between a spill site and residents.

Comment: Since the proposed pits are small, their six-foot deep depressions are unlikely to destabilize large amounts of slope. Thus, proper mitigation should not be difficult to provide as a project feature.

Response: Mine Site D is the only site where stability issues are anticipated. Mitigation discussed in Chapter Two requires the miner to complete a stability analysis and a final design to ensure slope stability at Mine Site D, if that site is to be mined. Some alternatives avoid mine site D entirely.

Comment: Affected Environment - There is no discussion of rainfall or other forms of precipitation. In order to determine whether there might be a discharge from the mine pits (which would require an NPDES permit if the discharge was to affect the water of the U.S.), net precipitation should be determined for both average and extreme wet years (reasonable worst case over the life of the project).

Response: The West Fork Watershed Analysis is incorporated into this EIS. It includes a discussion of precipitation. Average annual precipitation in the area is 65 inches. The pits would be drained as a part of the reclamation plan (see EIS Chapter Two for details). Some permits may be required.

Comment: Environmental Consequences - It is stated on p. 57 that the holding capacity of the pits could be exceeded. In addition to determining possible extreme precipitation events, consideration should be given to using such events for design purposes in sizing pits to contain storm water rather than allowing a discharge (assuming no or limited infiltration).

Response: The reclamation plan includes provisions for an engineered drainage design to mitigate for the risk of their holding capacity being exceeded. The pits are likely to contain water some of the time, especially during times of heavy precipitation.

Comment: The SDEIS points out that Rough and Ready Creek exceeds State Water Quality standards for temperature during the summer when the flow is low. For completeness, expand on this point in the FEIS. Explain that not only does it exceed the water quality standard for temperature but that it has been legally listed as impaired under Section 303 (d) of the Clean Water Act. This listing sets into motion legal requirements for Oregon to take actions, such as the development of total maximum daily loads that will bring the Rough and Ready Creek back into compliance to the standard.

Response: Discussions in the FEIS include this information.

FISH AND WILDLIFE

Comment: The fact that lower Rough and Ready Creek is marginal, as opposed to optimum, for fish habitat is a stronger reason for opposing this project, since associated activities would more likely result in extirpation of resident populations.

Response: Mining and associated activities are not likely to result in extirpation of resident fish populations. Seasonally high water temperature is the primary limiting factor for fish; temperatures would not be measurably increased in any alternative, and the trend towards increase can be avoided in some alternatives (see EIS discussions for more information).

Comment: Habitat access may also be decreased by water withdrawal if flows are below that necessary for fish passage. This is not considered in the PETS fish or Aquatic Conservation Strategy/Riparian Reserve discussions.

Response: Water withdrawal could have a seasonal influence on fish passage, however withdrawals discussed in the FEIS are small (2% of the low flow) and are not likely to affect fish passage.

Comment: The way the Aquatic Conservation Strategy is addressed in a comparative fashion does not provide information about whether any alternatives in fact meet the strategy. An alternative may “better meet the strategy” than another alternative, but none meet it completely.

Response: No alternative, including the “No Action”, can completely meet all Aquatic Conservation Strategy Objectives (1-9). However, No Action and Alternative 9 best meet the objectives, and the Proposed Action clearly would not meet the intent of the strategy.

Comment: Road construction will certainly affect the variability of floodplain inundation.

Response: Road development associated with the Proposed Action could affect floodplain inundation. The other alternatives are less likely to affect floodplain inundation since they avoid high risk areas.

Comment: The EIS must give the Riparian Reserve Standards and Guidelines which the analysis responds to. The EIS must also state which alternatives, if any, actually meet them. It is not adequate to assess what alternatives best meet the standards without stating whether they actually meet them.

Response: The Riparian Reserve Standards and Guidelines have been added in the FEIS.

Comment: Both humans and wildlife are very sensitive to sound, especially at certain pitches. Industrial noise pollution has been proven to cause serious adverse reactions with many animal species. Birds are especially sensitive. They will not reproduce under these conditions; they will most likely permanently leave their native habitat in the Rough and Ready Watershed.

Response: Industrial noise pollution associated with NICORE could result in adverse reactions by some animal species adjacent to the activity. These effects would not likely lead to significant impacts on any animal populations, given the scale of the proposed operations.

*Comment: The SDEIS states that habitat for the foothill yellow-legged frog, *Rana boylei*, exists within the analysis area, but that no significant effects on the species are expected. The SDEIS does not provide any basis for this conclusion. The Forest Service has provided no information on the status of the yellow-legged frogs in the watershed. There is no discussion on what impacts the Nicore project may have on the frogs. The SDEIS discusses many adverse effects to water quality and aquatic habitat. Since frogs are much more sensitive to environmental pollution than fish, how can the SDEIS conclude that no significant effects on this species are expected? As the Forest Service has not conducted surveys for the yellow-legged frog in the watershed, and offers no analysis of their status, habitat, and populations in relation to the mining proposal, haul route, water withdrawal sites, etc., the analysis does not meet the intent of NEPA.*

Response: The EIS describes many activities that could have direct impacts on individual yellow-legged frogs. These include development of stream crossings and disturbance of areas within the Riparian Reserves. The Proposed Action would have the most widespread effects, Alternative 9 and No Action would have the fewest effects. Significant effects are not likely in any alternative, given the scale of the operation in relationship to the amount of habitat in the area.³ Surveys are not necessary to support this conclusion.

Comment: The discussion and analysis of impacts to fish and other aquatic animals is inadequate. Apparently the Forest Service believe that they only have to assess impacts to fish habitat.

Response: The discussion and analysis of potential impacts to fish and other aquatic animals is based on information gathered from Level II stream surveys and field observations. Forest Service specialists use a combination of survey data, field observations, air photo interpretation and professional judgements to provide the analysis in the SDEIS. The analysis is adequate given the scope and scale of the operation and potential impacts.

Comment: Without discussion, the SDEIS dismisses any significant impact to the hundreds of vertebrate and thousands of invertebrate species that occur with the Nicore analysis area. Won't reptiles and amphibians (including rare ones) be at increased risk of being run over by trucks?

Response: Some reptiles, amphibians, birds and mammals may be displaced from mining activity sites and water crossings. Increased vehicle traffic would likely result in increased mortality in some animals. However, the predicted impacts to individuals and groups of individuals are not likely to reduce overall populations.

Comment: The statement on page 67 that "no critical habitat of salmonids would be adversely affected by this project" is contradicted by the matrix on page 66.

Response: Since the SDEIS was released the National Marine Fisheries Service has declared that all federal lands identified as Riparian Reserves adjacent to coho bearing waters as Critical Habitat. This finding is included in the FEIS.

Comment: The SDEIS states that unless there are hazardous material spills and high magnitude landslides, the water quality would be expected to remain within the range that currently supports biological and chemical integrity to support aquatic and riparian species. There is no support or evidence for the Forest Service even knowing the existing condition or the range that currently supports biological and chemical integrity, let alone evidence that this will be maintained.

³Significant effects to the existing yellow-legged frog populations within the Nicore planning area are defined as measurable effects that would likely lead to a reduction in overall population size or species distribution within the area.

Comment: The SDEIS states that water quality would be expected to remain within the range that currently supports biological, physical and chemical integrity to support aquatic and riparian species. First, the Forest Service has established no baseline to determine the range, has done no studies on the adaptation of aquatic species in streams flowing through ultramafic watersheds, and appears to know little about the aquatic species that inhabit Rough and Ready Creek.

Response: The existing water quality is evidenced by the USFS Level II Stream Surveys, site-specific USGS Baseline-Geochemical Studies, USFS Water Temperature Studies, and field observations. The Aquatic Conservation Strategy discussions and findings are based on the known (surveyed) condition; the potential risk of the operation, given its scale and scope; and professional judgements.

Comment: The Forest Service and other agencies in their emphasis on fish production numbers ignore Rough and Ready Creek's value to maintaining aquatic bio-diversity. Rough and Ready Creek's steelhead and cutthroat trout have adapted to survive in an environment much harsher than those that inhabit streams which flow through a more typical geology. Fish production numbers are not the only criteria that must be considered in determining the importance of Rough and Ready Creek's fishery and the impacts of the Nicore mine.

Response: The National Marine Fisheries Service recently determined that Klamath Mountains Steelhead Trout are genetically similar over the entire Ecologically Significant Unit (ESU). Rough and Ready Creek populations are included in the ESU. The potential impacts of the Nicore project are discussed throughout the EIS, not just in relationship to "fish production numbers."

Comment: The SDEIS discloses that bench road construction may deliver between 50 and 100 cubic yards of coarse and fine sediment is likely to enter Rough and Ready Creek. It then excuses the...sediment...by stating the fact that Rough and Ready Creek is capable of transporting this material through the system at high flows. However, [a pool below the construction area] is occupied by juvenile steelhead and other aquatic species during the summer months.

Response: The construction of the bench road may deliver coarse and fine sediment to aquatic habitat directly adjacent to the road. Winter high flows can be expected to transport some of this material through the system. Direct impacts to aquatic organisms, including fish, would likely occur during the construction phase. The overall quality and quantity of pool habitat, adjacent to this construction, may be reduced in terms of carrying capacity during the low flow period prior to the first winter transport period.

Comment: Have any surveys been conducted within the analysis area for PETS fish species and if so, why wasn't specific data included in the SDEIS? What are the estimated numbers of juvenile and spawning fish present in Rough and Ready Creek and its tributaries, and what estimated percentage would the proposed project or its alternatives reduce these numbers?

Response: Forest Service, Region 6 Level II Stream Surveys were conducted in 1991 and again in 1994. Specific survey data is part of the analysis files and was published for the West Fork Watershed Analysis, which is incorporated by reference into this EIS. The survey data is summarized in Chapter Three of the EIS. Juvenile numbers are low relative to other survey areas on the Siskiyou National Forest. Spawning surveys have not been conducted by Oregon Department of Fish and Wildlife. A couple of juvenile coho salmon were observed last year in the early spring in the vicinity of Seats Dam. The potential reduction in population was not estimated for the project, rather, the trend toward maintenance of degradation of habitat was disclosed. It is not possible to estimate actual losses in terms of numbers of fish.

Comment: Specific data and the results of any National Marine Fisheries Service consultation and informal conferencing must be included in the Final EIS to facilitate informed decision-making.

Response: The National Marine Fisheries Service has requested the Forest Service consult on the Preferred Alternative and not on the entire range of alternatives identified in the EIS. The Preferred Alternative in the FEIS (Alternative 9) would not affect any listed fish, so consultation is not required.

Comment: The cursory treatment of other wildlife species in the SDEIS is absolutely inadequate. An extensive industrial mining project like the Nicore project with its potential for opening up the area to future development and consumptive industrial uses will certainly affect the habitat and movement of other PETS and Survey and Manage species.

Response: Hundreds of vertebrate and thousands of invertebrate species may occur within the Nicore analysis Area (see West Fork of the Illinois River Watershed Analysis 1.0). Some habitat alteration and impacts to individuals would likely occur from any full scale mining alternative. The cumulative effects of continued mining would impact greater numbers of animals.

Comment: Based on what survey data, studies or other information is the conclusion drawn that there will be no impact to the del Norte salamander?

Response: No del Norte salamander habitat has been identified at the proposed mining sites.

Comment: What is the basis for concluding that “no wildlife species would be extirpated or otherwise significantly affected by the project”? How can this conclusion be drawn before consultation with the US Fish and Wildlife Service?

Response: This conclusion is based on professional judgement (working knowledge of species/habitats and the proposed actions). There are no Listed or Proposed wildlife species affected by the proposed actions. Consultation with the Fish and Wildlife Service is not required.

Comment: The analysis of cumulative watershed effects is extremely poor. The SDEIS lamely concludes that “the effects of past activities on fish are unknown...the conditions for fish prior

to construction of the diversions is unknown.” NEPA requires the agency to provide a detailed analysis of the environmental impacts. The Forest Service may not plead ignorance in this matter.

Response: The effects analysis includes existing information from USFS, BLM, ODFW and USFW. No historical data for Rough and Ready Creek information on fish populations, prior to the construction of diversions, is available.

Comment: The SDEIS states that “the Proposed Action may adversely affect fish and their habitat by blocking fish passage at mainstream and South Fork crossings and degrading other habitat features.” However, no explanation is given of what other habitat features might be degraded and how. During the summer months when the Proposed Action utilizes these crossings, the interference with fish passage is nonexistent. Because the lower portion of Rough and Ready Creek goes dry in the summer months, there will be no impact to fish passage.

Response: The lower portion of Rough and Ready Creek, in the vicinity of the crossings, does not go dry every year. The other habitat features are listed in the Matrix of Factors and Indicators. The Proposed Action may degrade many of these features.

PORT ORFORD CEDAR

Comment: Modification of stream beds and streamflows by filling necessary for equipment crossing, and disruption of subterranean water movement by excavations for roads and mining pits may in some situations disrupt the perched water tables and the consistent water levels that I believe are required for maintaining some stands of POC. unlikely, bridges & culverts in some alternatives. Your document needs to consider the indirect consequences of the loss of POC, which will produce even more change in several resources that you consider separately as items of concern. The document partially makes this point in item 8, page 77, but it needs to be made more completely and widely. These impacts are:

- 1. POC probably affects the soil chemistry and shade sufficiently that its loss may produce changes in the vegetation composition, increasing likelihood of entry of weeds.*
- 2. POC produces much of the shade for streams, and most of the rot-resistant large wood for habitat.*
- 3. POC produces calcium rich litter in a landscape where Ca deficiency may be a major cause of plant exclusion and poor growth.*
- 4. POC is highly valued for aesthetics.*
- 5. POC provides habitat for martens.*

Response: These benefits are discussed in the FEIS. High quality habitat for marten does not exist in the analysis area, nor have marten sightings been documented within the area.

Comment: Your statement on page 41 that the preferred alternative has no more risk of fungal entry than no action seems incorrect to me. Even the exploratory ore removal that your preferred alternative allows carries with it substantial risk, associated with movement of equipment to and from the mining sites. All measures necessary for full scale mining should be applied to Alt. 9.

Response: Currently, the area is open and used by the public without regard to Port-Orford-cedar (see the EIS for a description of the access in the area; some roads are not currently passable with a passenger vehicle, but can be accessed with motor bikes, pack stock, or hiking). The FEIS contains a POC Root Disease Containment Strategy for the Preferred Alternative. This strategy does not include some measures that would apply to other alternatives, because Alternative 9 does not allow traffic on the roads (except for limited use of Road 461 for equipment transport - vehicle washing would be required for the few trips allowed on this road).

Comment: Many of the measures that you list for reducing risk are appropriate for any operation around POC, but the efficacy of these measures remains largely unproven. These measures should be required and enforced rigorously, but the measures are no guarantee of excluding the disease. Decisions should be and based on losses if the disease is introduced, not on the assumption that it will not be introduced.

Response: Agreed. The EIS acknowledges these facts.

Comment: Operating periods should be determined by current road conditions-if there is any mud, then operations should stop, no exceptions. No operations should be considered between September 15 and June 15.

Response: June 1 thru Sept. 30 is considered the dry season. The Disease Containment Strategy recognizes wet weather can occur during these months. The vehicles equipment permitted in the project area will have been washed. Since there are no known infestations within the area, any mud sufficient to adhere to tires is unlikely to be carrying spores. Further restrictions on operating season are part of full scale mining alternatives, given other resource concerns.

Comment: On pages 16 and 23, using rock free of root rot and weed seeds is discussed, but how will such rock be produced? Steam sterilization is the only method I can think of to assure that.

Response: Rock sources that are root rot and noxious weed free would be required. Some sources are available within the analysis area.

Comment: On page 23, use of water for dust abatement is discussed. How will such water be determined to be disease-free?

Response: The water must come from a source that is considered free of the disease (such as Rough and Ready Creek).

Comment: One aspect of root rot exclusion that was not considered is control of drainage from roads, which should be directed as far as possible from POC populations.

Response: Page 16 of the SDEIS discusses this issue. Site "B" includes insloping and ditching to control water flow away from POC. The FEIS discusses the affects of outsloping the roads.

Comment: All restrictions [related to root disease] should be applied to all operations, not just mining. Site restoration should include planting of POC, using root resistant stock if it becomes available.

Response: The No Action alternative is the only alternative where all restrictions will not be applied. The area disturbed at the mine sites do not have POC growing on them. Road restoration may include treeplanting with Port-Orford-cedar.

Comment: I question two statements on page 50. POC probably does not grow on dry sites within the study area, is there evidence to the contrary? And I wonder how a calculation was done that found only 7% of the range of POC affected by root rot - that seems like a highly understated figure.

Response: Reference to dry site POC has been omitted from the EIS. The 7 percent figure came from a comparison of total acreage of federal lands with POC (cited in a 1994 letter to Region 5 and 6 Regional Foresters) and monitoring data published annually.

Comment: One more comment about POC sanitation. Get rid of that misleading word. You are not removing anything that is disease, but killing the resource that you are claiming to protect. While in some circumstances it may be an effective tool, when applied in excess it destroys what you are trying to save.

Response: Silviculture texts define sanitation as” the elimination of trees that have been attacked or appear in imminent danger of attack by insects or pathogens in order to prevent these agents from spreading to other trees” (Smith 1962, Daniel et al. 1979). Such a treatment would be applied only where necessary, and is not included in the Preferred Alternative.

Comment: I believe the risk and consequences of POC root disease introduction are greater than your document indicates. Based on consideration of POC alone, I believe that there is a good case for excluding all mining. Even your preferred alternative poses risks far beyond those justifiable for a money-losing mining operation.

Response: This comment will be considered in the final decision with rationale discussed in the Record of Decision.

Comment: The SDEIS states that all action alternatives include a Root Disease Containment Strategy but does not address the effectiveness of these measures or which ones will be implemented.

Comment: The SDEIS merely lists mitigation measures for POC but fails to analyze the measures in detail and explain their effectiveness. The SDEIS relies on mitigation measures whose efficacy is unknown and whose effectiveness experts have questioned.

Response: Effectiveness of POC disease management techniques has been documented in the annual Siskiyou POC Monitoring reports. Results from these reports has been used to draft a Range Wide Study Assessment (due to be published in June 1999). The FEIS includes a specific POC Root Disease Containment Strategy for the Preferred Alternative.

Comment: The SDEIS states that Clorox may be used to control root disease but provides no discussion regarding the effectiveness of using Clorox, the environmental impacts of Clorox, or at what concentrations the chemical will be used.

Response: Clorox is recognized as a potential part of the Disease Containment Strategy. Test on efficacy have shown that mortality of zoospores occur at concentrations of 1gal/1000 gals water. As of August 4, 1998 Clorox is a registered pesticide in Oregon for control of P.lateralsis. Clorox would not be used if washing is done with a clean water source.

Comment: The SDEIS lists vehicle and equipment washing as a mitigation measure, but does not identify the water source, calculate the amount of water required, or disclose the impacts of water withdrawal.

Response: This issue is addressed in the POC Root Disease Containment Strategy for the Preferred Alternative (Appendix J). Vehicle and equipment washing for the Preferred Alternative would occur at a commercial wash site off federal lands. No impacts to federal lands are expected. If a full scale mining alternative were selected, disease free water would be required and any water source would be subject to Agency approval.

Comment: The loss of Port-Orford-cedar from serpentine streams is an irreversible and irretrievable commitment of resources. Without taking the required hard look at the values of Port-Orford-cedar and the irreversible and irretrievable commitment of resources that its loss from sensitive habitats constitutes, the FS is not meeting the intent of NEPA. Please incorporate work from the Six Rivers National Forest, the West Fork Watershed Analysis and other documents from the Siskiyou National Forest to develop an understanding of POC.

Response: This analysis incorporates information from the West Fork Illinois Watershed Analysis and monitoring results. Wholesale loss of Port-Orford-cedar from serpentine streams is not an outcome predicted in this EIS. Even if root disease were introduced into the watershed, the effects would not be expected to constitute an irreversible or irretrievable commitment of resources.

Comment: The SDEIS states that the mitigation for unauthorized vehicle traffic to the north side of Rough and Ready Creek would be eliminated by gating the access roads, but provides no supporting evidence that gates will eliminate unauthorized traffic.

Response: Gate closures have been both effective and ineffective. Placement and strength of gates are important factors in temporary or seasonal road closures. Monitoring and enforcement are other important factors.

Comment: Port-Orford-cedar found along the mainstem of Rough and Ready Creek and the Forks is often associated with springs and seeps and their diverse plant communities which often harbor rare and sensitive species. If the cedar is lost to the root disease, will these habitats persist? The SDEIS does not make the connection between Rough and Ready's outstandingly remarkable botanical streamside habitat values and the benefits of large and/or firmly rooted Port-Orford-cedar.

Response: These issues are addressed in the EIS. Effects would be greatest in particular locations that are avoided in many of the alternatives.

Comment: It is stated on page 23 that equipment could be cleaned, perhaps with Clorox to help prevent spread of POC Root Disease. This is unacceptable--who will oversee this equipment washing? Are we to expect that the Forest Service will keep an inspector at the beginning of the road to inspect each vehicle to make sure that it passes muster?

Response: Compliance with Plan of Operations stipulations, including equipment and vehicle washing, would be required, and the miner would be responsible to fulfill any requirements. Periodic inspections would occur to ensure compliance with mitigation measures. The miner could be shut down if requirements were not met.

Comment: The proposed water application rate for road dust control conflicts with the POC root disease measures.

Response: Watering the road for dust abatement is not considered a conflict. Roads will not be muddied through the dust abatement.

Comment: The SDEIS states that Clorox may be used to control POC root disease. But we were sent a letter by Mr. King, dated July 29, 1998 that states that bleach is not a registered pesticide and the FS cannot recommend its use.

Comment: Clorox is being suggested for use in vehicle washing to lessen chances of spreading root disease. Is this okayed for use as a pesticide?

Response: Clorox was register as a pesticide in Oregon August 4, 1998.

Comment: Many of the measures that you list for reducing risk are appropriate for any operation around POC, but the efficacy of these measures remains largely unproven. These measures should be required and enforced rigorously, but the measures are no guarantee of excluding the disease. Decisions should be and based on losses if the disease is introduced, not on the assumption that it will not be introduced.

Response: Root disease is a major issue and will be an important aspect of the decision. The EIS acknowledges the efficacy of mitigation measures are unproven. The Record of Decision states the rationale for alternative selection.

Comment: The SDEIS does not address the impact of the potential loss of Port-Orford-cedar from the botanical areas due to the mining operation. How will the loss of ecological benefits provided by Prot-Orford-cedar affect other plant species in the Botanical areas?

Response: Port-Orford-cedar (POC) in the botanical area is at risk of root disease introduction regardless of alternative (including No Action). The mining Plan of Operations will include a POC Disease Control Strategy, which will reduce, but not eliminate the risk of introduction from mining. The EIS discusses the places within the project area that are at greatest risk, and would have the greatest impact if the POC became diseased. The “No Name Fan” (one of these places) is within the Botanical Area. The non-mining risk is also being assessed with the Botanical Area Management Plan. An analysis to determine the relationship between POC and rare plant species is also ongoing; it has not revealed any co-dependent relationships between POC and rare plants, although they may occupy similar habitats.

NOXIOUS WEEDS

Comment: I am concerned about the spread of noxious weeds from the mining operation. The volunteers in the Illinois Valley could not keep up with pulling the star thistle if it increases due to the operation. Where would the helicopters fly in and out from? The runways of the IV Airport are infested with star thistle. Vehicles and equipment transported there could easily spread star thistle to sample sites deep within the watershed. The present star thistle program does not have the manpower to pull noxious weeds from the airport area.

Comment: I believe it will be virtually impossible to prevent the spread of Star Thistle into this watershed.

Response: The EIS discloses that all alternatives (including No Action) may spread exotic plant species, including noxious weeds. Mitigation common to all action alternatives includes monitoring and eradication of noxious weeds at the mine site, stockpile site, and along the haul routes. However, since access is not restricted in the lower reaches of the watershed, noxious weeds are likely to be introduced and spread, but the infestations are likely to be small, due to the serpentine influence.

Comment: The SDEIS does not analyze the risk of spreading noxious weeds associated with helicopter use.

Response: Noxious weeds may be brought in by helicopter operations, however, the likelihood is reduced by the fact that the helicopter does not land at the mine sites.

BOTANICAL DIVERSITY/SENSITIVE PLANTS

Comment: What happened to Lilium vollmeri? Lilium bolanderi? Juniperus communis frankii? These plants were not listed as sensitive in the EIS.

Response: These species may occur within the analysis area, but are not a survey and manage, special status species, sensitive, threatened or endangered. Thus, they are not discussed specifically.

Comment: In the Botanical Biological Evaluation, Darlingtonia is not mentioned. Isn't it listed as endangered? Please provide documentation and address all applicable management policies for the protection of Darlingtonia bogs. Include site-specific locations within the EIS area and mitigation measures.

Response: Darlingtonia californica is not a sensitive plant. The biological evaluation analysis includes only sensitive and listed plants. Darlingtonia will be protected by avoiding fen areas. The key component for conservation is to maintain the hydrological integrity of the fens as is discussed in the EIS.

Comment: The SDEIS states that "bulbs of Calochortus howellii that may be affected by the proposal would be harvested and replanted." Digging up the bulbs of a species the US Fish and Wildlife Service is considering for listing under the ESA cannot be defined as protecting, preserving, and enhancing the species. There is no discussion of the survival rate of transplanted bulbs of C. howellii, and the costs of this mitigation measure. The SDEIS fails to provide any information on whether replanting C. howellii bulbs has been successful and if so, how long the transplants have survived, survival rates, and under what conditions.

Response: Dr. Frank Lang suggested that C. howellii may be replanted. The replanting could occur in an area protected from human disturbance, or a nursery or other site elsewhere. The Forest Service does not have information on the success of this type of operation, and would monitor the replanting. C. howellii would not be removed from areas that are not directly affected by the selected alternative.

Comment: The Draft Fen Conservation Agreement states that the greatest threat to the serpentine fen species is from commercial mining in and adjacent to their habitat. It noted that "due to the great expense of extraction facilities, it is likely that all of the nickel laterite deposits in an area may be mined as part of one operation." This is not disclosed in the EIS.

Response: The Draft Fen Agreement is incorporated into this analysis and will be followed. The quote regarding the mining of all the deposits is not cited, however, the EIS contains discussion about the "great expense" and concerns about economic viability. There are no proposals to "mine all the nickel laterite deposits," however, the analysis does consider the potential cumulative effects from mining the known, similar deposits within the Rough and Ready Creek watershed. The EIS discloses that continued threats to rare plants, including fen species, could occur with the mining of the 512 acres mapped by Ramp.

Comment: The Botanical Area may also be a significant site for non-vascular plants (given the findings of the Oregon State University Lichen and Bryophyte Study Group; significant finds included 1. two locations of Bryoria tortuosa, a Survey and Manage Species and 2. Lecidea deldes, a crustose lichen threatened with extirpation throughout its range). Effects of dust, air pollution, and other factors on non-vascular plants must be addressed in the EIS.

Response: These effects are addressed in Chapter Four of the FEIS. Dust and air pollution will not be increased enough to have measurable effects.

Comment: The narrow analysis of the SDEIS obfuscates the potential impact to the rare and sensitive wetland dependent species and their habitat, including those species that the U.S. Fish and Wildlife Service would like to avoid listing under the ESA. The SDEIS only states that the "critical fen" from the draft agreement is not on any of the proposed haul routes and that, while the haul route comes close to a fen where Viola primulifolia ssp. occidentalis occurs, it is not a "critical fen". The SNF Plan's S&Gs for Botanical Areas, however, does not restrict protection and preservation of botanical features to only "critical fens". The SDEIS does not acknowledge potential reduction in the flow of springs which provide the water source for Darlingtonia fens (see discussion above) and the direct impacts on species from impacts on wetlands.

Response: The biological evaluation for plants discusses riparian areas and that the hydrological integrity of the riparian areas will not be compromised. By concentrating on the protection of critical key habitat and conservation of wetlands, the rare plants that occupy it should continue to thrive.

Comment: [The Watershed Analysis stated that] a more complete map of wet areas and intermittent streams is needed to help identify/quantify available rare plant habitat and associated protection/conservation areas.

Response: The Forest Service has pursued mapping these areas. Satellite imagery has been used to identify wetlands, however, the process has not been perfected sufficiently to determine what species of rare plants are within the wetlands.

Comment: Port-Orford-cedar found along the mainstem of Rough and Ready Creek and the Forks is often associated with springs and seeps and their diverse plant communities which often harbor rare and sensitive species. If the cedar is lost to the root disease, will these habitats persist?

Response: Yes, the habitats should persist regardless of whether POC root disease is introduced into the area or not. The EIS discloses the places that would be most affected if root disease was introduced into the area. However, effects from death of individual POC trees are not known, but are unlikely to affect the viability of any rare plant species. The approved plan of operations and the selected alternative will protect key habitats.

Comment: The Forest Service recommends, but does not explain, what avoiding road impacts to Darlingtonia fens entails. The Forest Service must discuss the extent to which the adverse affects can be avoided by the mitigation measures.

Response: New roads will be routed away from fens and will not come within 80 feet of any fen. This is expected to maintain hydrological integrity of the fens. The EIS discloses that small wetlands may already be affected by disruption of drainage due to existing roads. Continued use and development of roads may affect local drainage patterns and individual plants or habitat, however no “critical fens” are at risk. This is discussed in the EIS in Chapter Four.

Comment: The last sentence in the Chapter Three discussion of sensitive plants says that surveys for certain survey and manage species would occur once a haul route is selected. This seems to imply that the No Action Alternative is not being seriously considered.

Response: There was no intention to imply that No Action is not being considered. The alternatives vary in terms of what Survey and Manage requirements apply. Depending on the choice of alternative, Survey and Manage will be carried out appropriately. If No Action is selected, no Survey and Manage requirements would apply.

Comment: The US Fish and Wildlife Service sent a species list dated March 31, 1998 for the proposed SDEIS project area in response to a request from the Forest Service. The SDEIS found, based on the species list and other information, that alternatives proposed by the plan “may affect or are likely to adversely affect” a federally listed species *Arabis macdonaldiana* (flower). As such the Forest Service should initiate Section 7 consultation pursuant to the Act prior to issuing the Final Environmental Impact Statement.

Response: The Forest Service has not initiated consultation since the Preferred Alternative has a No Affect finding. If this finding should change, consultation will be initiated and completed prior to any decisions.

Comment: Chapter 4, page 70 states that “Cumulative impacts are not precisely known since the population distribution on all laterite deposits have not been inventoried.” A complete inventory of the flower [*Arabis macdonaldiana*] needs to be indicated on a map showing the general locations of the two newly discovered populations as well as the previously recorded populations so that an estimate of the cumulative effect to the species can be adequately assessed.

Response: A complete inventory of all laterites has not been done, and will not be done for this analysis. All areas that could be affected by the proposed plan of operations have been surveyed and all PETS plant species have been mapped. Further surveys would be accomplished as part of any future analysis regarding laterite mining in the watershed. Given the economic analysis, continued mining of these deposits is certainly not a forgone conclusion.

Comment: Figure 19 [of the SDEIS] displays the number of sites documented within 100 feet of the haul routes or within the mine sites themselves. A map should accompany a table that displays the general locations of the flower in relation to the haul routes. It should be accompanied by a detailed discussion of the potential impacts to the flower.

Comment: The table in Appendix B indicates that Alternatives 6, 7, and 8 would each impact 5 populations of the flower and Alternative 10 would impact 3 populations of the flower. The Environmental Consequences section of the SDEIS should indicate the number of plants in each population that would be impacted, what kind of impact the plants and population as a whole is likely to incur under each alternative.

Response: The specific nature of effects is discussed in Chapter Four and in the Biological Evaluation. Maps showing the locations of PETS species are not published but are in the analysis files. The numbers of plants at each site varies.

Comment: On page 16 [of Appendix B] it states that “suitable habitat for *Arabis macdonaldiana* will be identified and no impacts allowed.” On page 13 it states that the plant “may be affected.” The Forest Service needs to explain what kind of impacts may adversely affect the plant and the details of the proposed avoidance measures so that the USFW can assess the possible impacts to these species.

Response: Some alternatives “May Affect” *Arabis macdonaldiana*, because the haul route goes through or near known populations. Mitigation would require botanical assistance in road lay out to avoid as many of the plants as possible. The Preferred Alternative 9 would have No Effect on the plant.

WILD AND SCENIC RIVER

Comment: The bench road in itself is a permanent defacement of the scenic attributes of a riparian area and will degrade Wild and Scenic River Eligibility.

Response: The scenic resource was not an attribute having outstandingly remarkable value, nor do roads necessarily conflict with the Scenic River classification. In itself, the bench road is unlikely to affect the eligibility of Rough and Ready Creek.

Comment: Alternative 11 is unacceptable to me because the permanent bridge will degrade the Wild and Scenic Eligibility of the creek.

Response: The bridge proposed in Alternative 11 would not affect the eligibility of Rough and Ready Creek.

Comment: The Forest Service must study the suitability of Rough and Ready Creek prior to issuing a record of decision that would impact, in any way, the land and water resources of Rough and Ready Creek and its corridor. This includes land use outside the corridor that affects corridor and river values. The SDEIS’ analysis of the impacts of the proposed Nicore Mine on Rough and Ready Creek’s Wild and Scenic River values and classification will be seriously flawed until these [values and classification] have been subjected to the NEPA process. Only the selection to No Action or possibly the preferred alternative precludes the need for Wild and Scenic River NEPA analysis.

Response: As discussed in the EIS, the Forest Service must protect identified outstandingly remarkable values and potential classification until such time that the Rough and Ready Creek has been found unsuitable or is made part of the Wild and Scenic River System by Congress. If an alternative is chosen that would not protect the values or classification (some may not - see the Wild and Scenic River Eligibility issue discussion in Chapter Four), no mining would occur until the Suitability Study and any other needed analysis is done. The Suitability Study will likely be part of the next Forest Plan revision (scheduled for 2002).

Comment: The Forest Service is also bound by the June 1991 Final Settlement Agreement with American Rivers, et al. which requires that upon determination of eligibility...the Forest will initiate the process to amend the Forest Plan to protect and manage the streams for their outstandingly remarkable values and potential classification. In order to comply with this Settlement Agreement, the Rough and Ready Creek watershed and surrounding area should be withdrawn from mineral entry so that the validity of the mining claims that are the primary threat to Rough and Ready Creek's values and classification can be determined.

Response: Effects on Wild and Scenic River eligibility are disclosed in the EIS and do not necessarily lead to a conclusion that the area must be withdrawn from mineral entry to protect the eligibility of Rough and Ready Creek, nor is withdrawal mentioned in the Settlement Agreement. The potential classification and outstandingly remarkable values will be protected pending a determination of Wild and Scenic River Suitability (likely will be done during the Forest Plan revision scheduled for 2002). Preferred Alternative 9 does not degrade outstandingly remarkable values or the potential classification of Rough and Ready Creek.

ECONOMIC VIABILITY

Comment: [The United States Department of the Interior believes] that the FEIS needs to demonstrate that nickel can be economically recovered from project ores using existing metallurgy and facilities. The FEIS needs to use a rigorous model to estimate the economic viability of the project. The citation of a few general references, which suggest the project is uneconomic, is insufficient as metal prices are difficult to predict. The USGS believes that the AME Economics 1998 quote in the SDEIS that cobalt may fall to \$10 per pound is speculative and weak evidence that the project lacks economic viability.

Comment: The USGS believes it is extremely unlikely that these deposits are economically viable because 1) the tonnage of ore is significantly less than any operating laterite deposit, 2) the ore grades are below those of virtually all operating laterite deposits, and 3) the critical infrastructure needed to develop these deposits is not present. The FEIS should provide a realistic economic model prior to development. It is needed to access that the ore deposits are sufficient for a successful project.

Response: The economic analysis has been updated and additional sensitivity analyses are included. The reference to cobalt is to use today's prices for cobalt. Alternative 9 is intended to allow the proponent to provide a realistic economic model prior to full scale development.

Comment: Concerning the Nicore project, I question the legal basis of considering economics, profitability, or feasibility as a factor in determining minability. There is already reasonable evidence the Nicore ore or "dirt" is valuable in relation to the documented tests ("batch") already performed.

Response: Economics is discussed in the EIS, with the conclusion that the proposed mining may not be economical. Alternative 9 is designed to resolve issues with the economic viability of the operation.

Comment: The mining operation is in direct conflict with the overall strategy for economic development in the Illinois Valley.

Response: The proponent has not characterized his plan as having any relationship to the overall strategy for economic development in the Illinois Valley. Potential effects on tourism, Interpretive Development, residents, and economic development are discussed. The Strategic Plan does not directly influence management on federal lands.

Comment: The FEIS needs to complete the reference to the expanding production capacity at Voisey Bay by noting that the Project has no current production and some serious development issues have been encountered. The comments about global resources need to be expanded. The implication that the world has plentiful supply of nickel and therefore, this deposit should not be mined, needs to be rigorously supported in the FEIS

Response: The FEIS includes these references; Appendix I contains the full Economic Analysis prepared by the Forest Service.

Comment: The focus of NEPA is environmental analysis, not an analysis of the economics of the Proposed Action. NEPA does not require the agency to examine the economic consequences of its actions. In response to Mr. Freeman's request that the Forest Service articulate under what authority the SDEIS was expanded to include an analysis of the economics of his proposal, the Forest Service gave Mr. Freeman a copy of Chapter 1900 of the Forest Service Manual. Section 1970.1 lists seven different statutes or regulations which the Manual asserts authorizes or requires the Forest Service to engage in an economic analysis of Forest Service decision-making. Each of these requirements relate to the economics of proposals which lie within the economic discretion of the Forest. In the present case, Mr. Freeman has a right to access his ore, and the Forest Service must allow him access regardless of what the Forest Service believes about the economics of his proposal.

Response: The proponent has no absolute "right" of access under any law, regulation, or policy. Forest Service policy in NEPA clearly allows economic considerations in the analysis and selection of an alternative.

Comment: The economic analysis used in the SDEIS is flawed. One, it relies on reports which were both paid for and submitted by the Nature Conservancy-an organization which has made quite clear that it is opposed to the project. The SDEIS [and reports] fails to recognize the full value of the nickel laterite ore. Instead, they focus only on the nickel content and ignore completely two other valuable materials which Mr. Freeman proposes to extract from the ore: both iron and chromium. No one who has concluded that the project is not economic has calculated the value of the iron and chromium content of the ore which will be extracted in addition to the nickel.

Response: The analysis has been redone in the FEIS to include the values you suggest. Mr. Freeman has had the opportunity to input his own analysis and or factors into the analysis, but has not provided any written input.

Comment: Several comparisons have been made of Mr. Freeman's proposal to the Riddle project. This is faulty because that plant used an antiquated process from the 1920s which failed to use both the iron and chromium, but instead simply discarded those elements. Freeman's proposal will be able to take advantage of the iron and chromium, rather than discard them as waste.

Response: This fact is recognized in the FEIS. However, the proponent has not identified where the ore would be processed, leading to uncertainties in the analysis.

Comment: The SDEIS recognizes that nickel prices have fallen since the Plan of Operations was first filed in 1992. If the Plan of Operation were approved in a timely manner when nickel prices were higher, Mr. Freeman's proposal would have had even more economic benefit. If approval of the plan of operations is affected by lower nickel prices, the Forest Service should recognize that approval will place Mr. Freeman in a better position if nickel prices rise.

Response: A sensitivity analysis for the price of nickel is included in the FEIS. The breakeven point (the price at which costs equal revenue) for the price of nickel and associated minerals such as cobalt and iron varies for the different alternatives. The proposed action's costs would equal its revenue when the world market is \$3.75/pound for the price of nickel and associated minerals. In contrast, Alternative 7's breakeven point is at \$4.02 per pound. If and when the price for nickel and associated minerals would reach \$5.54/pound, the proponent would receive a reasonable rate of return for the investment on all alternatives. Within the last five years, nickel did reach a price of \$3.73/pound in 1995. However, as noted above, the price has fallen significantly to \$1.95/pound in August, 1998 (lowest in a decade) and long term trends are not expected to exceed \$3.00 per pound (Anaconda Media Release, 17th July 1998).

Comment: The SUD "evaluation" was performed by personnel who were not qualified to make such economic determinations. Their work was based on data and information that was in error, out-dated, and supplied by individuals and groups that opposed the project. Information relating to favorable project economics was discussed with the Illinois Valley District Ranger on Nov. 10, 1998, but this information was ignored.

Response: The Surface Use Determination (SUD) was performed by an experienced Forest Service Mining Engineer. Information related to basic economic analysis was requested from Mr. Freeman, but has not been provided to date. Mr. Freeman provided an oral evaluation of the economic analysis when the SDEIS was already at the printer. No written evaluation has been provided.

Comment: The SDEIS also gives a false impression. For instance, the table on page 81 shows the preferred alternative (#9) to have haul costs of \$840,000 and compares that to the Proposed Action's haul costs of \$2,080,000. At first blush, it appears that the Preferred Alternative is more economic than the Proposed Action, that is, until one remembers that the amount of ore being hauled in the Preferred Alternative is much smaller than in the Proposed Action. The Preferred Alternative ...result[s] in a cost of \$168 per ton, the Proposed Action...result[s] in a cost of \$5.20 per ton.

Response: An additional economic criteria of benefit/cost ratios is included in the FEIS. This criteria reveals the average marginal costs and benefits for the alternatives.

Comment: I urge the Forest Service to require that each pit site to be disturbed by mining be economically productive in its own right; any requests for mining at sites that would produce a loss should be rejected even if overall permission is given.

Response: The economic analysis reflects the effects of the project as a whole. Individual parts of the analysis are included, but do not need to be discussed individually because all sites have similar economic effects; based on the economic analysis none of the sites would produce a profit.

Comment: ...Even if Nicore could capture 100 percent of the US market for 414 stainless steel, there is not enough of a market in the US to make the construction of a steel mill viable. The US production of the 414 stainless steel in 1996 was 25,000 NT. According to Barrick, a production of at least 250,000 to 300,000 NT per year would have to be produced by a new steel mill to generate adequate return on a new steel mill today.

Response: Chapter Four of the SDEIS and FEIS state “the size of the ore body is far smaller than other similar ore bodies considered for commercial use (page 81).”

Comment: The analysis does not take into consideration the full costs of the mining operation. For instance, the cost of compliance with environmental regulations does not appear to have been considered. The SDEIS provides a list of some of the state permits that Nicore may be required to obtain, but it does not associate any costs with acquiring and complying with the permits. The expenditures of acquiring the permits may be considerable.

Response: The estimated cost associated with the mitigation measures are discussed in Chapter Two of the FEIS. The economic analysis in the FEIS takes into account the costs associated with the mitigation measures and environmental requirements in each alternative.

Comment: The SDEIS incorrectly states that the No Action Alternative has a present net value of zero. The No Action has a large positive present net value as evidenced in the October 19, 1998

Nicore Economics Report by King.

Response: The analysis recognizes the positive environmental effects relative to other alternatives associated with the No Action alternative.

Comment: The cost of complying with NEPA should be factored into determining the profitability of the proposed mine. While the taxpayer has paid the expense, preparation of an EIS is required in order to comply with NEPA, an environmental law, and is therefore a cost of developing the mine.

Response: The economic analysis in the FEIS takes into account the expense of EIS preparation.

EFFECTS ON RESIDENTS

Comment: The use of heavy lift helicopters, along with the great number of round trips proposed by this alternative will cause great distress and disruption to the lives of anyone within a few miles radius of their operation. Limiting flight to daylight hours is simply not acceptable, considering that it is daylight in the summer from 5AM to 10PM. A more reasonable time slot would be from 8AM to 5PM.

Comment: The hours of helicopter operation should be limited to only a few hours a day, the minimum altitude of flights should be increased by several thousand feet over the existing residential community, and the helicopter flight paths need to be shown on a map.

Response: Operations would be restricted to between 7 am and 7 pm (see mitigation in Chapter Two). All flights would be routed to avoid residences and would not come within 1,000 feet of any residence. A map of the flight line is in the FEIS.

Comment: The SDEIS continues to falsely state that only residents in the 4 to 22 homes within 0.5 miles of the haul route will be affected. It would be better to use a 5 mile distance to identify the affected population.

Response: The SDEIS does not state that only residents within 0.5 miles will be affected. It states that people living within 100 feet of the haul route would “suffer the greatest impacts” and “the closest mine site to any residence is 0.5 miles.”

Comment: The ambient noise levels that you reported in your noise study indicated that it is extremely quiet along the haul route. Off-site truck noise exempt from the Oregon DEQ maximum noise limit part of the regulation, but must be included in the “ambient degradation” criteria where the increase in the hourly L10 and L50 sound levels are evaluated [OAR 340-35-035 (1) (B) (ii)].

Response: This is considered in the EIS.

Comment: The noise levels from the hauling operation alone may exceed the Oregon DEQ noise limits of 10 dBA above the existing ambient levels.

Response: The noise analysis finds that this is unlikely, yet possible. If monitoring shows that noise standards are exceeded, the operation would be modified to reduce the impacts.

Comment: Assuming attenuation only due to distance, the noise level radiating from the excavation, crushing, screening, loading or other operations at the site to any residence within 9.5 miles will be above 45 dBA, which may exceed the DEQ noise limits.

Response: 45 dBA is NOT above DEQ allowable statistical noise level shown in OAR 340-35-035, table 8.

Comment: The SDEIS states that “Noise levels during the operations would be measured and recorded by the operator, as per OAR 34-035 (3) and (4).” I would like to know the operator’s understanding of the noise regulation. What measurements would he take and how will he use them? How is he planning to measure the existing noise level? How often will measurements be made, and what will happen if he is out of compliance? How is legal compliance going to be assured? None of this is outlined in OAR 34-035 (3) and (4).

Response: There is no way to measure the “operator’s understanding” of the noise regulations. However, sound measurement procedures, with monitoring and reporting requirements are outlined in the OAR 340-35-035 (3) and (4). The operator will be required to follow these regulations whenever any measurements are performed. The Forest Service will provide some oversight in the administration of the Plan of Operations, but ultimately, compliance with noise standards rests with the operator as permitted through the Oregon Dept. Of Environmental Quality.

Comment: The noise issues should be addressed before the operation begins to determine if it is practical to mine the site, or if the mitigation required make it not cost-effective.

Response: The noise issue has been addressed extensively. Mitigation measures will be required to ensure that the operation complies with all applicable noise regulations. Cost is a factor, but not to the extent that it would allow non-compliance with applicable noise regulations.

Comment: The noise issues should be addressed before the operation begins to determine if the hours of operation need to be restricted so that the operation is in compliance with the noise regulations.

Comment: The noise issues should be addressed before the operation begins to determine what mitigation is required for the excavating, blasting, screening, loading, and hauling operations. Barriers, quieter equipment, or a limit on numbers of trucks may be required.

Response: The noise issue was examined in detailed and mitigation measures for each alternative have been designed to ensure compliance with the applicable noise regulations. Noise levels will be monitored, with a requirement that activities be modified if noise regulations are exceeded. Blasting is not expected in this operation.

Comment: In the July 29, 1998 noise study, Mr. Cooley repeatedly uses the phrase “heavily screened by vegetation” to describe the path between noise sources and receivers. I would like to point out that attenuation due to vegetation is finite. It would be helpful to see the analysis that brought him to his conclusions.

Response: Mr. Cooley is a forester who is familiar with the proposed operation, and has surveyed the vegetation along the haul routes. Mr. Cooley also reviewed the locations of residences near the Nicore proposal. The phrase “heavily screened by vegetation” is a generalization that describe coniferous vegetation between the mining sites and the private residences. Cooley agrees that vegetation has a finite effect on noise dissemination.

Comment: Helicopters within 1000 feet of a noise sensitive receiver may be out of compliance. How did Mr. Cooley arrive at a distance of 1000 feet? Maybe it should be greater....

Response: The standard of 1000 feet was based on considerations of safety and noise control with safety being the main factor. It is the closest we would approve helicopter near private dwellings. The operator may choose to stay much farther away and will in most cases.

Comment: In the July 29, 1998 Noise Study, Mr. Cooley states that Table 8 of OAR 340-35-035 applies to new industrial and commercial operations and it is a generous standard. In Appendix A of the Noise Study, Mr. Cooley states that noise from helicopters is not controlled by the DEQ Noise Regulation. Mr. Cooley seems to also say that OAR 340-35-030 applies to motor vehicles and that motor vehicles are exempt from OAR 340-35-035. He should familiarize himself with the ambient degradation rule in OAR 340-35-035 (1) (B) (i) and (ii).

Response: Mr. Cooley’s noise analysis has been corrected to say that since the FAA does not have pre-emptive noise regulations that apply to helicopters, state standards (including OAR 330-35-035) are applicable.

Comment: It is difficult to monitor for compliance when you do not know what the noise limits are. No ambient measurements have been made.

Response: Ambient (background) noise levels would be established prior to operations. Since ambient levels change with seasons, weather, development, and vegetative growth, it seems most prudent to measure them near the time of operations, rather than what could be years in advance.

Comment: I disagree with Mr. Cooley's assertion that the noise generated by any of the proposed alternatives will be within the Oregon DEQ. Based on the limited information in the DEIS, SDEIS, and the Noise Study, the noise level radiating from the proposed operation will very likely exceed the DEQ noise regulations, even with the mitigation measures. The noise impacts should be addressed before mining begins, because the mitigation will effect the mining operation.

Response: We respect your opinion, however, Cooley's judgement is that noise impacts will be within state standards. Mitigation measures, including monitoring, are expected to ensure that standards will be met. The operator is responsible for meeting all applicable regulations.

Comment: We are convinced that comprehensive field study by independent acoustical and bio-acoustical experts is the only option that you have in order to be able to make any credible statements about the acoustical behavior of the area in question. This study must include any residential areas within a reasonable distance (at least 5 miles for helicopters) of any proposed mining related activities. The team of engineers should be commissioned to create an acoustical attenuation map of the area surrounding the proposed mining, haul route, stockpile area, and other places where noise may be generated. The equipment used by these experts must be capable of accurately simulating and measuring sound levels in the frequency range between 5 Hz. o frequencies beyond the hearing range of humans and animals. We are sure that institutions such as Cal Tech, MIT, etc. will be more than happy to recommend qualified experts capable of these tasks. A map displaying the background ambient noise must first be plotted. Next, by simulating noise generated by each piece of equipment, an attenuation plot from all locations must be measured radially, plotting the attenuation rate in every direction by distance until the noise level reaches the average background ambient noise level. Calculations and further measurements would need to be made in order to predict every possible combination of beat frequencies. These plots must continue in distance until the simulated beat noise level coincides with the average background ambient noise level. Bear in mind that nearby residents will not tolerate any significant increase in the present average ambient noise level. Rest assured that definitive legal action will be taken if any environmental degradation occurs.

Response: Additional field studies are not necessary to compare the effects of noise between alternatives, nor would it be prudent or justifiable to spend limited public funds on such a process. The operator is responsible to comply with the applicable regulations that control noise. The EIS includes mitigation, including monitoring to assure that regulations are met.

Comment: Large pieces of earth moving equipment generate tremendous amounts of low frequency energy. When multiple pieces of equipment are operated and/or moving in the same general vicinity, the sounds combine in very unpredictable ways producing beat frequencies. These beat frequencies, when caused by the interference of high level low frequency sources, can result in extremely high sound pressure levels in the subsonic and very low frequency range. These sounds can travel for over 10 miles. Humans exposed to moderate sound pressure levels experience extreme anxiety, often accompanied by nausea and unpredictable behavior.

Response: The idea that “humans exposed to moderate sound pressure levels experience anxiety, often accompanied by nausea and unpredictable behavior” is not supported by observation or studies (the comment did not include references to studies we could check). The project is not expected to generate such extreme noise as to traumatize anyone.

Comment: Part of Nicore’s supplemental proposal must include an exact listing of every piece of equipment that he intends to use (including audible signaling devices, generators, and all others). This list must include the following information as applicable: equipment description, manufacturer, model number, capacity, weight, factory certified information concerning emissions, and recommended maintenance schedules.

Response: The analysis is based on the equipment list included in the Proposed Plan of Operations (discussed in general terms in the EIS). The information requested in this comment is not necessary to compare and analyze alternatives and disclose effects.

Comment: The SDEIS does not analyze noise disturbance from helicopter flights on recreation. Helicopter noise will degrade recreation experiences for hikers, swimmers, and tourists.

Response: The SDEIS discussed this impact in the Chapter Four section on recreation impacts.

RECREATION, VISUAL QUALITY AND INTERPRETIVE DEVELOPMENT

Comment: While gating roads may constitute mitigation, it is unconscionable that the public will be denied access to a recreational area during the prime season for recreating. Helicopter use as well as the haul trucks will effectively eliminate non-motorized use of these roads. These impacts should be described under a section on recreation impacts. I do not believe that improving motorized access, when accompanied by the mining operation and involving gated roads, will improve the recreational experience for some people. It is also inconceivable that hiking, biking, and horseback riding would still occur with ore trucks constantly using the roads.

Response: Helicopter use would not eliminate non-motorized use of all the roads (hiking, biking, horseback riding). It may affect a person’s enjoyment of these activities at certain places or certain times of the day. Safety issues would be addressed through closure of areas that may be exposed to helicopter hazard. Gating roads has been recommended as mitigation for safety and POC root disease in alternatives that haul ore (except for the Proposed Action).

Comment: Why is the Visual Quality Objective “Modification”?

Response: Visual Quality Objectives are assigned during the Forest Planning process. They will be reconsidered in the Forest Plan revision scheduled for 2002.

ROADLESS CHARACTER

Comment: The Roadless Area discussion under the comparison of environmental impacts for no action should state that although the roadless area contains several roads, they are not all passable.

Response: This section has been edited to accommodate your concern.

Comment: The Roadless Character issue should include the fact that “unwanted traffic” and “adverse environmental impacts” include illegal activities and trashing of the area, resulting in additional public expense to patrol and remove trash.

Response: Any time an area is made more accessible, the possibility of illegal activities and littering exists. The roadless character section of the FEIS has been expanded to include this fact.

Comment: Road construction and reconstruction within a roadless area are contrary to the purposes for which the roadless designation was made.

Response: As described on page 55 of the SDEIS, the South Kalmiopsis Roadless Area was studied (for addition to wilderness) in the 1970's and 1980's. It was not added to wilderness in the 1984 Oregon Wilderness Act. The 1989 Siskiyou National Forest Plan allocated this area to non-Wilderness uses. There is no current “designation” as “roadless” in the Forest Plan.

Comment: The SDEIS analysis of the South Kalmiopsis Roadless Area does not reflect the awareness of the numerous ecological and amenity values of roadless areas. The Forest Service must provide a meaningful analysis of the roadless area issue, one that takes seriously the irretrievable and irreversible commitment of resources in developing any of the proposed mine sites or putting one blade to any road in the RARE II area or uninventoried roadless areas adjacent to the South Kalmiopsis. It needs to take a hard look at the consequences and impacts of the Nicore mine on the area's wilderness character.

Response: The roadless character issue has been broadened to include ecological and amenity values of roadless areas.

Comment: The roadless character reference is misleading. The area was inventoried for RARE II but was congressionally mandated for multiple use. The plan of operations is within the South Kalmiopsis Multiple Use Area. Mr. Freeman's proposal includes areas that has [sic] existing mining roads and is not roadless.

Response: The roadless character discussion in Chapter Three discloses the facts that mining roads exist within the area and the area was allocated to various non-wilderness uses in 1989. Roadless character remains an issue people are concerned about.

GENERAL QUESTIONS and CONCERNS

Comment: In addition, the potential impacts of haul route development, ore stockpiling and processing, and future strip mining on the aquifer underlying the Rough and Ready Creek floodplain and alluvial benches must be addressed in the EIS. A revised draft EIS addressing the effects of full-scale mining including, but not limited to, the 512 acres of nickel-bearing laterite in the Rough and Creek Watershed is required. Full-scale mining includes the stockpiling and drying of the ore produced from the strip mines and extension and additions to the proposed haul route, as well as smelting and disposal of slag wastes.

Response: The smelting and disposal of slag waste analysis is addressed on page 88 of the SDEIS. The assumptions for the cumulative effects analysis and results are found on page 56 of the SDEIS. More lands were not considered due to the even lower mineral content of sites outside of the 512 acres.

Comment: How much lateritic soils will be excavated to obtain the 5,000-ton sample?

Response: The SDEIS stated that Alternative 9 would excavate up to 0.5 acres. The volume of soil to be mined is about 2,000 cubic yards.

Comment: In which way does the Forest Service feel that the Nicore mining operations meet the guidelines established under NEPA Sec 101 (b) (1), "to fulfill the responsibility for each generation as trustee of the environment for succeeding generations?" The goal established under NEPA Sec 101 (b) (2) to "Assure for all Americans...esthetically and culturally pleasing surroundings..." I have not found this issue addressed in the SDEIS.

Response: The purpose and need, and decisions to be made for this analysis is listed on pages 7 and 8 of the SDEIS and included in the FEIS. The rationale for the decision is in the Record of Decision.

Comment: It is indicated that the miner would be permitted to use Proposed Action access routes to walk tracked vehicles to the mine sites for sampling. Since this access involves crossing sensitive areas and making stream crossings, I would favor that all equipment be brought into the area via helicopter.

Response: Alternative 9 was modified in the FEIS to eliminate all stream crossings. Heavy equipment could be walked into Mine Site B, using Roads 461 and 445 (Rock Creek Route), but the number of trips would be limited and only minor road improvement would be approved. Equipment would be required to be flown in to all other mine sites. Access for personnel would be limited to non-motorized or aerial transportation.

Comment: The public opposition to the proposed Nicore Mine is substantial and growing. Would a prudent individual expend time and resources to develop a sub-marginal mining operation to produce a product with little or no demand - especially when the mine has the added liability of significant opposition from the public and adjacent property owners?

Comment: Is the miner aware of the economic conclusions regarding his proposed project and if so, what is his response?

Response: The operator, by submission of the Plan of Operation has shown his intent to develop the mineral resource. The miner is aware of the public comments and the economic analysis. His official response (via his attorney Stephens) is on record and available for public review.

Comment: Will uncertainties about mitigation measures, such as what methods of dust abatement Nicore proposes, and what the source of water will be (if water is needed), and whether it will violate state water regulations be answered by the bulk sample? Will uncertainties about reclamation be addressed by the preferred alternative?

Response: Alternative 9 will not resolve all uncertainties with the analysis.

Comment: Why is Alternative 9 even included, let alone preferred, when the miner apparently has no interest in taking such a sample.

Response: The miner has not said he has no interest in taking a bulk sample. Bulk sampling was part of the original Plan of Operations provided to the Forest Service in 1992. Bulk sampling is an accepted industry practice. The miner has said that the likelihood of full scale mining is not dependent on the results of the sample. Alternative 9 is included as one of a range of options for orderly and reasonable development of minerals.

Comment: I have seen in other literature that one goal of the miner is to make a stainless steel alloy directly from the ore, utilizing the nickel, chrome and iron in the ore. I do not know whether this process is proven but I expect it has not been done on a production basis. Control of the process could be quite tricky to produce a uniform product that could be sold in the market place.

Response: The uncertainties associated with the smelting is recognized in the EIS. The bulk sample (Alternative 9) would be used in a test to define the plant's design and smelting process.

Comment: Would a contract for ore processing still need to be signed before any Nicore project related activities could begin also apply to Alternative 9?

Response: Yes.

Comment: The Forest could consider a prudent compromise. The proponent would collaborate with the Forest, the public and appropriate scientists in developing a sampling and testing protocol that will resolve the critical economic and operation questions at a much smaller scale. The Forest could allow the sample to be taken with a pick and shovel or with small equipment slung in by helicopter, and the ore transported with pack animals or by helicopter. The community could be invited to help dig. These test would provide data to develop a mathematical model that would demonstrate how the ore would meet the metallurgical feed requirements and cost structure of existing or modified smelter operations and quantify the costs associated with other significant processes involved in beneficiation of the ore.

Response: Alternative 9 is designed to meet the needs discussed in this comment. A sampling and testing protocol would be devised in cooperation between the proponent and the Forest. The miner could decide to allow the community to help dig, but this would not be required in Alternative 9.

Comment: [Given] the amount of ore to be extracted in the Proposed Action and more economic reduction processes, the choice of a smelter will be easily made. As long as the Plan of Operation is still pending, no smelting facility will contract to process the ore. The Forest Service's request that a smelter be identified first gets the cart before the horse. Mr. Freeman has no interest in stockpiling ore that cannot be smelted, but arrangements for smelting cannot be made until the Plan of Operations is approved.

Response: Contracts may have contingencies that would include approval of a plan of operation. No contact with the Forest Service from any smelter has occurred during this analysis, nor has Mr. Freeman identified any potential smelter owners.

Comment: I do not feel that it is particularly relevant that the majority of comments on the January 1998 DEIS consisted of form letters generated by environmental groups. This sentence appears to denigrate the validity of such comments.

Response: There is no intention to denigrate the form letters.

Comment: The EIS should include not only how many trips the ore trucks will make annually, but how many they will make daily and hourly.

Response: Assuming 100 workdays per year (June 15 to September 15, averaging about 6 days per week), there would be between 19 and 57 round trips per day. Assuming a 12-hour workday, there would be between 2 and 5 round trips per hour. Fewer trips per day or hour would be associated with the Proposed Action than other full mining alternatives, since the operating season would be extended to October 15.

Comment: The Mendenhall firebreak is not drivable and was never a road.

Response: The Mendenhall Fireline was considered a road in calculating miles of new construction in the SDEIS. However, in response to this comment, we have reconsidered the status of the fireline. The miles of new road construction in Alternatives 6, 7, and 8 now include the Mendenhall Fireline.

Comment: If parts of Rough and Ready are helicopter mined, the Forest Service will be deciding to use hundreds of thousands of gallons of acute toxicity, Jet A fuel. The fuel use should be seen as a drain on a non-renewable resource.

Response: The EIS estimates the amount of flight time for the helicopter (120 hours) and discloses that this is not an unusual energy requirement.

Comment: I encourage you to improve your maps. Provide names to creeks named in your discussions. Add names to topographic features named in the text. Add a scale to all the maps.

Comment: The maps do not provide a clear enough picture of the analysis areas. The scale is inadequate to clearly define the proposed routes, crossings, and other features. Streams, creeks, forks, springs, roads, fords, bridges, fans and floodplains are referenced throughout the EIS but area not labeled or discernible no the maps. A topographic map is necessary for the public to understand the character of the land and the potential environmental impacts of the alternatives.

Response: The maps have been improved in the FEIS to reflect many of these suggestions.

Comment: I do not like the size and shape of the analysis area. The area must include all of the Rough and Ready Creek watersheds, all of the South Kalmiopsis Roadless Area, all of the Illinois River drainage, all property of Walt Freeman and his blood relatives, all claims of Freeman and his family in the Klamath Siskiyou Bioregion, and all of the Josephine Ultramafic sheet.

Response: The “effects analysis” area varies depending on the resource being studied. In many cases, enlarging the area would artificially reduce the impacts (percentage of affected area would become smaller). The area shown on the maps covers the areas where direct impacts would occur.

Comment: There is a need to clarify discrepancies between descriptions of Alternative 9. Is PA the preferred alternative?

Response: Alternative 9 is the preferred alternative in the SDEIS. It is always referred to as Alternative 9 or The Preferred Alternative. “PA” is the Proposed Action, also described as the miner’s proposed Plan of Operations.

Comment: Why is Nicore allowed 5 years to complete the sampling process? We feel that time frame should be more like six months.

Response: Five years is a reasonable time frame to allow Nicore to sample the mine sites, process the sample, and consider the results.

Comment: The Forest Service has not attempted to fill the data gaps identified by the West Fork Illinois River Watershed Analysis. The Watershed Analysis does not adequately characterize the hydrological regime and resource of the Rough and Ready Creek watershed. Under the Northwest Forest Plan, project planning is dependent on Watershed Analysis for information concerning the important physical and biological processes in a watershed.

Response: The Watershed Analysis was used as the basis for Chapter Three, Affected Environment and is incorporated by reference.

Comment: How many similarly situated mining claims exist in the analysis area and the greater area surrounding it? Who holds these claims? What is the likelihood of their development, and how much will this likelihood be increased by a successful Nicore operation?

Response: No other mining claims in the Rough and Ready Creek area have been proposed for development. If Nicore is successful, there are about 500 acres of laterites with similar nickel concentrations within the Rough and Ready Creek watershed. There are also laterite deposits under claim in the vicinities of Eight Dollar Mountain and Gasquet Mountain (see Nolan memo, 10-97).

Comment: Blasting has not been mentioned very often in the SDEIS, but in order to excavate to a depth of 12 feet, I am assuming that explosives will be used to break the bedrock.

Response: Blasting as a method to excavate ore has not been suggested or proposed in any alternative. The mining would remove soils, not bedrock.

Comment: The Energy section needs to consider the energy requirement for a smelter. What is the energy requirement for an economically feasible mining operation?

Response: This issue will be considered if and when a smelter is proposed.

Comment: The miner asserts that the FS has stalled him. The chronology of events in the SDEIS indicates that the miner first attempted to avoid the EIS process and that the FS has had to make multiple requests for more specific information.

Response: The decisions made for this project will consider the information provided by the miner. The analysis has been as timely as possible.

Comment: Most topics under "Other Effects" in the SDEIS were under the heading "Non-significant Effects" in the DEIS. Is it safe to now conclude the Nicore project's impact on these topics has some effect while the significance or insignificance of the effects cannot be stated in an encompassing way covering all these topics.

Response: The section on other effects discusses topics above and beyond those issues that drove the analysis and alternative development.

Comment: Please clarify stipulations related to herbicides and pesticides, cultural resources and survey monuments.

Response: No herbicides or pesticides are proposed as part of this project. Cultural resource surveys have been completed and no resources would be affected by the project. If cultural resources are found at any time during operations, a Forest Service or BLM archaeologist would determine appropriate mitigation. No survey monuments would be affected by the project.

Comment: The Project History failed to mention that the project started many years earlier than 1992. The development of these claims has been ongoing on a continuous basis since 1970. The SDEIS fails to mention that these claims were subjected to extensive testing in the 1970's.

Response: The project history section has been expanded to consider your comment.

Comment: The SDEIS should include recognition that many of the roads in the Proposed Action were developed for mining purposes and are currently in existence.

Response: This point has been made in several places in the EIS, including Chapter Three, Existing Condition, and in Chapter One, under a discussion about the analysis area.

Comment: The Project History states that the Nicore Plan of Operation was modified in 1996, although it does not state how it was modified. We are unaware of how the Plan of Operations was modified.

Response: The project history section has been edited to correct this inadvertent error. The “paper trail” of modified Plans of Operations, requests for information and responses to those requests, and other information is confusing and lends itself to errors.

Comment: The original proposal included washed rock crossings because the FS suggested this form of crossing. It is unfair to criticize the proponent for including within the proposal a condition required by the FS. Mr. Freeman has repeatedly expressed his willingness to install bridges or culverts or any other reasonable stream crossing facility.

Response: Forest Service personnel discussed washed rock crossings with Mr. Freeman, but never required them. Mr. Freeman included the washed rock crossings in his Plan of Operations. The alternatives are not intended to be critical of the initial proposal, rather to explore various ways to reduce environmental impacts.

Comment: The SDEIS does an adequate job displaying the impacts from various access/mine development alternatives and the range of alternatives appears to cover the reasonable access options quite well.

Response: Thank you for your comment.

Comments: There should be a list of references cited, not just contents of the analysis file.

Response: References cited are listed in the FEIS.

Comment: The owners or backers of Nicore should reimburse the USFS for all of the DEIS and SDEIS expenses, before the next step is taken. This would show the miner's good faith that his plan will be successful.

Response: Forest Service policy is to pay for required environmental analysis unless a mine proponent offers to pay.

Comment: We still believe that the mining plan of operation is not serious and therefore the EIS work should be suspended until the miner submits a valid mining plan that addresses all of the shortcomings identified in the Surface Use Determination report.

Response: Upon acceptance of a mining plan of operation the Forest Service is required to perform an environmental analysis and develop alternatives to the plan based on issues raised by the public and within the agency. Issues raised in the Surface Use Determination are included in the environmental analysis, and form part of the basis for developing Alternative 9.

Comment: How can the Forest Service go forward with the EIS when it is not even known if the mining claims are placers or lodes?

Response: The location of a mining claim is not required to process a Plan of Operation.

Comment: What is the basis for allowing 5,000 tons of ore sample. Why not just buy ore on the open market if the purpose is to test the process, not the ore.

Response: The purpose of the sampling is to test the concentration process and specific chemical characteristics of the ore that may affect processing. This is a standard practice used to modify processing to attain the most efficient recovery.

Comment: The miner has not provided detailed information about the Nicore project as is required by the NEPA and 36 CFR 228 regulations. Please note that under 36 CFR 228.3(a), the FS describe mining operations to include all functions, works, and activities in connection with prospecting, exploration, development mining or processing of mineral resources, and all uses reasonably incident thereto, including roads and other means of access on lands subject to regulation in this part, regardless of whether said operations take place on or off mining claims”.

Response: The Forest Service and BLM are required to analyze activities and connected actions that occur on FS System lands. The processing operations that occur on federal lands (FS and BLM) are also being addressed. None of the action alternatives would occur until the processing was fully analyzed as required. When a smelter or test plant is proposed, any further analysis that is necessary would be completed.

Comment: Environmental analysis should include what the chances are of a helicopter accident, and the costs to the environment or human life.

Response: Our nation has adopted industrial regulations and standards for the use of helicopters. These will be followed for the project. The environmental effects of a spill of ore from the helicopter is discussed in the FEIS.

Comment: It would be informative to list each site and the maximum planned acreage, the sample size in terms of acres and ore weight, the estimated number of helicopter trips and flight time, and costs.

Response: This information is summarized in the EIS and included in the Cost Documentation report in the Analysis File.

Comment: The mention of 25 ton ore trucks has been made at most of the meetings. We would like to suggest that in all further discussions, that you state both the load capacity of the truck, and the Gross Vehicle Weight.

Response: The 25 tons is the load capacity. The Gross Vehicle Weight is about 96,300 lbs. (a Terex truck has been specified, the weight is of a comparable truck in the Caterpillar Performance Handbook, Edition 27).

Comment: A table in the SDEIS notes that the roads to all four mine sites are currently impassable by vehicles. These certainly do not meet the definition of roads used in the RARE II evaluation.

Response: The EIS discloses that the roads are low standard, and are not passable in spots due to stream crossings and disrepair. The roadless portion has not changed since RARE II.

LETTERS FROM AGENCIES AND ELECTED OFFICIALS

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UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

January 29, 1998

Ms. Mary Zuschlag
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

Dear Ms. Zuschlag:

Enclosed are comments on the Draft Environmental Impact Statement for NICORE Mining Plan of Operations Siskiyou National Forest Cave Junction, Oregon. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Susan B. Fruchter
Acting NEPA Coordinator

Enclosure



MEMORANDUM FOR: Susan B. Fruchter
Acting NEPA Coordinator

FROM: Charles W. Challstrom
Acting Director, National Geodetic Survey

SUBJECT: DEIS-9801-09-NICORE Mining Plan of Operations Siskiyou
National Forest Cave Junction, Oregon

The subject statement has been reviewed within the areas of the National Geodetic Survey's (NGS) responsibility and expertise and in terms of the impact of the proposed actions on NGS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the NGS home page at the following Internet World Wide Web address: <http://www.ngs.noaa.gov>. After entering the NGS home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the NGS data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NGS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NGS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about these monuments, please contact Rick Yorczyk; SSMC3, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECO-088

Mary Zuschlag
District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

Dear Ms. Zuschlag:

The Environmental Protection Agency has received the Nicore Mining Plan of Operations draft EIS (draft EIS) for review in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. The draft EIS presents five alternatives for mining nickel laterite at a 35 acre site in the Siskiyou National Forest Medford District of the Bureau of Land Management, Josephine County, Oregon.

Based on our review, we have rated the draft EIS EO-2 (Environmental Objections -Insufficient Information). Our primary objections are related to a lack of information about the alternatives, the potential cumulative impacts of additional mine patents in the area, a failure to meet the intent of the Aquatic Conservation Strategy in the President's Forest Plan, a lack of a detailed reclamation plan, a lack of a monitoring plan and potential sediment impacts to Rough and Ready Creek. Detailed comments are enclosed on these subjects.

An explanation of the EPA rating system for draft EIS's is enclosed for your reference. If you have questions regarding our review, please contact John Bregar in our Office of Ecosystems and Communities at (206) 553-1984.

Sincerely,

A handwritten signature in cursive script that reads "Richard B. Parkin".

Richard B. Parkin, Manager
Geographic Implementation Unit
Office of Ecosystems and Communities

Detailed Comments on the Nicore Mining Plan of Operations Environmental Impact Statement

Alternatives Analysis

The draft EIS presents five alternatives to meet the purpose and need, all of which are based on variations on the road configuration in Alternative 1. EPA believes that the alternatives analysis here is very limited and does not accomplish the purposes of the Council on Environmental Quality's (CEQ) NEPA regulations at 40 CFR Part 1500-1504. Specifically, we believe that more information needs to be gathered in order to generate alternatives that truly present options that would have a range of impacts on the environment.

The following should be addressed in the final EIS:

- 1) Possible locations for siting of an alternate stock pile.
- 2) A fuel storage, transportation plan and a spill plan.
- 3) Mitigation plans for the ore stockpiling site.
- 4) Various approaches to mine site development.
- 5) A detailed description of water uses on site and any potential discharges.
- 6) Alternative access routes to the mine site.

In addition, the section entitled 'Alternatives Considered but Eliminated from Detailed Study' provides no justification of why the seemingly viable alternatives discussed therein are eliminated. This explanation is a requirement found at 14 CFR 1502.14(a).

Cumulative Impacts

A cumulative impact as defined by the CEQ is, "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."

In the draft EIS on page 4-26, there is reference to a 4,000 acre Patent Application submitted by the applicant. The EIS states,

"Some people believe the high acreage in the patent application indicates that the miner wishes to develop a much larger mine than disclosed at this time. However, no evidence exists to substantiate this concern. The miner has indicated that should this operation prove successful, development of hundreds of acres accessed from the existing roads may follow."

It would appear, based on the miner's intent, that indeed there is evidence to substantiate a concern here. A patent, if issued, would create the potential for a large cumulative impact related

to this project.

The Rough and Ready Watershed is well known for its seclusion and roadless character. We believe the Forest Service has an obligation under NEPA to disclose the fact that if the miner is successful with his current claim, he will continue to mine in this area. If this is the case, there appears to be a direct link between the proposed action and the impacts of future mining if a larger patent were to be issued. This future impact should be disclosed during this EIS process.

Consistency with the Forest Plan

The proposed action would construct approximately .5 miles of new road in Riparian Reserves, which would violate the intent of the Aquatic Conservation Strategy and the Riparian Reserve Standards and Guidelines in the President's Forest Plan. Pages 4-18 to 4-21 in the draft EIS acknowledge this point. EPA strongly encourages the Forest Service to re-think this approach and exercise as much deference as possible toward the goals of the Aquatic Conservation Strategy. The fact that Rough and Ready Creek is a unique and valuable resource known for its pristine, clear flowing waters and the project site is within the South Kalmiopsis Inventoried Roadless Area emphasizes the need to ensure that the purposes of the President's Forest Plan are upheld.

Mitigation, Monitoring and Reclamation

The draft EIS is deficient in the areas of mitigation, monitoring and reclamation. The final EIS should include a reclamation plan which includes appropriate measures to ensure that post mining impacts will be minimized as much as possible. The final EIS should also indicate how much bond money will be posted to fund reclamation.

A monitoring plan should also be included in the final EIS that clearly states when monitoring will occur, what parameters will be monitored, where monitoring sites will be and a commitment to steps that will be taken if monitoring indicates that there is a problem.

Sediment

The draft EIS indicates on page 4-3 that the amount of sediment introduced into the Rough and Ready watershed is not known, yet in the same paragraph and on the table on page 3-3, the amount of sediment in the creek is considered optimum. The final EIS should clarify this confusing point.

Rough and Ready Creek is on the Oregon 303(d) list of impaired water bodies due to temperatures that exceed State water quality standards. The EIS should not assume increases in sediment yield will not affect stream temperature (page 4-5, figure 15); it is possible that sediment delivery will further degrade water quality. The EIS must state that the mining operation will comply with the TMDL for Rough and Ready Creek when it is completed by the Department of Environmental Quality. Further, the EIS must demonstrate that the mining operation will not exacerbate the existing temperature problem in the creek.

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO - - Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

March 12, 1998

PARKS AND
RECREATION
DEPARTMENT

Mary Zuschlag, District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

OFFICE OF THE
DIRECTOR

Dear Ms. Zuschlag:

This letter is written in response to your request for comments regarding the draft EIS concerning mining access and operation in the Rough and Ready Creek drainage in the Siskiyou National Forest. Oregon Parks and Recreation Department (OPRD) is concerned that additional truck traffic due to mining access near Rough and Ready State Natural Area will result in further deterioration of the site. We are also concerned about the impacts to the larger, botanically-significant and sensitive area.

OPRD would like to our register concern that the proposed mining operations may negatively impact the Rough and Ready State Natural Area, and to recommend that the USFS withdraw the area in question from mining. If the USFS decides to allow the mining activity, we request the following mitigating actions be required of the mining operation.

1. As a natural interpretive site, the truck traffic associated with a mining operation could be quite disruptive from both a site and noise perspective. We request that the number of truck trips per day be limited and that scheduling of these trips be tightly controlled through your permit process. We recommend that truck trips be limited to weekdays only.
2. Dust associated with both the truck traffic and overall mining activity could have negative effects on the highway traffic, recreational users of the site and the health of the plants in areas where dust would fall. Dust abatement should be strictly monitored and controlled.
3. Proposed stockpiles could significantly detract from the natural beauty and interpretive potential of the site. We propose that the piles be very low profile, used for short term storage only, be located well away from the creek, and be covered with either earthtone colored tarps or vegetation.



1115 Commercial St. NE
Salem, OR 97310-1001
(503) 378-5019
FAX (503) 378-8936

4. Clearing areas for future mining should be postponed as long as possible to limit the number of impacted areas at any one time.
5. Overall visual effects of the operation should be considered from the highway, the OPRD Natural Site and from other vantage points and corridors.

OPRD has had mining operations adjacent to its properties over the years, and our overall experience has been that the operations do negatively impact the recreational experience, unless the operation is adequately mitigated and managed to keep the visual, noise and dust intrusions to a very low level.

Thank you for your opportunity to comment.

Sincerely,



Robert L. Meinen
Director

- c Andy LaTomme, Area 4 Manager
Brent Siebold, Valley of the Rogue State Park
Matt Craddock, Medford District Office, BLM
(3040 biddle Rd. Mdfd OR 97504)
Nan Evans, OPRD Policy and Planning
Kathy Schutt, OPRD Planning and Resource Management
Jay Schleier, OPRD Natural Resource Management Coordinator



Oregon

John A. Kitzhaber, M.D., Governor

Water Resources Department

942 SW 6th Street

Suite E

Grants Pass, OR 97526

(541) 471-2886

FAX (541) 471-2876

MEMORANDUM

TO: Mary Zuschlag, District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction OR 97523

FROM: Bruce R. Sund *BRS*
Watermaster, District 14

DATE: March 20, 1998

SUBJECT: Nicore Mining Plan of Operations
Draft EIS

Thank you for the opportunity to comment on your Draft EIS. Just a few notes.

On page 2-3, Mitigation Included in Alternatives to the Proposed Action should read:

1) f) Oregon Water Resources Permit or Limited Licenses to withdraw water from Rough and Ready Creek (for use in dust abatement and other road activities).

On page 3-2, Water Quantity. Our department has made a number of streamflow measurements during 1997 and will be doing the same this year.

Thanks again. Please let me know if we can be of assistance.

BRS:ar



Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality

Western Region

Salem Office

750 Front St. NE

Suite 120

Salem, OR 97310

(503) 378-8240

(503) 378-3684 TTY

May 11, 1998

Mary Zuschlag
District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

RE: Nicore Mining Plan of Operations - Draft Environmental Impact Statement

Dear Ms. Zuschlag:

As the Department of Environmental Quality, Western Region, Water Quality Senior Hydrogeologist, I was requested to review the **Nicore Mining Plan of Operations - Draft Environmental Impact Statement (EIS)**. I have refrained from discussing the merits of the report, except as they refer to policies outlined in the State's Groundwater Protection Act (ORS 468B.150-190) and Groundwater Quality Protection Administrative Rules (OAR 340-40).

Due to other commitments, I was not able to review the specific guidelines delineated in the Siskiyou National Forest Plan, the Medford BLM District Resource Management Plan, or the Northwest Forest Plan, as they refer to the Nicore Project location. Nor did I have an opportunity to review files at the district ranger station in Cave Junction.

From my perspective as a hydrogeologist, the primary default issue with the EIS was that the plan failed to delineate those activities required to insure groundwater quality would be protected. In particular:

1. The five acres set aside for ore drying will require enhanced institutional controls to prevent spills, an impermeable surface pad, leachate collection and treatment, and groundwater monitoring to assure and confirm no adverse impacts at these locations.
2. Those areas designated for ore and overburden removal require hydrogeologic characterizations to evaluate potential adverse impacts to groundwater quality due to infiltration and seepage.
3. The delicate balance between groundwater recharge from streams, as well as discharge to streams along select areas of the project was not investigated.

Mary Zuschlag

May 11, 1998

Page 2

4. The proposed seasonal method of operation and the annual bridge and culvert installation and removal activities imply that surface water quality could be aggravated by this methodology, as opposed to more permanent structures. A correlation of the options would be advantageous.

Albeit some of these issues may be addressed later, as a function of Nicore's NPDES or WPCF permit requirements, the likelihood of adverse groundwater impacts should be referenced in the EIS.

Thank you for the extended opportunity to submit these comments. Please feel free to call or write me to discuss any specifics relative to Oregon's Groundwater Quality protection rules, regulations or guidelines as they pertain to this (or any other) project. I can be reached in the Salem office at (503) 378-8240, extension 240.

Sincerely,



Jack Arendt, R.G.

Water Quality Senior Hydrogeologist

Western Region - Salem Office

JJA:jjc

x:\jarendt\Nicore EIS comments

cc: Dennis Belsky - DEQ, Medford Office

Jon Gasik - DEQ, Medford Office

Congress of the United States

Washington, DC 20515

May 20, 1998

Mr. Mike Dombeck
Chief
USDA - Forest Service
14th and Independence Avenue, S.W.
Washington, D.C. 20090

Dear Chief Dombeck:

We are writing to ask that you take a number of actions with regard to mining claims in the Rough & Ready Creek Watershed on the Siskiyou National Forest. We are convinced that this outstanding natural area is inappropriately threatened by the proposed Nicore mining proposal.

First, we request that the Forest Service discontinue public funding of the Nicore Environmental Impact Statement until such time as the mining claims are subject to a validity examination.

And second, we ask that the area encompassed by the South Kalmiopsis roadless area, the Rough and Ready Botanical Area, and the Rough and Ready Area of Critical Environmental Concern be withdrawn from mineral entry.

As you know, in January the Forest Service released a Draft Environmental Impact Statement for the Nicore mining proposal to mine nickel and chromium for the manufacture of stainless steel. How or where this processing would take place has thus far not been disclosed.

Rough & Ready Creek flows into the Illinois Wild and Scenic River, and the Creek itself was found eligible for Wild and Scenic River status in 1993. The Outstanding Remarkable Values identified on Rough & Ready Creek include hydrological, geological, wildlife, and botanical characteristics. The watershed is renowned for its botanical diversity and high concentrations of rare plants. Both the Forest Service and Bureau of Land Management have documented the unique nature of this public land with their designations of the Rough & Ready Botanical Area and the Rough & Ready Area of Critical Environmental Concern (ACEC) respectively.

Indeed, the Forest Service has already acted to protect this unique landscape by establishing this area as off limits to timber harvest in the National Forest Plan. In addition, residents living next to the project obtain drinking water either directly from Rough & Ready Creek or via ditch recharge of shallow wells. Clearly, a mine of this character threatens the exact resources the agency has already found critical to protect.

The proposed plan of operation would build some 14 miles of road through the Botanical Area, ACEC, roadless area, and riparian reserves. It would involve construction of six crossing of the mainstem Rough & Ready Creek, and 10 crossings of its tributaries. It proposes to stockpile the ore in the Area of Critical Environmental Concern. It would initially excavate 35 acres at four separate pit sites all in the South Kalmiopsis roadless area, with the possibility of future

Mr. Mike Dombeck

May 20, 1998

Page 2

development and expansion of these sites due to the massive extent of the mining claims.

Again, we ask you to withdraw this remarkable area from mineral entry. A watershed analysis completed by the Forest Service for the West Fork subbasin, which includes the Rough & Ready Creek watershed, found that this area ranks number one in the State of Oregon for botanical diversity.

We were surprised to learn that the Forest Service decided to proceed with the environmental review of this proposal at public expense, especially when the project so clearly conflicts with the management priorities already established, and where there has been no validity examination. These costs should be paid by the mining claimant, not the taxpayer. At a time when the Forest Service is actually requiring people to pay for the privilege of hiking on a National Forest trail, it is indefensible that money can be found to expedite an environmentally disastrous mining proposal.

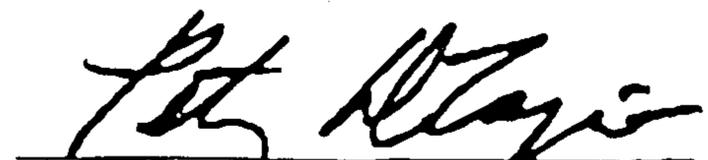
As you know only too well, the mining law puts the agency in the difficult position of treating mining as a use which must be accommodated at the expense of whatever public or ecological values exist at the same place. That does not, however, prevent you, and for that matter, us, from using every possible authority to prevent this project from going forward. That is our intent, and we ask that it be the Forest Service's, as well.

Thank you for your attention to our request. We look forward to hearing from you.

Sincerely,



Senator Ron Wyden



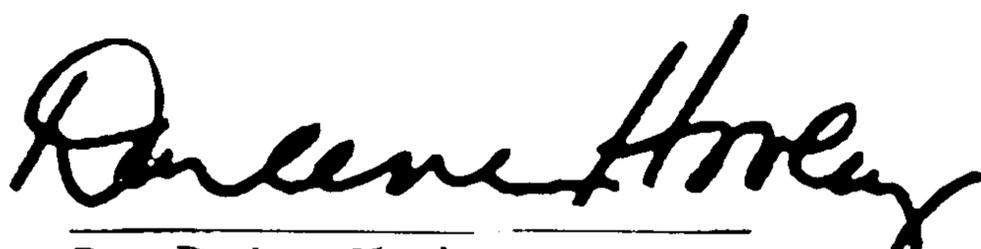
Rep. Peter DeFazio



Rep. Elizabeth Furse



Rep. Earl Blumenauer



Rep. Darlene Hooley



UNITED STATES DEPARTMENT OF COMMERCE
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230

December 10, 1998

Mr. Joel T. King
District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

Dear Mr. King:

Enclosed are comments on the Draft Environmental Impact Statement for Nicore Mining Plan of Operations Siskiyou National Forest, Josephine County, Oregon. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Susan B. Fruchter
Acting NEPA Coordinator

Enclosure



MEMORANDUM FOR: Susan B. Fruchter
Acting NEPA Coordinator

FROM: Charles W. Challstrom
Acting Director, National Geodetic Survey

SUBJECT: DEIS-9811-05 - Nicore Mining Plan of Operations Siskiyou
National Forest, Josephine County, Oregon

The subject statement has been reviewed within the areas of the National Geodetic Survey's (NGS) responsibility and expertise and in terms of the impact of the proposed actions on NGS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the NGS home page at the following Internet World Wide Web address: <http://www.ngs.noaa.gov>. After entering the NGS home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the NGS data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NGS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NGS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about these monuments, please contact Rick Yorczyk; SSMC3, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175.



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, Oregon 97232-2036

IN REPLY REFER TO:

ER 98/0773

February 2, 1999

J. Michael Lunn, Forest Supervisor
Siskiyou National Forest
P.O. Box 440
Grants Pass, Oregon 97528

Dear Mr. Lunn:

The Department of the Interior (Department) has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the Nicore Mining Plan of Operations (Project), Siskiyou National Forest, Josephine County, Oregon. The following comments are provided for your information and use when preparing the Final Environmental Impact Statement (FEIS).

Page 28. Alternative 9 - Preferred The Department believes the preferred alternative would result in the minimum amount of disturbance from road construction.

The FEIS needs to demonstrate that nickel can be economically recovered from Project ores using existing metallurgy and facilities.

Page 57. Slope Stability Since the proposed pits are small, their six-foot deep depressions are unlikely to destabilize large amounts of slope. Thus, proper mitigation should not be difficult to provide as a Project feature.

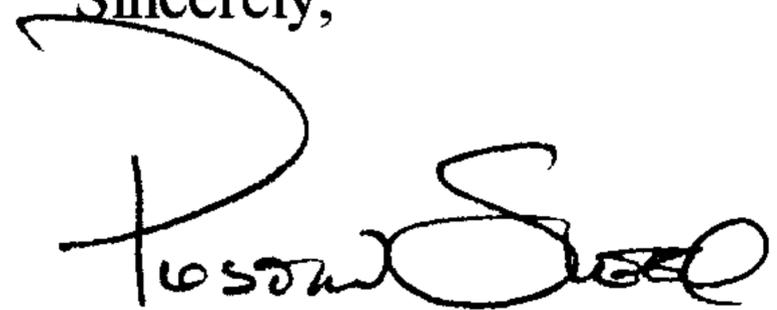
Page 60. Stream Crossings, Paragraph In the first sentence, the words "are likely" is incongruent to the preceding context. They should be changed in the FEIS to read: "...are not likely to meet state standards."

Pages 81 and 82. Economic Viability The FEIS needs to use a rigorous model to estimate the economic viability of the Project. The citation of a few general references in the SDEIS, which suggest the Project is uneconomic, is insufficient as metal prices are difficult to predict. The U.S. Geological Survey (USGS) believes the AME Minerals Economics 1998 quote in the SDEIS that cobalt may fall to \$10 per pound is speculative and weak evidence that the Project lacks economic viability. However, other references which have not been cited, predict that cobalt prices will rise. For example, some analysts assert that if the Republic of the Congo situation continues to deteriorate, cobalt prices could increase significantly.

In addition, the comments about global resources needs to be expanded. The implication that the world has plentiful supply of nickel and, therefore, this deposit should not be mined, needs to be rigorous supported in the FEIS. The FEIS also needs to complete the reference to the expanding production capacity at Voisey Bay by noting that Project has no current production and some serious development issues has been encountered.

Even with the revisions in the above paragraphs, the USGS believes it is extremely unlikely that these deposits are economically viable because 1) the tonnage of ore is significantly less than any operating laterite deposit, 2) the ore grades are below those of virtually all operating laterite deposits, and 3) the critical infrastructure needed to develop these deposits is not present. The FEIS should provide a realistic economic model prior to development. It is needed to access that the ore deposits are sufficient for a successful Project.

Thank you for the opportunity to review this DEIS.

Sincerely,


Preston Sleeper
Regional Environmental Officer



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Southwest Oregon Field Office

2900 NW Stewart Parkway

Roseburg, Oregon 97470

541/957-3474 FAX: 541/957-3475

Reply To: 8330.0102 (99)

Log#: 1-5-99-TA-010

X.Ref.: 1-7-98-SP-153

January 28, 1999

Joel T. King, District Ranger
Illinois Valley Ranger District
26568 Redwood Highway
Cave Junction, Oregon 97523

RE: Comments on the Nicore Mining Plan of Operations (Plan) Supplemental Draft Environmental Impact Statement (SDEIS)

Dear Mr. King:

Thank you for the opportunity to comment on the Plan SDEIS. These comments are provided to help identify issues associated with the project that may affect species that have been federally listed as threatened or endangered pursuant to the Endangered Species Act of 1973, as amended (Act).

General Comments:

The U.S. Fish and Wildlife Service (Service) sent a species list dated March 31, 1998 for the proposed SDEIS project area in response to a request from the Forest Service. The SDEIS found, based on the species list and other information, that alternatives proposed by the Plan "may affect or are likely to adversely affect" a federally listed species, *Arabis McDonaldiana* (flower). As such, the Forest Service should initiate Section 7 consultation pursuant to the Act (consultation) prior to issuing the final Environmental Impact Statement.

Specific Comments:

Chapter 4, page 70, paragraph 6. "Cumulative Impacts are not precisely known since the population distribution on all laterite deposits have not been inventoried." A complete inventory of the flower needs to be indicated on a map showing the general locations of the two newly discovered populations as well as the previously recorded populations so that an estimate of the cumulative effect to the species can be adequately assessed.

Chapter 4, page 70, paragraph 7. "[The table], Figure 19 displays the number of sites documented within 100 feet of the haul routes, or within the mine sites themselves." The Environmental Consequences section should, at some place, address the specific nature of direct and indirect effects to the flower by alternative as was done in the discussion of the federally listed fish species. This discussion is not presented in the document except to say that there may be adverse effects. The table, Figure 19, does not specifically address the flower. A map should accompany a table that displays the general locations of the flower in relation to the haul routes. It should be accompanied by a detailed discussion of the potential impacts to the flower.

Chapter 4, page 71, paragraph 4. The Environmental Consequences section of the document needs to explain what kind of direct, indirect and cumulative impacts are specific to individuals and populations of the flower.

Appendix B, page 5, line 2 (below 1st table). Information from The NICORE Sensitive Plants Biological Evaluation of January 26, 1998 should be included in the SDEIS Biological Assessment.

Appendix B, page 13, line 1: "The proposed action and alternatives 6,7,8 and 10 **May Affect - Likely to Adversely affect individuals or habitat...**" This section proposes measures to reduce effects to a level of "may affect - not likely to adversely affect" by rerouting the roads in alternatives 6, 7 and 8 from mining site C to mining site A. "May affect" actions still require consultation with the Service. The Service must evaluate those measures and the Forest Service's Biological Assessment should provide information regarding how occupied and unoccupied suitable habitat will be avoided.

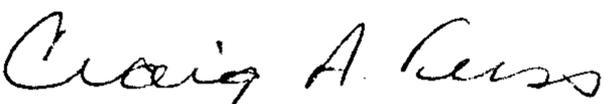
Appendix B, page 16, line 4. "Suitable habitat for *Arabis McDonaldiana* will be identified and no impacts allowed." This is in conflict with the statement from Appendix B, page 13 (above) stating that the plant "may be affected". The Forest Service will need to explain what kind of impacts may adversely affect the plant and the details of the proposed avoidance measures in the Biological Assessment and Appendix to the SDEIS so that the Service can assess the possible impacts to these species.

Appendix B, page 18, row 1. The table indicates that alternatives 6,7, and 8 would each impact 5 populations of the flower and alternative 10 would impact 3 populations of the flower. The Environmental Consequences section of the SDEIS should indicate the number of plants in each population that would be impacted and what kind of impact the plants and population as a whole is likely to incur under each specific alternative.

Appendix B, page 24, row 1. The table lists three populations of the flower that potentially may be impacted. This appears to conflict with the table in Appendix B, page 18 that indicates that three of the alternatives would impact 5 populations of the flower.

Thank you for providing the opportunity to comment on this SDEIS. You may initiate consultation for the flower by written request to Russ Peterson, State Supervisor, at the Service's Oregon State Office at 503/231-6179. If you have any further questions please contact me, Craig Tuss at 541/957-3470.

Sincerely,



Craig Tuss
Field Supervisor

cc: Andy Robinson, FWS-OSO, Portland, OR (e)
Office Files, FWS-OSO, Portland, OR (e)
Merle Richmond, FWS-RO, Portland, OR (e)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

February 4, 1999

Reply To
Attn Of: ECO-088

Joel T. King, District Ranger
Illinois Valley Ranger District
Siskiyou National Forest
26568 Redwood Highway
Cave Junction, OR 97523

Re: Nicore Mining Plan of Operations Supplemental Draft Environmental Impact Statement

Dear Mr. King:

We have received and reviewed, in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), the Nicore Mining Plan of Operations supplemental draft environmental impact statement (EIS) for mining of nickel laterite on 35 acres of land over the next 10 years in the Rough and Ready Creek Watershed.

We have rated the EIS as EC-2, (Environmental Concerns - Insufficient Information). We are concerned with mining in the Rough and Ready watershed because of the unique ecological values of the area. We understand this is one of the most botanically diverse areas in Oregon. We also understand that many scientists and visitors come to study and enjoy this area. This area is eligible for Wild and Scenic River designation, has high visual quality and roadless characteristics. In addition, we are concerned about the cumulative impacts should the mine prove successful. The miner says, he may develop hundreds of more acres within the 4000 acre patent (p. 88). Information is needed in the draft EIS on monitoring plan, mitigation plans

We are concerned with a mining project in such an environmentally sensitive area, especially if it is determined that this will not be an economically viable project because of the low price of nickel on the world market. Although not stated in the EIS, an underlying Purpose and Need for this project is to mine nickel ore to supply a nickel demand. If there is insufficient demand, the need for the project is low and must be weighed against the environmental costs to this biologically diverse area. We believe the economic viability of the project and the need for the project must be ascertained and presented to the public before a decision to allow the mine to proceed. Therefore, in light of the uncertain economic viability of this project, the preferred alternative (alternative 9) is a reasonable and cautious approach if the laws, regulations, and policies governing the development of such a mining claim truly prohibit the Forest Service (FS) and Bureau of Land Management (BLM) from denying outright the plan of operation (no action).

An explanation of the EPA rating system for draft EISs is enclosed for your reference. This rating and a summary of these comments will be published in the Federal Register. If you have questions, please contact Andy Smith in our Office of Ecosystems and Communities at (206) 553-1750.

Sincerely,

A handwritten signature in black ink that reads "Richard B. Parkin". The signature is written in a cursive style with a large, prominent initial "R".

Richard B. Parkin, Manager
Geographic Implementation Unit

enclosure

Environmental Protection Agency (EPA) Detailed Comments on
Nicore Mining Plan of Operations Supplemental Draft Environmental Impact Statement

General Comments

The supplemental draft EIS does an adequate job displaying impacts from the various access/mine development alternatives and the range of alternatives appears to cover the reasonable access options quite well. However, it is lacking some information as indicated below. We prefer the No-Action alternative but support the preferred alternative if the FS and BLM give rationale on why they can not select the No-Action alternative.

Please be more specific with the statement on page 28 for the preferred alternative. “Once the miner completed the sampling, he could submit a new Plan of Operations, with additional economic and operational analysis based on the findings of the sample processing. That plan would be subject to appropriate environmental analysis.” We would like to be sure that the appropriate environmental analysis would be done under NEPA with the requisite public involvement and environmental impact analysis.

Specific Comments

Reclamation and Monitoring Plans - The reclamation plan is a required part of the Plan of Operation and will be included prior to final approval (p. 21). A full monitoring plan would be developed for the final plan or operation (p. 24). Both of these plans need to be in this supplemental draft EIS. It will be too late for public review by the time the Plan of Operation becomes final.

Water Quality - The supplementary draft EIS points out that Rough and Ready Creek exceeds State water quality standards for temperature during the summer when the flow is low. For completeness, expand on this point in the final EIS. Explain that not only does it exceed the water quality standard for temperature but that it has been legally listed as impaired under Section 303(d) of the Clean Water Act. This listing sets into motion legal requirements for Oregon to take actions, such as the development of Total Maximum Daily Loads (TMDLs), that will bring the Rough and Ready Creek back into compliance to the standard. Withdrawing water for dust abatement may degrade the water quality further. The EIS should state that the mining operation for each alternative will comply with the TMDL when it is completed and in the meantime will not further degrade the water quality. The EIS must explain the steps that will be taken to avoid further degradation of temperature conditions in the stream. We are pleased to read that Nicore intends to obtain the necessary permits from the Oregon Department of Environmental Quality. This should help ensure no further degradation of water quality and compliance with any future TMDL requirements.

Affected Environment - There is no discussion of rainfall or other forms of precipitation. In order to determine whether there might be a discharge from the mine pits (which would require an NPDES permit if the discharge was to waters of the U.S.), net precipitation should be determined for both average and extreme wet years (reasonable worst case over the life of the project).

Environmental Consequences - It is stated on p. 57 that the holding capacity of the pits could be exceeded. In addition to determining possible extreme precipitation events, consideration should be given to using such events for design purposes in sizing pits to contain storm water rather than allowing a discharge (assuming no or limited infiltration).

References - Other than the list of files available, there are no references cited in a bibliography. For instance, there is no citation for the reference on p. 82 to AME Mineral Economics 1998.

SUMMARY OF THE EPA RATING SYSTEM
FOR DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
DEFINITIONS AND FOLLOW-UP ACTION *

Environmental Impact of the Action

LO--Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities with no more than minor changes to the proposal.

EC--Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category I--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment

Congress of the United States
House of Representatives
Washington, DC 20515-3702

February 8, 1999

Joel King
26568 Redwood Highway
Cave Junction, Oregon 97523

Dear Joel:

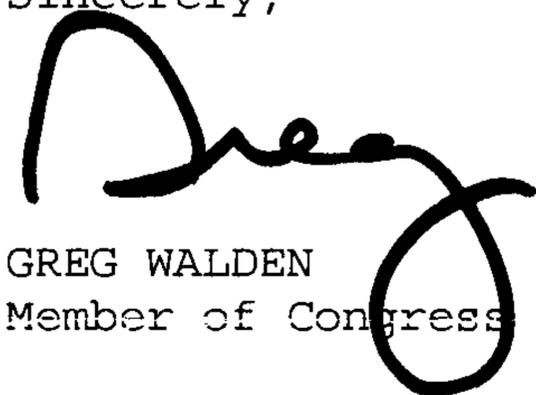
Thank you for contacting me regarding the Rough & Ready Creek controversy. I appreciate hearing your insights into this matter.

As you know, the proposed Nicore mine along the Rough and Ready Creek in the Siskiyou National Forest has inspired concern about the environmental impact of the project. The mine, which will draw nickel, chromium and iron ore from the soil, was first proposed in 1992, and will cover a total of 35 acres. If approved, Nicore will be the sole nickel mine in the United States.

I support a fair and responsible solution that will balance environmental concerns with the contract rights of the mine's owner. Further, I believe any decision regarding Nicore's proposal should be made in accordance with the General Mining Law of 1872 and current environmental regulations. Please rest assured that I will continue to monitor this matter as it continues to develop.

Thanks again for contacting me. Please keep in touch.

Sincerely,



GREG WALDEN
Member of Congress

GW/jte