Appendix B

Comments on DEIS
&
FS Response to Comments

Emerald Creek Garnet Area
Final Environmental Impact Statement

Gary Moore
Post Office Box 33
North Fork, Idaho
83466
Home phone: 208-865-2100

To: Forest Supervisor RANOTTA K. MCNAIR
St. Joe Ranger District
222 S. 7th St., Suite 1
St. Maries, Id
83861

3/4/06

Re: Emerald Creek Garnet Area DEIS

Dear Forest Supervisor McNair,

The purpose of this letter is to express two points that I would like you to consider concerning the recreational garnet digging area in the East Fork of Emerald Creek. First I would like to say that I am not representing any organizations with this letter. I am a member in good standing of the Idaho Gem Club headquartered in Boise. I am also a third generation rock hound/garnet digger. My grandparents and my mother dug on 281 Creek in the late 1960s. I have dug excellent quality garnet material from the West Fork of 281 Creek the summers of 2003, 2004 and 2005. The largest stone was polished into a 3 dimensional heart with a perfect 6-ray star and weighs 53 carats.

My first point is to again report my dismay at having to give up the traditional form of digging in the Emerald Creek area. I don't think that tradition has been given the consideration it deserves in the decision making process. The challenge of finding the garnet deposits in their natural strata has been a large part of the fun and excitement for me and many others. Dealing with the mud, the boulders, and even the overburden has been a major element in the level of satisfaction I feel from finding a really good specimen. Please don't be hasty in taking away this part of the experience. There must be a compromise position that will meet the needs of all the parties concerned. 1-1

My second point is that I believe that there is a significant deposit of top-quality garnet material still not recovered in the West Fork of 281 Creek. The area of this deposit is not included in shaded area on the map that was sent to me on 2-23-06. 1-2

During the last weekend of the 2003 digging season I found a very nice pocket of garnet material that included the above-mentioned stone. That location was on the east bank of the West Fork against the dig boundary. That area has since been reclaimed. I had hoped in 2004 to get to finish digging that deposit. Since it had been reclaimed, I hopefully dug in many of holes around the West

fork finding only minimal amounts, and little good quality material. I used all of the permits I was allowed.

During the 2005 dig season I was not able to get to the site until late in the season. My partner and I located a streak of good material in the West Fork dig long after everyone else had given up there. No one had dug there for some time. Remembering the find from 2003, I insisted we dig on the down stream end of the dig area against the east bank. We located another significant deposit. We found excellent quality material in significant abundance. Before we could get back to dig approximately 3 weeks had passed. In that time the deposit that we had located was discovered and produced large amounts of good material for others. As you may know, this fact is documented in your logs from the digs as each person's finds are weighed and entered in the log including location.

We returned the last weekend of the 2005 dig season to find "our hole" occupied and very large from the previous weekends. We picked a spot upstream a few yards from our neighbors that were mining "our old hole." After a couple of hours of digging away the over burden and washing test samples we again found a significant pocket of material of high quality garnet material. We did well in terms of weight and quality.

What this entire dialog is about is to tell you why I believe that there is a significant amount of material not recovered in the West Fork. All three of these successful dig sites were in a gravitational line on the east edge of the dig border about 60-80 yards from top to bottom.

Please do not allow this deposit to remain buried and include the described area in your Alternative "B" plans for removal and reclamation.

Thank you very much for your time and consideration. If you have any questions or want more information please contact me.

Sincerely,

Gary Moore

Gary Moore

Cc: Idaho Gem Club, Inc

Message Subject: IPNF WEB COMMENTS -NO SUBJECT

Message Contents:

public comment on draft eis emerald creek garnet area dated feb 2006.

first of all, the bibliography and refernces investigated for past data are extremely old, obsolete and dangerous to use as any relevant information. i note most of the bibliography is well over 10 years old and dangerously inaccurate for 2006 conditions looking to the future. i advise you to update your research and to throw out all that you show from more than ten years ago. it is irrelevant and not at all informative for a plan for the future. when it will reflect a world from 20 - 30 -50 years ago. 2-1

i also note terrible devastation for wildlife and birds from this plan and object to that. i think no action, no change should be the choice. 2-2

i also note your alliance with the army corps of engineers, known for their anti-environmental work. they were the agency responsible for the leaking walls at katrina in new orleans. they built them. it is clear using that agency is fraught with negligence. 2-3

b. sachau
15 elm st
florham park nj 07932

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3–1

Patrick & Meta Marshall
1109 N. Walnut
Spokane, WA 99201
(509) 324-1822

March 15, 2006

Emerald Creek Garnet Area DEIS
ST. Joe Ranger District
222 S. 7th St, Suite 1
St. Maries, Idaho 83861

Title: Draft Environmental Impact Statement for the Emerald Creek Garnet Area Project
Re: Public comment about Emerald Creek

Dear Sir/Madam:

Thank you for publishing information about public comment in The Spokesman-Review. My husband and I would be interested in receiving a copy/summary of your report.

We wanted to share our experiences with you, to support the continued public use of Emerald Creek Garnet Area. Two summers ago, my family came out from Connecticut. We toured the Silver Valley from our summer home in Mullan, and took everyone to Emerald Creek to dig. After a very pleasant afternoon of digging, my 9-year-old grandson concluded that he needed to be a geologist and rock hound, since he loved finding garnets in all the muck and water. He is still interested in rocks, which have become sort of a family hobby now.

It was the first dig for us. The Ranger was helpful as were the people who were digging, providing information on how and where to dig to find a vein, how to sift through the dirt and sand, etc. Everyone was helpful and pleasant. Several people commented that they came for the full five days allowed, summer after summer, and looked forward to camping at the campground nearby or staying in St. Maries. In all there were roughly 20 people, all interesting, dog-tired from digging and enjoying the experience.

We have increased our knowledge about rocks, and we are planning to bring our RV down to have a couple of days this summer. To us, Emerald Creek is unique and close to Spokane, so it makes an ideal short vacation for us. I doubt we will find gem-quality stones, but it sure is fun trying.

Sincerely,

Meta Marshall
Meta Marshall
Citizen

Patrick G. Marshall
Patrick G. Marshall
Citizen

DEIS mailed 3/22/06

Rec'd 4/06/2006

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814-2648 • (208) 769-1422

Dirk Kempthorne, Governor
Toni Hardesty, Director

April 4, 2006

Chuck Mark, District Ranger
Emerald Creek Garnet Area DEIS
St. Joe Ranger District
222 S. 7th Street, Suite 1
St. Maries, ID 83861

RE: Comments on Recreational Garnet Mining of 281 and Garnet Gulches

Dear Mr. Mark,

Thank you for allowing us to comment on this draft environmental impact statement for the expansion of recreational garnet digging in 281 Gulch and Garnet Gulch, tributaries of East Fork Emerald Creek. Briefly, you propose to mine 23,500 cubic yards of material from 1,700 feet of Garnet Gulch and 600 feet of 281 Gulch over the next 15-25 years. This action was previously proposed but not decided upon in the Garnet Stars and Sand DEIS.

The Idaho Department of Environmental Quality administers the Idaho Water Quality Standards and Wastewater Treatment Requirements (IDAPA 58.01.02). Presently, Emerald Creek has an EPA approved total maximum daily load (TMDL) for sediment and temperature that extends from the headwaters to the St. Maries River. This TMDL calls for sediment and temperature reductions in order to recover lost beneficial uses. This project is located within the watershed affected by this TMDL.

DEQ has reviewed the subject DEIS and would like to offer the following comments:

1. Page 5 of the Summary second paragraph under Water Quality/Water Yield discusses that the project expects to meet water quality standards for sediment and not further impair a beneficial use due to temperature changes. These concepts are part of the Idaho Water Quality Standards, however, when a stream is impaired and requires a load reduction, one must look at any additional loading of the subject pollutants, not just those that would be a violation of a numerical standard or result in an impairment of a beneficial use. Often cumulative effects of numerous small actions are what lead to the original impairment. This is why we are concerned with decreasing the total load in the watershed. Water quality sections of the DEIS should use this concept when addressing pollutants of concern. 4-1

4–2 2. Page 8-9 Alternative B- Proposed Action discusses decommissioning of roads and other mitigation actions. We were wondering if the in-stream "sedimentation pond" on East Fork 281 Gulch would be removed and the channel restored? Removal of this feature would insure that the would be no future fish passage issues at this location, as presently exists. Additionally, when removing or replacing culverts located in perennial streams, the stream must be diverted around the work site so work can be done in the dry.

4–3

3. Page 10 Alternative C proposes the creation of a three acre parking lot so people do not have to walk 0.66 mile to the mine site. Since removal of canopy cover and additional site disturbance are contrary to water quality goals for this watershed, and that transportation is available for those who are unable to walk, it would seem that this alternative is less desirable than Alt B. Presently, miners walk 0.4 miles to the mine site.

4–4

4. Page 18 Water Quality section references a 1988 Memorandum of Understanding with the State of Idaho as the guide for monitoring on the Forest. Over the last 18 years, Idaho's water quality standards have changed considerably. It might be helpful to also reference them (IDAPA 58.01.02) as guiding how monitoring should be conducted in order to comply with these rules.

4–5

5. Page 19 Implementation Monitoring -Channel Morphology section indicates that pre-construction surveyed elevations of the channel will guide its reconstruction efforts. This is an important part to successful restoration of the channel and associated wetlands. We encourage careful surveying of the final grade of the reconstructed stream channel to insure that it matches preconstruction conditions. Attention to this detail should prevent channel bottom down cutting that results in bank instability, exposed grade control structures (creating fish barriers) and excessive stream sedimentation.

4–6

6. Appendix A: Narrative Description of Proposed Excavation and Wash Plant Operations comments:
   a) The DEIS description of the mining process differs somewhat from the Army Corps Public Notice for this project.
      - Public Notice length of project is 20 years; DEIS is 15-25 years.
      - There is no topsoil sorting in the wet panel description, Appendix A.
      - A track hoe is proposed in the Public Notice and the DEIS provides a range of equipment based on a variety of considerations.

4–7
4–8
4–9

- Collection of stream water for garnet processing is described in the DEIS but not in the Public Notice. The method of collection is not described in either document. 4–10
- Public Notice specifies planting native wetland plants, planted trees and shrubs and supplemental seeding and/or planting as necessary. The DEIS refers to reseeding and replanting of salvaged trees and shrubs. 4–11
- The Public Notice shows that all panels will be wet but the DEIS also describes dry panel mining. 4–12
- Diagrams of the proposed work are missing in the DEIS and are much needed. They are included in the Public Notice. 4–13

b) As we understand, the interceptor trench is a best management practice proposed to control and thus reduce turbidity of run-on water. The use of this BMP may not provide any benefit for water clarity since run-on water will either flow into an earthen trench or the panel being excavated, both resulting in muddy water. It may be better to reduce the amount of ground disturbed by using a barrier to divert water or by allowing the run-on water to flow into the panel and pump it to a water treatment feature as described in the DEIS (a catch basin, the water make-up pond or land applied). 4–14

c) When a panel is located within a defined stream channel we understand that you will construct a plastic lined diversion channel. This diversion channel will function for up to two weeks while the panel is being mined. This sounds practical, however, we have observed on other projects that it is extremely difficult to keep the plastic in place and functional. You may want to consider stream channel liners that are specifically designed for the flows you anticipate. These liners have varying methods of dealing with seams and top of bank anchoring which are most often points of failure. Since flows are anticipated to be 10-15 cfs it will be very important to get a product that can perform with this volume of water (velocity is also needed to select the appropriate material). The standard BMP for stream diversions involve the use of culverts, both hard and flexible types. The use of culverts would greatly reduce the amount of ground disturbance since a trench would not have to be constructed other than at the inlet. This method has repeatedly performed well under a wide variety of conditions. Flex pipe works well if seams are securely fastened and the inlet designed to prevent loss of water. They are also inexpensive, light weight and reusable. The DEIS should discuss why this BMP is not proposed. 4–15

4–16 d) An earthen berm is proposed to separate the mining area from any water bearing channel. Using an earthen berm to block or divert the flow of water will just add more sediment to this water. As we mentioned previously, plastic lining is problematic. We suggest that sandbags or other impermeable barriers be utilized to divert water around the mine panel. Because the Public Notice shows that the entire width of the valley will be mined in one panel, the stream channel diversion should take care of the majority of water. Depending on the volume of remaining water, it might be acceptable to let it flow into the panel and pump it to an upland site for treatment.

4–17 e) Appendix A describes a variety of equipment that could be used for mining. Based on the descriptions, it is clear which one is the right tool for the mining work. Selecting the appropriate tool for working in wetlands and streams is part of using knowledgeable and reasonable effort to minimize adverse water quality impacts, as required in IDAPA 58.01.02.350 *Rules Governing Non-point Source Activities*. Some of the equipment listed would create unnecessary disturbance and compaction, poorly handle excavated materials making sorting difficult, require additional road building and the construction of level work platforms.

4–18 f) A liner placed on the ground might be useful to aid in the recovery of sorted materials. The liner would also assist in preventing the disturbance of the ground under the piled materials, reducing erosion.

g) In summary, when planning a ground disturbing activity, it might be useful to ask, "Is it necessary and will it accomplish the anticipated results?". It is very common on construction sites to use heavy equipment and ground disturbance in efforts to improve water quality. Most often this has the opposite effect.

4–19 7. We recommend that permitting agencies conduct a review of this project every five years to assure compliance with permit conditions and potentially changing rules.

4–20 8. The NPDES multi-sector industrial permit and/or the construction general permit may be required for this work by the EPA. To determine this need you can contact Misha Vakoc at the U. S. Environmental Protection Agency, telephone (206) 553-6650.

Thank you for the opportunity to comment on this project. Provisions for the protection of water quality have greatly improved over those proposed in the Garnet Stars and Sand DEIS.

Sincerely,

June Bergquist

June Bergquist
Regional Water Quality Compliance Officer

cc: Gregg Rayner, ACOE
Mary Terra-Berns, IFG
Jim Brady-IDL Sandpoint
Cindy Barrett, DEQ Lewiston
Misha Vakoc, EPA Seattle

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO
ER06/198

Electronically Filed

April 4, 2006

Chuck Mark
District Ranger
Emerald Creek Garnet Area DEIS
St. Joe Ranger District
222 South 7th Street, Suite 1
St. Maries, Idaho 83861

Dear Mr. Mark:

5–1 The Department of the Interior has reviewed the Draft Supplemental Environmental Impact Statement for the Public Recreational Garnet Gemstone Digging in the East Fork of Emerald Creek on the St. Joe Ranger District, Idaho Panhandle National Forests, Benewah and Latah Counties, Idaho. The Department does not have any comments to offer.

We appreciate the opportunity to comment.

Sincerely,

Preston A. Sleeger
Regional Environmental Officer

Kootenai Environmental Alliance

P.O. Box 1598 Coeur d'Alene, ID 83816-1598

April 12, 2006

Emerald Creek Garnet Area DEIS
St. Joe Ranger District
222 S. 7th St., Suite 1
St. Maries, ID 83861

Dear Ms. Gravelle:

The following comments are being submitted in response to the DEIS.

Cumulative Effects Analysis:
It is indicated on page 1 of the summary the project area is approximately 780 acres in size. On page 142 the following statement is made concerning Emerald Creek. "The Emerald Creek channel below the confluence of the East and West Forks (non-FS land) has been extensively changed due to garnet sand mining". On page 45 it is indicated the East Fork of Emerald Creek drainage was selected as the cumulative effects area, and the discussion on page 149 mentions the East Fork Emerald Creek watershed. 6–1
The FEIS should include a high quality color map that will show the boundaries of the 11,421-acre East Fork Emerald Creek drainage.

Water withdrawal:
On page six it is stated "Water withdrawals from 281 or Garnet Gulches may be necessary to provide a water source for the garnet operation." On page 148 it is indicated water withdrawal up to 0.5 cfs is permitted in 281 Gulch and on page 149 it is indicated water withdrawal up to 1.0 cfs is permitted in Garnet Gulch. IDWR information indicates that 1 cfs equals 448.83 gallons per minute, and 262,930 gallons per hour. The flume wash plant discussion on page 13 mentions up to 200 gallons of water per minute is needed to operate the plant. There is no information on the pages cited concerning the maximum amount of water that could be withdrawn each day during the summer season to operate the wash plant and associated mining operations. 6–2

The FEIS should provide high quality information that will indicate if IDWR or the Forest Service has historical data concerning the amount of water that was withdrawn daily from 281 Gulch and Garnet Gulch when garnet mining operations were being conducted. 6–3

Existing condition sentence:
On page 118 there is a sentence that appears to be incomplete concerning the purchase of 2,205. 6–4

We wish to remain on the mailing list for this project.

Sincerely,

Mike Mihelich

Mike Mihelich Forest Watch Coordinator
The comments are also being submitted on behalf of:
The Lands Council, Mike Petersen, 423 W First Avenue, Suite 240, Spokane, WA 99201
and The Ecology Center, Jeff Juel, 314 North First Street West, Missoula, MT 59802

Patrick & Meta Marshall
1109 N. Walnut
Spokane, WA 99201
(509) 324-1822

April 13, 2006

Emerald Creek Garnet Area DEIS
St. Joe Ranger District
222 S. 7th St, Suite 1
St. Maries, Idaho 83861

Title: Draft Environmental Impact Statement for the Emerald Creek Garnet Area Project
Re: Public comment about Emerald Creek

Dear Forest Supervisor McNair:

Thank you for providing your very thorough report to us, so that we could understand the changes proposed. We like Alternative B best, followed by Alternative C. As we mentioned in our previous letter, we are both looking forward to Memorial Day, so that we can again head to Emerald Creek, to learn more about garnets and rocks. 7–1

Sincerely,

Meta Marshall Patrick G. Marshall

Meta Marshall
Private citizen

Patrick G. Marshall
Private citizen

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
IDAHO OPERATIONS OFFICE
1435 N. Orchard St.
Boise, Idaho 83706

April 13, 2006

Gregg A. Rayner
U. S. Army Corps of Engineers
Coeur d'Alene Regulatory Office
Idaho Panhandle National Forest Building
3815 Schreiber Way
Coeur d'Alene, Idaho 83815-8363

Re: NWW No. 061200023, Idaho Panhandle National Forest, March 14, 2006

Dear Mr. Rayner:

We have reviewed the referenced public notice describing the proposed discharges of dredged and fill material into approximately 3.2 acres of wetlands adjacent to 281 Gulch and Garnet Gulch near Fernwood in Latah County, Idaho. The proposed discharges are associated with extracting gravels containing gem-quality star garnets for public collection, including temporary water diversions and overburden stockpiles and the excavation and reclamation of wetlands. The stated purpose of the project is to provide a public recreational collecting area for gem-quality star garnets while providing public safety and protecting water quality and aquatic habitat.

This project is also described in the "Emerald Creek Garnet Area Draft Environmental Impact Statement" (DEIS) prepared by the Idaho Panhandle National Forests dated February 2006. The Environmental Protection Agency (EPA) will be providing comments on the DEIS. EPA requests that you also consider those comments in your analysis of the permit application. In this letter we will provide some comments that relate specifically to the application for a Clean Water Act Section 404 permit for the proposed project.

The work described in your public notice does not appear to describe any of the proposed work in stream channels including the diversion and reconstruction of those channels. Specific restoration plans and performance standards for the stream channels should be required for any Section 404 permit. 8–1

Specific information on the wetland resources is inadequate in both your public notice as well as the DEIS. Wetlands are identified in the DEIS as one of the four alternatives-driving issues, yet the information on wetlands is substantially less than almost every one of the other resources being analyzed. Additional information about the wetland resource should be provided. Specifically, the wetland plant communities should be described using the descriptions in the *Conservation Strategy for Spokane River Basin Wetlands* (Jankovsky-Jones, M. 1999. IDFG Conservation Data Center, Boise, ID). This same document should be used to assess the rarity or uniqueness of these wetland plant communities. Specific wetland restoration performance standards should be 8–2 8–3

8-4 included in the FEIS and in any Section 404 permit. The performance standards for wetland restoration that were described in your FEIS for Emerald Creek Garnet dated October 2004 and included in the Department of the Army permit issued to Emerald Creek Garnet International dated March 10, 2005 should be used for this proposed project as well. A specific monitoring plan for the wetland restoration effort that will provide information to show compliance with the performance standards should be included. A mechanism to ensure permanent protection of the restored wetlands should also be identified and implemented.

For further coordination on these comments, please feel free to call me at (208) 378-5756 or email me at olson.john@epa.gov.

Sincerely,

John M. Olson
Wetland Ecologist

cc: Ms. Tracy Gravelle
St. Joe Ranger District
HC Box 1
Avery, Idaho 83802-9702

Olson.John@epamail.epa.gov

07/20/2006 12:53 PM

To John M Macy <jmmacy@fs.fed.us>

cc Gregg.A.Rayner@nww01.usace.army.mil

bcc

Subject Re: Fw: St. Joe Monitoring Plan

John,

I finally had a chance to take a look at the draft Stream and Riparian Monitoring Plan that you sent me. It appears to me to be a very good plan which should provide meaningful data for analyzing the restoration work and making any necessary modifications. My only comment is that the monitoring plan does not specifically describe any measures to determine whether, and how much of, the restored areas are wetlands. Based on the parameters described in the monitoring plan, there could be successful revegetation, but we wouldn't know if it is wetlands. There is one reference that hydrophytic vegetation should be dominant (Section 4.3.1), which would help in identifying wetlands, but the other wetland criteria (hydrology and soils) are not evaluated in the plan. Because the sites will have been disturbed, evidence of hydric soils will probably not be apparent during the monitoring period and, therefore, probably does not need to be evaluated. However, wetland hydrology should occur in the restored wetland areas. The monitoring plan should include a component to determine whether the sites have wetland hydrology (generally inundated or saturated within 10 inches of the surface for at least 12.5% of the growing season) and can be determined to be wetlands. 8-5

Thanks for the opportunity to review the plan.

****
John M. Olson, Wetland Ecologist
US EPA Region 10, Idaho Operations Office
1435 North Orchard
Boise, ID 83706
Office: 208-378-5756 Fax: 208-378-5744
olson.john@epa.gov
****

John M Macy
<jmmacy@fs.fed.u
s>

06/16/2006 03:35
PM

To
John Olson/R10/USEPA/US@EPA

cc

Subject
Fw: St. Joe Monitoring Plan

#9

IDAHO DEPARTMENT OF FISH AND GAME
PANHANDLE REGION
2885 West Kathleen Avenue
Coeur d' Alene, Idaho 83815

Dirk Kempthorne/Governor
Steven M. Huffaker/Director

April 14, 2006

Mr. Gregg Rayner
US Army Corps of Engineers
Walla Walla District
Coeur d'Alene Regulatory Office
3815 Schreiber Way
Coeur d'Alene, ID 83815

Dear Gregg,

REFERENCE: NWW No. 061200023 IDAHO PANHANDLE NATIONAL FOREST

Thank you for the opportunity to review the Emerald Creek Garnet project application from Idaho Panhandle National Forest. The proposed project to extract gravels containing gem-quality star garnets would discharge dredged and fill material into approximately 3.2 acres of wetland. Discharges include temporary fills to construct water diversions, overburden stockpiles, and discharges associated with excavation and reclamation of wetlands. This permit would authorize activities in 281 Gulch, Garnet Gulch, PeeWee, and No Name Creeks for a period of 20 years.

IDFG would prefer that no new mining sites were developed in fish bearing streams. We recommend seeking alternative mining sites on non-fish bearing streams. We also recommend no mining in non-fish bearing tributaries to fish bearing streams unless it can be clearly demonstrated that mining will have no adverse impact on water quality, habitat or fish populations in fish bearing streams. From our perspective, mining within or moving all or portions of any stream is not an acceptable alternative unless it is part of a stream restoration project restoring a historic channel. Relocation and rebuilding would result in a total loss of stream habitat for at least the 7-10 year projected lifetime of the mining operations, in addition to an unknown recovery period for the rehabilitated stream bed, banks and near-stream and riparian habitat. Such total losses of habitat, even if temporary, unnecessarily threaten already struggling populations of native fish in the project area. 9–1

IDFG views protecting East Fork Emerald Creek and its tributaries as a key element in the recovery of the native fish populations in the St Maries River drainage. The East Fork of Emerald Creek and a number of the tributaries identified for recreational dig prospecting and development provide important year-round habitat as well as spawning and rearing habitat for resident westslope cutthroat trout. These same streams were very likely used historically by adfluvial salmonids for migration, spawning and rearing. Past habitat alterations in these and other streams in the Emerald Creek and St Maries River drainages have severely impacted westslope cutthroat trout, bull trout and other native fish populations. However, East Fork Emerald Creek and many of its tributaries have recovered from past habitat alterations to the extent that they now support resident populations and/or provide critical spawning and rearing habitat for westslope cutthroat and other native fish. Due to its recovery, the East Fork Emerald drainage now serves as one of few remaining refuges for westslope cutthroat trout in the Emerald/St Maries system. Recovery of the East Fork Emerald Creek habitat is expected to continue and to eventually approach near-historic conditions as long as they remain unaltered. We encourage the Forest Service to identify the East Fork 9–2

Emerald Creek and its tributaries as a refuge for west slope cutthroat and to plan any and all mining activities in the area to avoid adverse impacts to those streams.

9–3 If the project is permitted we recommend retention of a protective riparian buffer between mining activities and streams is absolutely critical to protecting water quality and the fishery in Emerald Creek and its tributaries. Emerald Creek is on the State's 303(d) list for not meeting water quality standards for temperature, sediments, and habitat alteration. The buffer (the riparian area in EF Emerald is largely small trees and shrubs and forbs) now provides valuable benefits to fish. Riparian vegetation currently provides shade in summer and cover all year; provides for both summer and winter temperature moderation; stabilizes banks; provides brushy structure and exposed roots used as cover by fish; and, with continued unaltered recovery, standing mature timber will eventually provide large woody debris recruitment. Those benefits will continue and increase over time. The riparian area will also help to reduce or eliminate the amount of sediment entering streams. All of these are critical functions that we believe must be protected.

9–4 We recommend monitoring and maintenance until the native vegetative community is reestablished. This should include a requirement to replace of dead materials, removal of noxious weeds, etc. Additional applications of seed or planting of shrubs should be required until vegetation is fully re-established.

9–5 Additionally, because Emerald Creek is a 303(d) listed stream for sediment, temperature and habitat alterations we recommend that baseline data be collected from those tributary streams that will be impacted. Baseline data should include, at a minimum, sediment, turbidity, temperature, and habitat conditions. BMP monitoring should occur on a monthly basis, including non-operational months to evaluate erosion and runoff impacts. Daily monitoring of sediment/turbidity would make sense during operating months, considering the likelihood of sediment pollution and the 303(d) listing. Monitoring for all parameters should continue, on an appropriate schedule, until native vegetation is restored following rehabilitation.

Again, thank you for the opportunity to comment.

Sincerely,

Charles E. "Chip" Corsi
Regional Supervisor

CEC:MTB:kh

C: Tracey Trent, IDFG, Boise
USFS, St. Joe Ranger District

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED
APR 27 2006

April 24, 2006

Reply To
Attn Of: ETPA-088

Ref: 05-006-AFS

Tracy Gravelle
Project Team Leader
St. Joe Ranger District
HC Box 1
Avery, ID 83802-9702

Dear Ms. Gravelle:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the **Emerald Creek Garnet Area** (CEQ No. 20060068) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions. Under our policies and procedures we evaluate the document's adequacy in meeting NEPA requirements.

The draft EIS includes information about the proposed recreational digging of garnet mineral resources in the East Fork of Emerald Creek on the St. Joe Ranger District of the Idaho Panhandle National Forests. Our comments focus on water quality and wetlands in the project area. We have rated the draft EIS, EC-2 (Environmental Concerns-Insufficient Information) due to potential impacts to water quality and lack of information regarding wetlands. This rating and a summary of our comments will be published in the *Federal Register*. A copy of the rating system used in conducting our review is enclosed for your reference.

We are pleased that the EIS contains an alternative that was developed to address the impacts of garnet mining to water quality and riparian habitats. We believe that this direction is consistent with direction in the Mining and Minerals Policy Act of 1970 as well as other mining laws which speak to environmental needs. However, we have some concerns regarding wetlands and water quality and are further discussed below.

Wetlands

We believe that there is not adequate information on the wetland resources in the DEIS. Although, wetlands are identified in the DEIS as one of the four alternatives-driving issues, the information on wetlands is substantially less than almost every one of the other resources being analyzed. Additional information about the wetland resource should be provided. Specifically, we recommend that the wetland plant communities should be described using the descriptions in the *Conservation Strategy for Spokane River Basin Wetlands* (Jankovsky-Jones, M. 1999. IDFG 10–1

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Conservation Data Center, Boise, ID). This same document should be used to assess the rarity or uniqueness of these wetland plant communities. Specific wetland restoration performance standards should be included in the EIS and in any Section 404 permit. A specific monitoring plan for the wetland restoration effort that will provide information to show compliance with the performance standards should be included. A mechanism to ensure permanent protection of the restored wetlands should also be identified and implemented.

10–2

10–3

Water Quality

The EIS states that portions of Emerald Creek are on the list of impaired 303 (d) water bodies for sediment and temperature. A Total Maximum Daily Load (TMDL) was determined for temperature for the East Fork of Emerald Creek. No TMDL was determined for sediment; however, water quality standards require maintenance of existing uses (aquatic life and recreation). The EIS discusses various strategies to mitigate impacts of increased sediment and temperature. The EIS also states that there will be no negative effect to beneficial uses from activities because there is an overall net reduction in sediment and no consequential increase in temperature. We support these activities, but recommend that the EIS further demonstrate how conditions will approach TMDL targets and how water quality will be improved while recreational garnet mining occurs.

10–4

Thank you for the opportunity to review this draft EIS. If you have any questions or would like to discuss these issues, please contact Lynne McWhorter of my staff at (206) 553-0205.

Sincerely,

Christine B. Reichgott

Christine B. Reichgott, Manager
NEPA Review Unit

Enclosure

wildidaho.org

Idaho Conservation League
PO Box 844, Boise, ID 83701 208.345.6933 Fax 208.344.0344

Rec'd 4/27

Tracy Gravelle
Emerald Creek Garnet Area DEIS
St. Joe Ranger District
222 S. 7th St., Suite 1
St. Maries, ID 83861

April 24, 2006

RE: Idaho Conservation League Comments Regarding the Emerald Creek Garnet Area DEIS

Dear Tracy Gravelle,

Thank you for considering our comments on the Emerald Creek Garnet Area DEIS. For thirty years, the Idaho Conservation League has worked to protect and restore the air, water, wildlands, and wildlife of Idaho through public education, citizen action, and professional advocacy. As Idaho's largest statewide conservation organization, we represent over 9,000 members, many of whom have a deep personal interest in ensuring that mining efforts are consistent with multiple use goals of protecting our water, wildlands, and wildlife.

Mining is not an environmentally benign recreational activity. There is no "catch and release" mining and mining is not an example of renewable resource extraction. Mining has multiple negative effects on the environment and should be stringently regulated and monitored. The fact that this project is located entirely within a Riparian Habitat Conservation Area that supports a fish bearing stream is particularly troubling. 11-1

Even more troubling is the unbalanced presentation of data arguing against the development of an upland terrace alternative. The Forest Service has an obligation to present the complete facts to the public, not to cherry pick data that supports a particular alternative. We do not make this criticism lightly, and invite the Forest Service to have a more detailed discussion with us about our different interpretations of the data. We recognize the local significance of and community support for garnet mining in this area, but the Forest Service needs to present a reasonable range of alternatives with full disclosure of environmental effects. Our specific comments are below. 11-2 11-3

In sum, we believe that the Forest Service inappropriately dismissed an upland terrace alternative and recommend that the Forest Service conduct a Supplemental EIS to correct these deficiencies. As your office conducts further analysis on the issue, we hope that you will fully address our concerns which are discussed in the attached comments. Please send us any subsequent documents for this project. 11-4 11-5

Sincerely,

John Robison

John Robison
Public Lands Director

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Ketchum Field Office: PO Box 2671, Ketchum, ID 83340 208.726.7485 Fax 208.726.1821 Moscow Field Office: PO Box 9783, Moscow, ID 83843 208.882.1010 Fax 208.883.7755

The Forest Service inappropriately rejected the "No Mining in Riparian Areas" and misrepresented data collected to support this alternative. Our comments focus on deficiencies in analysis and interpretation.

Inconsistencies in sampling and analysis

Regarding analysis and presentation of data, Figures 1-5 comparing quality and quantity relative to distance from the floodplain contain no information on the number of samples, the range of variability, or any statistical analyses. These deficiencies should be corrected in the SEIS. Given the fact that the Forest Service conducted three years of extensive sampling, this information should be made available in the SEIS. Furthermore, dramatic variability between different transect points shows that a great deal of variability exists along these transects that cannot simply be attributed to simple distance from floodplain. For example, there is an apparent spike in average gravel grade depicted in Figure 4 between 15' and 70' from the floodplain. 11-6

The range of variability should be included for Figures 1-4. While the average for some of these measures shows that floodplain deposits are superior relative to upland deposits, there is no discussion on the range of variability for these measures. For example, while the largest gem in three out of four transects may be from the floodplain, a range might reveal that upland areas are much more consistent in producing garnets in an attractive size range than sporadic large garnets in the floodplain, possibly making the upland a reasonable alternative. 11-7

Regarding the depth gravel transects in Figure 5, the depth to garnet-bearing gravels actually decreases as you move from the floodplain to 20' but the next measurement is 100' away. There may be much shallower deposits at 40', 60', and 80' away. In fact, the upland 160' away from the floodplain in Transect #4 is less than 2' deeper than the floodplain deposit. 11-8

With so many unknowns and variability, most mining companies interested in maximizing yield would insist on conducting further samples so mining efforts could be more productive. The Forest Service should conduct additional sampling between these points. Additional sampling and exploration might reveal other areas that have been overlooked. For example, the distances from the floodplain in each of the transects has not been standardized and differs in each transect. 11-9

Inconsistencies in interpretation

While the underlying theme presented in the DEIS is that the terraced uplands are far inferior to the floodplain, the data shows a more complex picture. Figure 4 shows that upland terraces are actually superior to floodplain deposits with regard to average gravel grade. Figure 4 shows that upland areas 15, 20, and 70 feet away from the floodplain in Transects #1, #2, and #4 actually had higher yields of garnets than floodplain transects. The Forest Service appears to minimize the importance of this finding by adjusting the scale in Figure 4 Transect #4 so it stops at 7.00 lbs/bcy, making it appear that there is no 11-10

significant difference in average gravel grade between 0' and 70', while the sampling site at 70' was actually 1.27 pounds greater than in the floodplain. Even though this is the most clear cut case of the superiority of the upland terrace for gravel grade, the text uses this particular example of why the floodplain is better:

> "For example, on Transect #4 in Garnet Gulch, the grade of gravels sampled from the wetland sample site averaged 4.40 g/kg, whereas the average grade of sample collected from a sample test site 110 feet laterally upslope was only 0.85 g/kg" (Emerald Creek Garnet Area DEIS, p. 29).

This statement implies that the farther away from the floodplain, the less the grade of gravels, when in fact the highest grade of gravels is 70' away from the floodplain. The DEIS completely overlooks the data at the 70' point. The data clearly contradicts the Forest Service statement that the upland terrace is not a viable alternative worth developing:

11–11 Although it is less clear than the previous graphs, it is again evident that the floodplain deposits have higher garnet grades than the upland terraces.
-Emerald Creek Garnet Area DEIS, p. 29

This statement is inaccurate and misleading and appears designed to discredit the "No Mining in Riparian Areas" alternative. The text of the DEIS obfuscates this issue even more by changing the units from lbs/bcy to g/kg on page 29.

In contrast to the Forest Service's interpretation, the following data shows that upland areas are equal to or better than floodplain deposits:

11–12
- Figure 2, Transect #1
- Figure 4, Transect #1
- Figure 4, Transect #2
- Figure 4, Transect #4
- Figure 5, Transect #2

Furthermore, the following data shows that upland areas are only slightly less desirable than floodplain deposits:

11–13
- Figure 2, Transect #4
- Figure 3, Transect #1
- Figure 3, Transect #2
- Figure 3, Transect #3
- Figure 3, Transect #4
- Figure 4, Transect #3

11–14 Overall, out of the 16 transects, upland terraces compare reasonably well to, if not actually better than, the floodplain deposits in 10 of these transects.

In conclusion, we disagree with the following statements:

> Taken together, the data provides compelling evidence that an upland-only alternative would not meet the purpose and need.
> -Emerald Creek Garnet Area DEIS, p. 30.

and

> "There is no practicable alternative to extraction of the garnet resource from the wetland deposits if the purpose and need for the proposed action is to be met." 11–15
> -Emerald Creek Garnet Area DEIS, p. 30.

We find that the data in Figures 2-5 actually shows that there are advantages of mining the upland terraces, aside from a dramatic reduction in resource impacts. While the quality may not be as high due to increased weathering and oxidation, sufficient quantities desirable garnets can be found in these areas. 11–16

Despite these findings showing the feasibility of mining the upland terraces, the Forest Service cites this same data as showing that this alternative would be logistically impossible:

> The implications of this are that additional time and associated labor costs, larger equipment and associated ground impacts, larger waste stockpiles, greater amounts of tree clearing and an overall site footprint would be required to exploit the deposits with higher strip ratios.
> -Emerald Creek Garnet Area DEIS, p. 30.

While the Forest Service takes great pains to describe the tremendous ecological impacts of removing up to an additional nine feet of topsoil and overburden, the impacts and logistics of mining the floodplain appear to be much greater in comparison: 11–17

> Direct effects from the recreational dig are removal of water, increased turbidity at the site and downstream, temporary stream diversion, channel reconstruction and vegetation removal. In 281 Gulch a 600-reach of stream would be diverted at the rate of approximately 150 feet/year for garnet digging operations. The stream channel would be temporarily relocated and then reconstructed over this total 600 feet.
> -Emerald Creek Garnet Area DEIS, p. 143.

The Forest Service cannot objectively compare the water quality and aquatic life impacts of the upland alternative because this alternative was not fully developed. The DEIS fails to accurately compare the resource impacts and engineering challenges of rechanneling a stream, filling in wetlands, digging five feet at and below water level, and then rehabilitating this area. 11–18

The DEIS states that an upland terrace alternative is not acceptable due to increased washing times and overburden:

> The implications of this are that longer washing times and greater volumes of gravels must be washed to recover the **same quantity** of gems from upland deposits than from wetland deposits" (emphasis added, Emerald Creek Garnet Area DEIS, p. 29).

11–19

This statement implies, that if all things are equal, it makes more sense to mine the wetland and riparian areas than the upland terraces. Unfortunately, all things are not equal. Mining in the floodplain has greater impacts on wetlands, water quality, water quantity, and western toads than mining the upland terrace. Sediment levels are estimated to increase by 2.52-5.02 tons/year as a result of this action (Emerald Creek Garnet Area DEIS p. 149). Unfortunately, the Forest Service cannot objectively compare the water quality impacts of the upland alternative because this alternative was not fully developed.

Despite suggesting that the upland terrace is not a viable alternative, the above statement on p. 29 does state that the **same quantity** of garnets can be supplied from the upland terrace, meaning that this is actually a feasible alternative.

Forest Plan requirements

Fortunately, the Forest Plan provides specific guidance on weighing these options:

> Facilitate the exploration and development of critical minerals to the extent practicable, **consistent with protection and management of surface resources.** (emphasis added, Forest Plan III-34).
>
> The Emerald Creek Garnet area will be managed to provide a unique recreation rockhound experience and in accord with its current management direction. (Forest Plan III-17).
>
> Riparian areas are to "meet or exceed state water quality standards, protect soil productivity, provide opportunities for dispersed recreation **consistent with riparian protection requirements**. (emphasis added, Forest Plan III-68).
>
> The deposits must be situated in locations and topographic settings where gems can be recovered with reasonable environmental impacts and provide for public safety.-Emerald Creek Garnet Area DEIS p. 21.

Furthermore, the Wetlands Protection Order, Executive order 11990, directs that each agency shall take action to minimize the destruction, loss, or degradation of wetlands.

11–20

The fact that garnets are available in sufficient quantities at all in the upland terrace is consistent with the Forest Plan guidelines allowing garnet extraction and is much more consistent with other Forest Plan and state standards for water quality. From the data presented, an upland terrace is a viable alternative because of far fewer resource concerns

and is equal or superior to the developed alternatives in meeting Forest Plan guidances and Federal orders.

SEIS requirements

The Forest Service needs to prepare a Supplemental Environmental Impact Statement with the following components:

1) The Forest Service should resample these transects at 20' intervals to ascertain the most productive and least damaging areas to mine. 11-21

2) The Forest Service should reanalyze this data and present it showing a range of variability.

3) The Forest Service needs to fully develop the No Mining in Riparian Areas alternative so the public can accurately compare the public benefits and resource impacts of an upland terrace location. 11-22

Water Quality

The Forest Service has an obligation under the Clean Water Act to protect and restore streams in the area so they meet beneficial uses. We do not believe that the alternatives are sufficiently protective of water quality. We are particularly concerned about the increase in sediment levels by 2.52-5.02 tons/year and believe that there are other, reasonable alternatives that would decrease these impacts. 11-23

Floodplain restoration at parking lots

We appreciate the fact that the floodplain at the parking lots would be partially reestablished in all alternatives, but recommend restoring the floodplain to the maximum extent possible. 11-24

Mine expansion into Garnet Gulch

We are concerned about the expansion of mining activities into Garnet Gulch. We believe that all future mining activities should be limited to upland terraces. We support the rehabilitation of previously mined areas in Pee Wee, No Name, and 281 Gulches. 11-25

New road construction

There are several confusing statements made with regard to the decision not to develop the "No New Road Construction Alternative." The DEIS dismissed this alternative because the longer and steeper hike may make it less likely that some people would be able to make the hike; however, in Alternative B the new road to Garnet Gulch would only be accessible to people with disabilities and benches would be installed as rest stations. It appears that the reasons for dismissing this alternative are addressed in Alternative B by adding benches. 11-26

Regarding the need to construct a road for equipment access to Garnet Gulch, the DEIS contains additional inconsistencies:

> This route would include two to three stream crossings, and with periodic use would have many of the impacts of a road. Rehabilitating the excavator route every year also would have been costly. Also, even after the closure of the public 11-27

11-27 dig at 281 Gulch, the continued presence of people and activities would cause disturbance for wildlife in 281 Gulch.
-Emerald Creek Garnet Area DEIS, p. 31.

Without fully developing the no new road alternative, the Forest Service has no way of accurately comparing the impacts and costs of a seasonal excavation route and a permanent road. For comparison, the Smoky Canyon F and G DEIS on the Caribou-Targhee National Forest analyzed 8 different transportation alternatives including different combinations of haul roads, access roads, and conveyer belts. Analyzing an additional transportation alternative is prudent and necessary.

The length of time needed in the riparian area is also unclear. The DEIS seems to imply
11-28 that heavy equipment requires the construction a full road, yet the soils and watershed impacts points out that the excavations would be completed in less than three days. While rehabilitating the excavator route every year would be costly, so is rehabilitating the
11-29 stream channel and riparian year every year with the proposed mining activities. It is also unclear why public would still be disturbing wildlife in 281 Gulch after mining activities cease there and after the DEIS concluded that wildlife disturbances would be inconsequential (Emerald Creek Garnet Area DEIS, p. 176). The map does not show the
11-30 route that heavy equipment would take down to Garnet Gulch from the Garnet Gulch Parking Lot and Administrative Site.

We believe that the Forest Service has not made a persuasive argument for dropping the
11-31 No New Road Construction Alternative. The Forest Service should fully develop this alternative comparing the impacts and costs relative to the other alternatives. Given the high road density in the area, we do not believe that a new road and parking area should be constructed to access operations in Garnet Gulch. Instead, we believe a trail should be
11-32 constructed to the minimal transportation standards required to reduce the Total Soil Resource Commitment, road density, and ecological impacts. We do not believe that Alternative C is necessary or desirable.

Furthermore, after the Forest Service properly analyzes the upland terrace alternative, the
11-33 location of the Administration area and mining site may move, requiring a different transportation alternative. If upland terraces are mined, the logistics and transportation needs may be greatly simplified.

Garnet Quality

The data shows that garnets in the uplands are relatively lower in quality than the floodplain deposits due to increased weathering and oxidization. While collectors may be
11-34 able to discern the difference in quality between upland terrace and placer deposits, most recreational miners visiting for the first time would not know the difference. Furthermore, if the Forest Service had a rock tumbler/polisher available at the Visitor's Center, the final quality of the garnets could be improved.

Length of operations

The Forest Service estimates that Alternative A would prove 2-4 years of continued mining. This estimation assumes that recreational miners would continue to remove the average of just over one pound per person, out of a five pound daily limit. If the Forest Service decreased the amount of garnets that recreational miners can remove by half, it would double the estimated length of operations. 11-35

Wetlands

Although the DEIS states that there will be no net loss in wetlands, we are concerned that wetland restoration activities do not result in the creation of the same quality of wetland habitat that previously existed. The Forest Service needs to conduct proper design and monitoring to ensure that the wetland replacements will be sufficient and suitable. 11-36

Christopher M Dail/R1/USDAFS

06/27/2006 08:14 AM

To: Chuck Mark/R1/USDAFS@FSNOTES, Tracy J Gravelle/R1/USDAFS@FSNOTES, Mary E Price/R1/USDAFS@FSNOTES, John M Macy/R1/USDAFS@FSNOTES, Suzanne A DiGiacomo/R1/USDAFS@FSNOTES, Lynette A Myhre/R1/USDAFS@FSNOTES, Cornie Hudson/R1/USDAFS@FSNOTES, Lisa K Hawdon/R1/USDAFS@FSNOTES, Jeffrey K Johnson/R1/USDAFS@FSNOTES, William F Anderson/R1/USDAFS@FSNOTES

cc

bcc

11-37

Subject: ICL comments/conversations and USACE field visit

ICL Discussions

After several rounds of phone tag I finally had a chance to speak with John Robison from the Idaho Conservation League yesterday for around 20 minutes regarding ICL's concerns about the Emerald Creek Garnet EIS. In our last conversation,John had indicated he planned to offer additional comments regarding our proposed activities. Based on our discussions I don't believe he will submit additional written comments. However, verbally he expressed continued concerns regarding:

1) adequacy of mitgation measures to protect water quality and aquatics habitat;
2) flexibility of existing proposed mitigation measures to handle catastrophic storm events;
3) lack of "no action alterantive" that includes no wetlands disturbance.

Chuck Mark/R1/USDAFS
04/24/2006 12:21 PM

To Tracy J Gravelle/R1/USDAFS@FSNOTES
cc Cornie Hudson/R1/USDAFS@FSNOTES
bcc
Subject Fw: Emerald Creek Garnet Area

Fyi. Chuck.

Charles A. Mark
Idaho Panhandle National Forests
St. Joe District Ranger
St. Maries, Idaho 83861
Office Phone: 208-245-6001

----- Forwarded by Chuck Mark/R1/USDAFS on 04/24/2006 12:21 PM -----

"Clay Courtright" <ccourtright@cdatribe-nsn.gov>
04/24/2006 12:04 PM

To <cmark@fs.fed.us>, <chudson@fs.fed.us>
cc "Alfred M. Nomee" <amnomee@cdatribe-nsn.gov>, "Tiffany Allgood" <tallgood@cdatribe-nsn.gov>, "John Hartman" <hartmanj@cdatribe-nsn.gov>, "Quanah Matheson" <qmatheson@cdatribe-nsn.gov>
Subject Emerald Creek Garnet Area

Chuck,

The Coeur d'Alene Tribe will be commenting on the Emerald Creek Garnet Area DEIS by this Thursday. The comments should be fairly short. One thing to keep in mind is that Cultural Resource monitoring will need to occur on all earth disturbing activities on this project. Please contact me if you have any questions. I hope all is well during this busy time of year. Take care. **12-1**

Sincerely,
Clay Courtright

"Clay Courtright"
<ccourtright@cdatribe-nsn.gov>

06/12/2006 03:29 PM

To <cmark@fs.fed.us>

cc "Quanah Matheson" <qmatheson@cdatribe-nsn.gov>, "Tiffany Allgood" <tallgood@cdatribe-nsn.gov>, <chudson@fs.fed.us>

bcc

Subject Emerald Creek Garnet Area DEIS

Chuck,

12-1 Just a follow-up from the Emerald Creek Garnet Area Draft EIS. Upon review, our preferred alternative is B based upon the decreased impacts resultant from the smaller administrative site and decrease in road usage. Prior to any earth-disturbing work, preferably in the design phase, it is important to coordinate with Mr. Quanah Matheson, Manager of the Coeur d'Alene Tribe Cultural Resource Management Program. Quanah may be reached at (208) 686-0675 or qmatheson@cdatribe-nsn.gov. Please feel free to contact me if you have any questions or concerns.

Thank you,
Clay Courtright

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Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name
Address Gene & Dianne Ayres
City Hamilton **State** MT **Zip** 59840

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFI Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request f or confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

L Check this box if you would like a hard copy of the Summary Draft EIS mailed to you.
The DEIS is also available online at www.fs.fed. us/ipnf/rec/activities/garnets/index. html

Thank You for this opportunity to respond before a decision is made. 13-1

We would select Alt. C – Twenty years ago when we came over with our Rock Club – we were ALL much more agile & limber. We still Love our Hobby & appreciate the ability to be able to get your beautiful Sapphires. But, need to drive closer & NOT have such a long walk. Thank You,
Gene & Dianne 4

Add more sheets if you want to tell us more!

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name DAVID COOK
Address 403 E CROWN AVE
City Spo State WA Zip 99207

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

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The DEIS is also available online at www.fs.fed.us/ipnf/rec/activities/garnets/index.html
Already sent.

14-1 I will miss the natural experience; Collecting garnets from a pile is not natural and will cause an exploitation of this resource.
thankyou
DCook

Add more sheets if you want to tell us more!

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name Judy Heaton
Address PO Box 31476
City Spokane State WA Zip 99223

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

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The DEIS is also available online at www.fs.fed.us/ipnf/rec/activities/garnets/index.html

Upon moving to Spokane during the Summer of 2003, my son Arthur and I visited and dug for garnets. We enjoyed our time so very much. We bought a rock polisher. He has become a rock hound and loves geology. We hope very much that you will continue the recreational digging area. 15-1

Very Sincerely,

Judy Heaton and Arthur

Add more sheets if you want to tell us more!

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name KAREN KIRMAIER
Address 403 East CROWN AVE
City Spokane State WA Zip 99207

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

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The DEIS is also available online at www.fs.fed.us/ipnf/rec/activities/garnets/index.html

16–1 Please allow the natural experience (people choosing where to do their own digging in the designated area) to continue for as long as possible.

It will be a shame to only be allowed to be a small part of a limited experience. To me the "thrill of discovery" is what digging through a pile would take away.

Sincerely,
K Kirmaier

Add more sheets if you want to tell us more!

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name GORDON LANDBERG
Address 13606 E 27th AVE
City SPOKANE VALLEY State WASH Zip 99216

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

☑ Check this box if you would like a hard copy of the Summary Draft EIS mailed to you.
The DEIS is also available online at www.fs.fed.us/ipnf/rec/activities/garnets/index.html

I have used the dig sight several times. I have brought several friends and they returned to dig as it is great enjoyment and adventure. Had 4 facets cut and one was over 7 carats and also had 2 stars cut, not real big, but stars.

It would lose much of the appeal if all it involved was screening gravel from a stockpile. A walk of 2/3 mile would not be objectionable 17-1

Using a common gravel stockpile is a big negative feature.

Gordon Landberg

Add more sheets if you want to tell us more!

Rec 4/11/06

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name
Address Ralph Luther , 614 Luther Lane
City Hamilton State MT Zip 59840-9428

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFI Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request f or confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

L Check this box if you would like a hard **copy of the** Summary Draft EIS mailed to you.
The DEIS is also available **online at** www.fs.fed. us/ipnf/rec/activities/garnets/index. **Html**

18–1

April 6, 2006

Gentlemen and ladies,

In my opinion Alternative A is totally unacceptable. More and more rock, gem and mineral areas are being destroyed (by tailing pile removal and recovery actions) and withdrawn from collecting. There is a large segment of our populace that is being ignored by our land managers.

Alternative B is marginally acceptable. The fact is that many of the Gem & Mineral Club members are over 50 and some have bad knees or hips and find that walking 2/3rds of a mile each way is more than they can do. Generally it is the retired people that have time to get out and look for rocks, gems and minerals.

Alternative C is preferable to the other alternatives. It provides good access and good parking, therefore making the facility much more user friendly for the majority.

Ralph Luther

Sincerely, Ralph Luther

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Add more sheets if you want to tell us
more!

Let us know what you think
about the information presented in the

Emerald Creek Garnet Area Draft EIS

Please submit your comments by April 18, 2006

Name Wes Williams
Address 258 Grundy Ln
City Hamilton State MT Zip 59840

YOUR COMMENTS WILL BE CONSIDERED PART OF THE PUBLIC RECORD:
Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFI Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27 (d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

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19-1

I vote for option #3.
Many of us are not able to do the walking needed to collect, at the distance required to walk at this time.

Add more sheets if you want to tell us more!

IDAHO STATE HISTORICAL SOCIETY
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Dirk Kempthorne
Governor of Idaho

Steve Guerber
Executive Director

RECEIVED
APR 17 2006
REGULATORY DIVISION
COEUR D'ALENE

April 11, 2006

A. Bradley Daly
U.S. Army Corps of Engineers
Coeur d'Alene Regulatory Office
Idaho Panhandle National Forest Building
3815 Schreiber Way
Coeur d'Alene, Idaho 83815-8363

RE: 281 Gulch & Garnet Gulch, Idaho Panhandle National Forest
NWW No. 061200023

Dear Mr. Daly,

20–1

Thank you for sending information regarding the project referenced above. The project will discharge dredged and fill material into approximately 3.2 acres of wetlands associated with extracting gem-quality star garnets for public collection. The project is located in 281 Gulch and Garnet Gulch in portions of Sections 7 & 8, T42N, R1E.

The project area has been previously surveyed by Forest Service archaeologists. An eligible property, 10LT21 (1920's logging complex) is noted in the vicinity of the current project areas. A corduroy/natural road, a contributing feature of 10LT21 has been recorded within the 281 Gulch project area. However, we feel the feature within 281 Gulch is unlikely to suffer any impacts from the proposed project as it is located outside the area of impact. We feel the proposed project will have No Adverse Effect upon historic properties.

We appreciate your cooperation. If you should have any questions regarding these comments please feel free to contact Travis Pitkin at 208-334-3847 or travis.pitkin@ishs.idaho.gov.

Sincerely,

Travis Pitkin
FOR Susan Pengilly Neitzel
Deputy SHPO and
Compliance Coordinator

OPTIONAL FORM 99 (7-90)
FAX TRANSMITTAL # of pages ▶ 1

To Tracy Gravelle	From Gregg Rayner
Dept./Agency	Phone #
Fax #	Fax #

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

RESPONSE TO COMMENTS ON THE EMERALD CREEK GARNET AREA DEIS

REFERENCE ABBREVIATIONS USED IN RESPONSE TO COMMENTS

PF = Project File

Project file sections:

- ACE = Coordination with Army Corps of Engineers
- ACT = Information on Activities: Past, Present, and Future
- B = Botany
- F = Fisheries
- H = Heritage Resources
- M = Minerals and Geology
- OG = Old Growth
- PD = Project Development
- PI = Public and Agency Involvement
- R = Recreation
- SC = Scenery
- SW = Soils and Watershed
- T = Transportation
- WL = Wildlife

Comment 1-1: As we noted in Chapter 2 of the FEIS pp. 22-23 (DEIS pp. 20-21), we evaluated keeping the recreational experience the same as in years past. During public scoping, 17% of the respondents indicated similar dismay at losing this experience. We regret that we cannot continue to provide this type of experience. The decision to change operations was not made lightly, but it is considered necessary to provide public safety at the site and protect water quality and fish habitat. The safety risks from previous operations included possible injury from hand tools and possible collapse of holes, stream banks, trees or rocks (FEIS pp. 1, 23). Public safety is difficult to manage with people using shovels, digging holes, and flinging dirt (FEIS, p. 23). Forest Service can also ensure that water quality is protected with the new methods (FEIS, pp. 160 & 163).

1-2: This was an alternative considered at the onset of this project. As noted in the FEIS pp. 35-36 under "Mining in Previously Dug Areas" (DEIS pp. 32-33), "…using methods that entailed hand digging … results in an incomplete recovery of the garnet". We are aware there are likely some areas where the garnets have not been completely recovered (FEIS, pp. 2, 23, 35). One of the advantages of the new method for garnet gravel recovery is that it will result in a complete removal of the resource (FEIS, pp. 22-23, 33, 103-104).

2-1: We are not sure which of the references you are concerned about. References are selected by resource professionals for topics that are relevant to their issues. Many

references are ten years or older but are valid. Federal or state regulation or Forest Plan references are often ten years old or more.

2-2: Effects to wildlife are presented on pages 38 and 163-197 of the FEIS (DEIS pp. 158-186). You will find that effects to wildlife and birds are predicted to be minimal. Your preference for "no change" has been noted. Please see #1-1 for additional information on the need for change.

2-3: To comply with various mining-related state and federal regulations (Clean Water Act), permits are required (e.g. Wetlands permit, 401 Certification, Stream Alteration and water rights). The federal permit needed is a "Wetlands Permit", commonly known as a "404 permit" from the United States Army Corps of Engineers (USACE). Hence, the USACE is considered a cooperating agency and we have been working with them to facilitate the paperwork for our EIS and the 404 permit. (FEIS pp. 1, 4-5, 82-83, and 160; DEIS pp. 4 & 79)

3-1: Thank you for your comment.

4-1: Our hydrologist has consulted with you (Regional Water Quality Compliance Officer of the Department of Environmental Quality) regarding these comments and the Watershed section of the FEIS has been supplemented with more information with regard to expected sediment, controls and effects (FEIS pp. 145, 150, 155, 158, 159). A sediment budget for the East Fork Emerald Creek was estimated based on your agency's (Idaho Department of Environmental Quality) spreadsheet model used in their sub-basin assessment for the St. Maries River. The calculations determined that the amount of sediment produced in the analysis area (including all activities on all lands) would be reduced by approximately 8.6 tons per year within the East Fork Emerald Creek after sediment additions from the proposed garnet mining are accounted for (FEIS, p. 159). Sediment generated from the proposed garnet mining is offset by past sediment reductions from road decommissioning and stream crossing removals. This pollutant offset or trade has not been utilized within the East Fork Emerald Creek at any time in the past. Design features, BMPs and mitigation measures are incorporated to minimize sediment generation.

4-2: This specified pond would be removed and the channel restored upon final reclamation of the East Fork of 281 Gulch. Please see FEIS Appendix C, p. 1 of the Restoration Plan.

4-3: It is standard practice to divert streams around the work site for culvert replacement. This practice is documented in the IPNF Road Maintenance Programmatic Biological Assessment (8/17/2004; USDI F&WL concurrence on 9/3/2004).

4-4: The parking area for Alternative C would not be within the riparian area; however, your concerns have been noted. The preferred alternative is Alternative B (PF: PI-111).

4-5: This reference was used in error in the DEIS (page 18); it was corrected in the FEIS page 21. We also added your suggested reference to the Project Monitoring section in Chapter 2 (FEIS p. 21) and also noted it on page 144 of the FEIS in the Watershed section.

4-6: These surveys have been conducted and will be used for restoration. Valley and stream cross sections and a longitudinal profile (valley & stream) surveys for 281 & Garnet Gulch were conducted in 2004-2006 (FEIS p. 145, Appendix A; PF: SW-4, SW-26). This design feature has been added to the FEIS, p. 18, N.17.

4-7: Project activities are projected to last from 2-4 years in 281 Gulch and up to 20 years in Garnet Gulch (FEIS, pp. 3, 6, 9, 10, 13, 25, 36, 130, 135, 142). The time period is not definite due to unpredictability of using a new mining method plus not knowing how many permits will be sold. The project length noted in the Army Corps of Engineers' Public Notice is a good estimate.

4-8: Wet panel excavation and reclamation will require topsoil sorting. "The equipment would remove and separately stockpile topsoil, overburden and garnet bearing gravels" (FEIS p. 10; DEIS p. 9). It is noted under Design Feature N.4. in Chapter 2. We changed the wording in Appendix A for more clarity. The topsoil sorting is noted in several places in Appendix A, page 3, 4th paragraph "…topsoil will be excavated from the area being mined. It will be sorted, stockpiled….." and on page 4, 2nd paragraph.

4-9: The FEIS and DEIS cover both wetlands and uplands operations. The 404 Public Notice is for wetlands only, and different equipment may be used outside of wetlands.

4-10: Appendix A, page 11, 3rd paragraph describes the method of water withdrawal: "No digging or filling to accommodate water needs is anticipated." Additional information was added to the FEIS p. 17 N.12; pp. 151-154, 162). This information was provided to USACE (Letter 08/01/2006).

4-11: The DEIS was reviewed for inconsistencies, and the FEIS was corrected and augmented. Statements regarding the replanting and seeding of disturbed sites are found in numerous places throughout the Design Features (pages 11-18). The intent is to use native species in these efforts to the greatest degree possible; please see FEIS p. 12, C.5.; p. 14, F.2.m. & G.3. The Effectiveness Monitoring section of the DEIS contains nearly the same language found within the public notice with regards to revegetation success standards. The FEIS p. 21 (DEIS p. 19) states "In the first year following revegetation efforts there would be 100% ground cover (a combination of vegetation and mulch). Reclaimed areas would be monitored until a minimum of 75% vegetative cover of that found within a reference area was established, ideally within three years. A minimum of 50% of all planted shrubs or trees would be maintained. Supplemental seeding and/or planting would occur as necessary to meet goals." The Public Notice states "All disturbed sites would be vegetated with native wetland plants and monitored until a minimum of 75% vegetative cover is established. A minimum of 50% of all planted shrubs and trees would be maintained. Supplemental seeding and/or planting would occur as necessary." In addition, an area adjacent to East Fork Emerald Creek (Shorty's Dig) was rehabilitated in the early 1990s following garnet sand extraction. Wetland areas were reconstructed and are functioning properly in 2006 (PF: SW-45).

4-12: The FEIS and DEIS cover both wetlands and uplands operations. The 404 Public Notice is for wetlands only.

4-13: We have added selected diagrams of the proposed work to the FEIS (Appendix H, Map 4) in addition to Appendix A of the FEIS. The complete set is included in the project files.

4-14: The function of an interceptor trench is to keep the water from entering an active cut. Any water intercepted would be pumped into wash site recycling ponds (FEIS p. 13, F.2.c., Appendix p. 3, 2nd paragraph and pp. 7-8) or be sprinkled on land in a land application system after sediment removal. In addition, we would conduct excavations during the driest period of the season to minimize water management issues (FEIS p. 12, C.2; p. 13, F.2.a.; p.17, N.8.& N.9).

4-15: Our data suggest that the bulk of the water is in the subsurface. However, we are not tied to using one particular method for handling surface water and will employ the best methods for conditions. We have added other methods to include the use of a culvert system to that particular design feature (FEIS p. 13 F.2.e.). The Forest Service augmented its 404-permit application (PF: ACE-20). Also note that adaptive management methods are planned, "As methods are used and monitored they may be changed to provide better results to protect resources and provide a better experience for the public." (FEIS pp. 11, 20; Appendix A p. 15).

4-16: We MAY use a siltation berm, but we have also identified other sediment controls that could be used. As stated above in #4-15 "adaptive management would be utilized as the sluice operation is implemented". We have added more discussion to Appendix A. pp.3 and 7-8. Your suggested BMPs (from a subsequent phone conversation) were also incorporated. These pages describe channels and water routing and the variety of methods that will be used to ensure that no sediment is released. "…slash filter or hay filters or other biofiltration methods may be installed…..the diversion channel lined with coir fabric or other biodegradable geotextiles…"

4-17: Work in wetlands would require the use of an excavator track hoe. This was added to the FEIS p. 13 Design Criteria F.2.g. "Excavators (track hoe), not bulldozers, would be used for excavations in wetlands". In the upland sites other equipment could be used. The excavations and garnet gravel removal would be done through the use of government contracts. The use of construction matting for weight distribution may also be used.

4-18: We proposed to use plywood or some other surface to minimize soil disturbance (PF: PD-33, 2/10/05) and missed including this in the design features. The FEIS has been corrected (Design Feature F.2.j., p.13).

4-19: The USACE received a copy of this letter, and the Forest Service discussed your recommendation with them. The USACE indicated that periodic review is standard for this type of project (pers. conv. July 6, 2006, PF: ACE-21).

4-20: The U. S. Environmental Protection Agency (EPA) commented on both the DEIS and the Public Notice. Our operations would not have direct discharge to streams (FEIS p. 13 F.2.c.; SW-64). We previously discussed the need for this permit with the EPA and were informed that we would not need it (PF: PD-9a). Activities regulated under section 404 of

the CWA are not required to have a National Pollutant Discharge Elimination permit (PF: SW-64). Public recreational garnet mining is not classified as an industrial activity.

5-1: Thank you for your comment.

6-1: You listed discussion from two different resource analyses, Fish and Watershed, in Chapter 3. These discussions are describing the cumulative effects areas for each resource which can be different depending on the resource discussed. We have added a map (Appendix H, Map 3) showing all of the East Fork of Emerald Creek in the FEIS.

6-2: We added information to the FEIS, Appendix A and a diagram/map (Appendix H, Map 4) of the entire sluicing system showing the recycling water storage and settling ponds to more fully describe the flume system. The Forest Service has water rights to 281 Gulch and Garnet Gulch at the rate of 0.5 to 1.0 cubic feet per second (FEIS p. 14, F.3.d.; and pp. 157, 159). An analysis was conducted for water needs, the pond storage system, and recycling water (FEIS pp. 151-154, Appendix A p.11). Some excerpts from this discussion: "plans call for water to be fed by gravity flow from a withdrawal point in the upper end of the East Fork of 281 Gulch into the pond system located in the upland area near the flume site. A similar set-up would be utilized in Garnet Gulch. To initially fill the water storage ponds, the system will be charged slowly with water from the drainage using flexible hose or rigid pipe outfitted with a small diameter screen to prevent inadvertent entrapment of fish or small aquatic invertebrates. Both the recycle and water storage ponds will be filled during periods of high flows. A pump system will then pump water from the storage/settling ponds into the flume at the required rate where the water will be used by the public to screen gem-bearing gravels. The sediment-laden wash water will be fed down the flume, then through a rock-lined raceway back into the lined settling-recycling pond system. Periodically when the water in the system becomes too low for effective sluicing due to losses from evaporation, spillage and percolation, the system will be recharged by addition of water from the stream source or possibly from a make-up pond. Additional water may become available from active excavation areas, should they become wet; this water will be pumped into the pond system where possible and practical to reduce the need for active water withdrawals and facilitate equipment operations in the wetlands areas. Additional water could also be obtained with water trucks if needed." Also the FEIS Chapter 2 Design Features C.3, F.3.e, and N.12 have additional information regarding the water withdrawal.

6-3: Water withdrawal was not required with previous methods.

6-4: Thank you. This has been corrected on page 122, FEIS.

7-1: Thank you for your comment. Your preference for Alternative B has been noted.

8-1: The permit application submitted to the USACE included this information. You will find information in the FEIS pp. 13-14 (F.2.e.-l. and G.1.-5.); p.17 (N.6., 7.,13.,15.); p.18 (P.2.); pp. 20-21; and in Appendix A pp. 2-4, 7-8. Restoration and montioring plans prepared by an independent contractor including performance standards and measurement methods for 281 Gulch are included in the FEIS as part of Appendix C.

8-2: The DEIS included the Cowardin et.al. classification method for wetlands (DEIS p.151). This reference, Conservation Strategy for Spokane River Basin Wetlands, was reviewed and additional information in the wetlands section was added to the FEIS on pages 160-163.

8-3: The restoration and monitoring plans in Appendix C of the FEIS include performance standards (design features, mitigation measures and monitoring). The standards for vegetation that identify biological recovery of the site are also indicative of hydrologic recovery. Minimum performance standards are included on pages 11-21 of the FEIS, and additional wetland discussion was added to the Wetlands section of the FEIS on pages 160-163. We reviewed The Emerald Creek Garnet FEIS (Western Garnet International Inc., 2004) before this DEIS was released, and we reviewed it again. Our performance standards are very similar:

1. Reclaimed areas would be monitored for a minimum of 75 percent cover (FEIS p. 21). The Emerald Creek Garnet Co. FEIS requires 80 percent cover.
2. The Emerald Creek Garnet Co. FEIS specifies that they will monitor for five years. We will monitor until a minimum of 75% vegetative cover is established, ideally within three years (FEIS p. 21).
3. We added two of their standards into our monitoring measures: "Observe continual increase in cover percentage, plant species diversity, size and age class during the monitoring period" and "Allow natural recruitment of desirable wetland species to be included as cover and as species diversity during long-term monitoring" (FEIS pp. 21).
4. We also added another monitoring measure (performance standard) suggested by EPA's Wetland Ecologist "Monitor for soil redoximorphic (anaerobic) conditions annually during the monitoring period or determine hydrophytic vegetative recovery as indicative of hydrologic recovery" (FEIS p. 21).

Other aspects were not suited to our project given the different scales (300+acres vs. 3.2 acres of wetland disturbance) and time periods involved. The one standard that the Emerald Creek Garnet Company FEIS included that we do not have is the establishment of a specified number of species by the end of the monitoring period. Our botanist did not include this because the scale and level of disturbance (3.2 acres over an estimated 20 years) that will occur in these drainages are small enough that we will have successful re-establishment of species that were there prior to the disturbance (FEIS p. 21). With that fact plus our planting/seeding efforts we should get a good rate of diversity. As we monitor it will become apparent to the botanist what plants are not well represented; then that can be addressed. (FEIS p. 11, A.1.; Appendix A p. 15)

8-4: A specific monitoring plan with objectives and success criteria (performance standards) for 281 Gulch and Garnet Gulch was prepared by an independent contractor and is included in Appendix C of the FEIS. The FEIS has project monitoring on pp. 20-21.

8-5: As noted in #8-3 above, we also added another monitoring measure or performance standard (FEIS p. 21) suggested by EPA's Wetland Ecologist "Monitor for soil redoximorphic (anaerobic) conditions annually during the monitoring period or determine hydrophytic vegetative recovery as indicative of hydrologic recovery".

9-1: As it is the Forest Service's desire to provide this recreational activity with minimal impacts to other resources, extensive exploration and testing starting in 2001 was conducted to determine whether or not there was the opportunity to situate the area within upland areas or non-fish bearing streams. The extensive testing is described on pages 85-92 of the FEIS. Pages 23-32 and 35 of the FEIS discuss the "No Mining in Floodplains" and "Garnet Removal in Non Fish-Bearing Streams Only" alternatives. These alternatives were eliminated from detailed study for a variety of reasons.

9-2: The Forest Service has operated a recreational dig site in tributaries of the East Fork of Emerald Creek since 1974. As you have stated "…East Fork Emerald Creek and many of its tributaries have recovered from past habitat alterations to the extent that they now support resident populations and/or provide critical spawning and rearing habitat for westslope cutthroat and other native fish." Our assessment of the East Fork of Emerald Creek and its tributaries is presented on pages 58-68 of the FEIS. Proposed activities include design features, restoration, mitigation measures and monitoring to maintain or improve habitat conditions. Please see the Design Features on pages 11-21 of the FEIS and Appendix C, a restoration plan for 281 Gulch that would also be used for reclamation in Garnet Gulch.

9-3: No mining activity is proposed on the East Fork of Emerald Creek itself. The proposed mining activities are within two tributaries, 281 Gulch and Garnet Gulch. We understand the value of riparian areas and have prepared many features and measures to protect these areas. Implementing no-disturbance buffers for this project was considered during project development (PF: PD-8a); this is also covered under the "No Mining in Floodplains" discussion on pp. 23-32 of the FEIS. There would be a buffer strip maintained between the settling ponds and streams. Where feasible, native shrubs will be set aside during excavations and replanted immediately after removal of the garnet gravels and replacement of soil layers. It is estimated that the site will be reclaimed within a week of excavations. Historically, there has been quick vegetative recovery for this area (FEIS p. 139). Please see Appendix A for a detailed description of project operations and the FEIS Chapter 2 under Design Features, Mitigation Measures and Monitoring to review plans for protecting resources.

9-4: Monitoring is an important part of the management of this project. The design features and effectiveness monitoring sections of the DEIS/FEIS specify the criteria for the revegetation of disturbed areas, noxious weed treatments, and vegetative success. These items are documented in the Design Features under Minerals, Noxious Weeds, and Soil and Watershed and in the Effectiveness Monitoring under Vegetative Success and Noxious Weeds (FEIS pp. 11-21) and Noxious Weeds. Monitoring and restoration plans are provided in Appendix C of the FEIS.

9-5: Baseline data (FEIS p. 20) was collected on all the tributaries to the East Fork of Emerald Creek, including 281 Gulch and Garnet Gulch (281 Gulch: Quantitative habitat survey 2001; Amphibian survey 2001; Temperature data 2002, 2004, 2005; Garnet Gulch: Quantitative habitat survey 2001; Amphibian survey 2001; Temperature data 2001, 2002, 2004, 2005. For example, "In 2004 and 2005, turbidity monitoring was conducted twice daily in 281 Gulch above and below the dig [mining] sites", FEIS p.147; "Daily turbidity

measurements will continue…", FEIS p. 21). Baseline sediment sampling was conducted in 281 Gulch from 2002-2004. We have taken one sample from Garnet Gulch and we anticipate sediment sampling prior to our beginning operations in Garnet Gulch. During operations temperatures are currently taken hourly June through October. This monitoring will continue (Appendix C, monitoring plan) (FEIS pp. 20, 51-53, 55-56, 58-68, 145).

10-1: Please see previous response under #8-2 and #8-3.

10-2: Please see previous response #8-4. The monitoring and restoration plans were sent to the USACE (PF: ACE-20, 8/1/06).

10-3: Garnet Gulch and the mining in 281 Gulch from 2006 on will be immediately reclaimed. A specific restoration plan with performance standards for previously mined sites on 281 Gulch was prepared by an independent contractor and is now included as Appendix C of the FEIS. Monitoring for both 281 Gulch and Garnet Gulch is also included on pp. 18-21 of the FEIS and in Appendix C.

10-4: The Watershed section of the FEIS was supplemented with more information about expected sediment, controls and effects. A sediment budget for the East Fork Emerald Creek was estimated based on the Idaho Department of Environmental Quality's spreadsheet model used in their sub-basin assessment for the St. Maries River. The calculations show that sediment production would be reduced within the East Fork Emerald Creek after all sediment additions from the proposed garnet mining are accounted for (FEIS pages 145, 150, 155, 158, 159). Sediment generated from the proposed garnet mining is offset by past sediment reductions from road decommissioning and stream crossing removals. This pollutant offset or trade has not occurred or been utilized within the East Fork Emerald Creek at any time in the past. Design Features, BMPs and mitigation measures are incorporated to minimize sediment generation.

11-1: We acknowledge that minerals are a non-renewable resource. The FEIS p. 104 states "... would have a direct negative effect on any future gem garnet leasing because the resources would be irretrievable". It's important to remember the Forest Service acquired the lands within the project area through for the purposes of garnet collecting and land consolidation (FEIS p. 2). The public demonstrated enormous support to maintain opportunities for recreational gem collecting (FEIS page 2). The project area does not fall entirely within the Riparian Habitat Conservation Area (RHCA) e.g. some panels are in the upland area (outside of the floodplain) and the proposed Garnet Gulch road and the parking/administrative area are also outside of the RHCA. This is discussed in the FEIS page 76 and Map 2 in Appendix H.

11-2: We are pleased that we were able to have more detailed discussions with you regarding your concerns expressed in this letter (April 25,2006 with District Ranger, May 19, 2006 and June 26, 2006 with Forest Geologist and July 5, 2006 with District Ranger) (PF: PI-146, PI-149, PI-150). We also offered to send you the project file (survey documents), to meet you at your offices in Boise, Idaho and/or host a field visit. Idaho Conservation League declined these offers.

As stated in the scoping letter for this project (PF: PI-2, December 20, 2004) the reason this project was delayed was in order to conduct detailed testing to determine an adequate area for the public dig. We recognize that some of the figures in Chapter 2 were confusing and have included some corrections and clarifications in the FEIS. Specific concerns are addressed below. Although the individual test sample values presented show differences and interpretation of the individual sample results may vary, the overall interpretation of the graphs indicates that the garnet-bearing gravels in the upland areas are typically: 1) of inferior quality as compared to those recovered from the riparian areas; 2) typically lower grade than the gravels within the riparian areas; and 3) in many cases are completely void of gem quality material due to weathering effects and secondary cementation. We encourage you to review the Minerals and Geology section (FEIS pp. 83-92) which describes testing methods in detail.

11-3: A reasonable range of alternatives was considered (FEIS pp. 8-11, 22-35). In addition to the three alternatives considered in detail, Chapter 2 of the FEIS pp. 22-36 includes discussion regarding 13 other alternatives that were considered but eliminated from detailed study. The Forest Service also desires to minimize impacts and that's the reason we conducted such extensive geologic testing as noted in #11-2 above.

11-4: The Forest Service carefully analyzed the upland alternative ("No Mining in Riparian Areas" in the DEIS, renamed "No Mining in Floodplains" for the FEIS pp. 23-32). This alternative does not meet the purpose and need (FEIS p. 23). As noted in #11-2 above, it was our desire to see if it was possible to locate a public collection site in the upland areas outside of the floodplains. As also noted in #11-2, we have had discussions with you regarding our interpretations and your specific points are answered below.

11-5: You were commenting on the Draft EIS. There is no need for a Supplemental EIS because the "upland terrace" alternative does not meet the purpose and need (FEIS p. 23-32). The next step is the FEIS where we respond to comments on the DEIS such as these and make corrections where needed.

11-6: All of the survey, map and data compiled are available for review in the project file records. As noted in #11-2, we offered to provide these for your review. There is too much quantity and detail to provide this within the FEIS. However, the survey and testing details are summarized on pages 83-92 of the FEIS (DEIS, pp. 80-89).

11-7: We have added clarification to Figures 1-7 in the FEIS. The number of samples is shown on the graphs as each trench sample was compiled and the number, size and characteristics of garnets recovered were graphed directly. The range of variability is evident on the graph. Sample sites were selected based on topographic, slope and geologic parameters. Sampling sites at exactly the same distance from the floodplain boundary were not necessary, nor desirable to insure we obtained a good representative set of samples throughout the upland areas.

There is indeed a relative spike in several samples in 281 Gulch for samples taken immediately adjacent to the floodplain. In Figure 4 the sample point in Transect #1, located 20 feet from the floodplain was a trench started at the edge of the floodplain and was excavated upslope approximately 20 feet. It contains a higher grade, meaning a higher

percentage by weight of recovered garnets, than the sample collected from the floodplain immediately downslope (approximately 2.8X higher by weight). The data in Figure 3, however, indicates that the total percentage of gems recovered from this sample relative to the floodplain sample is 18% lower. The photos in Figure 1 show the increased weathering effects (evidenced by yellowing from increased iron oxidation and cementation) likely leading to the lower gemstone percentage from the floodplain upslope.

Figure 4, Transect #2 shows a similar “spike” at the location of test site T281-04-4 as compared to the sample upslope and immediately downslope from within the floodplain. As in Transect #1, the “spike” in the average gravel grade (approximately 1.5X higher by weight) is located in a trench that started at the edge of the floodplain and was excavated upslope onto the upland. However, the data in Figure 3 indicates that the total percentage of gems recovered from this sample relative to the floodplain sample is 13% lower. The photos in Figure 1 (second row of photos from top), also show the increased weathering effects (evidenced by yellowing from increased iron oxidation and cementation) likely leading to the lower gemstone percentage from the floodplain upslope.

In both cases one could argue that the higher values are actually due to the inclusion of samples from the edge of the floodplain versus better grades in the upland. Regardless, the arithmetic average of the seven upland samples from 281 Gulch is 2.5 lbs/bcy and the average from the three floodplain samples is 2.62 lbs/bcy indicating the floodplain deposits are indeed higher grade overall. Given these results taken in context with the data presented in Figure 2 (largest gem recovered), Figure 3 (percentage gems recovered) and Figure 5 (depth to top garnet-bearing gravels) it is evident that the upland deposits are inferior to the floodplain deposits.

11-8: The data indicates the depth to the top of the garnet-bearing gravels increases upslope when all data is considered; it does not decrease. As noted above, the depth to the top of the gravels in the sample point at T281-04-3 on Transect #1 is approximately four feet below ground surface (bgs) at the lower end (at edge floodplain) of the trench. The complete trench logs (project record) indicate the garnet gravels are deeper upslope even within the length of the trenches. In cross section view, the depth to gravels is rather consistent and relatively planar mimicking the bedrock slope. Sample points at the upper ends all three Transects #1, #2 and #4 did not contain any garnet gravels at all and were essentially silts and fine-grained sediments resting directly on bedrock (see corresponding transect on Figure 3).

Specifically, the comment suggests the depth to gravels decreases uphill along the sampling transects shown graphically in Figure 5. This is true for two of the samples. In Transect #1 (top of Figure 5), the difference is less than 0.5 meters or approximately 1.5 feet – an insignificant amount when compared to the total depth for this transect; in addition, there were no garnet gravels in the sample at 160 feet (Figure 4). In the transect in Garnet Gulch (Transect #4 on Figure 5), the last sample on the transect appears to show shallower gravels, but in fact there were no *garnet* gravels in this trench (Figure 4), just fine-grained sediments on bedrock; thus there is no potential for garnet recovery from the uplands at this point on this transect.

The commenter also seemed to be asking why not sample a tighter sample spacing between existing trench sites. Sampling along the lines at tighter spacing was unnecessary

and would have generated unneeded site disturbance in the exploration phase. Detailed characterization of a placer deposit is typically done by collecting samples along lines that dissect the deposit into resource blocks. There is no single correct answer for selection of the line spacing and sample interval. Sampling protocols used for this project were developed specifically to explore the floodplains and the upland deposits given what was already known about the deposit characteristics from past exploration and observations at the public dig sites. The sampling scheme was designed to minimize ground disturbance and cutting of trees as much as possible and still provide a reasonable level of detail and reliable data for outlining the spatial extent, volumes and grades of the deposit. Sample sites were selected using standard placer sampling procedures as outlined in several placer sampling references including the Bureau of Land Management Handbook for Mineral Examiners (H-3890-1, 3/17/1989); the classic placer examination handbook by Wells (1969) and a more recent updated technical guide by McCulloch et. al. (2003). Sampling was supervised by a qualified professional geologist with specific experience in heavy mineral sands placer deposits with similar characteristics to the Emerald Creek area deposits.

The final sampling density for the small area proposed for mining is relatively high when compared to that typically used in the placer mining industry and during mineral deposit validity examinations.

11-9: We encourage you to review the Minerals and Geology section (FEIS p. 83-92, DEIS pp. 80-89) which describes the testing methods and sampling protocols in detail. Site investigations (2001-2005) started with compilation of historic exploration data and identification of past extraction sites, then development of a site screening matrix to rule out areas unsuitable for development due to steep slopes, unstable soils, etc., designating areas for sampling, sampling and laboratory analysis, development and rating of geotechnical and grade characteristics, and collection of an airborne laser altimetry survey to provide large scale base maps (FEIS p. 85; DEIS p. 82).

Detailed characterization of a placer deposit is typically done by collecting samples along lines that dissect the deposit into resource blocks. There is no single correct answer for selection of the line spacing and sample interval. Sampling protocols used for this project were developed specifically to explore the floodplains and the upland deposits given what was already known about the deposit characteristics from past exploration and observations at the public dig sites. The sampling scheme was designed to minimize ground disturbance and cutting of trees as much as possible and still provide a reasonable level of detail and reliable data for outlining the spatial extent, volumes and grades of the deposit. Sample sites were selected using standard placer sampling procedures as outlined in several placer sampling references including the Bureau of Land Management Handbook for Mineral Examiners (H-3890-1, 3/17/1989); the classic placer examination handbook by Wells (1969), and a more recent updated technical guide by McCulloch and others (2003). Sampling was supervised by a qualified professional geologist with specific experience in heavy mineral sands placer deposits with similar characteristics to the Emerald Creek area deposits.

The final sampling density for the small area proposed for mining is relatively high when compared to that typically used in the placer mining industry and during mineral deposit validity examinations. Additional sampling may show slight variations in grade, thickness or

depth, but is not likely to change the fact that the floodplain deposits are of better quality and higher quantity than those on the uplands. In fact, a large number of hand-auger soil samples were collected throughout the project area during the last three years specifically to test for shallower deposits that could be exploited to avoid the wetlands impacts (FEIS Map 5 in Appendix H). The results of the upland sampling program were unfortunately discouraging and indicated the shallow garnet-bearing gravels and gravels with high quality, uncemented gemstones are limited to the areas within the floodplains (FEIS, Figures 1-7; Map 5, Appendix H).

11-10: The graph for Figure 4, Transect 4 was provided at the same scale as the other three transects to show the variation between deposits in Garnet Gulch versus those in 281 Gulch; however the scale to fit the paper was cut off and has been corrected for the FEIS. This was not meant to mislead the reader. The variation between the samples collected 40 feet apart in Transect #4 at 70 feet and 110 feet from the floodplain respectively clearly shows the decrease in grade going upslope. The difference between the sample in the floodplain and the next sample up is insignificant when compared to the samples higher on the upland. Percentage of garnets recovered or yield alone, however, does not tell the whole story when taken in context with the percentage of gems recovered in the samples collected from the same transect as shown in Figure 3. The difference in percentage of gems recovered from total number garnets recovered between the same two samples is 13% less in the upland.

The text in the DEIS on page 29 is an error and has been corrected for the FEIS (p. 25).

11-11: Each sample by itself does not tell the whole story. Please see #11-12 below. The text in the DEIS on page 29 is an error and has been corrected for the FEIS (p. 25).

11-12: Each sample by itself does not tell the whole story. These figures and data must be reviewed as a whole to determine what is available for a public garnet area expected to last 20 years or more.

Figure 2, Transect #1: Where garnets were found, the largest gem recovered from each sample collected on the transect was essentially the same size. However, the quality of the garnets recovered from samples upslope is significantly lower than those from the floodplain as evidenced by the examinations and shown graphically in the photos in Figure 1.

Figure 4, Transect #1: You are correct: the grade is higher in this sample. However, that trench was started in the floodplain and excavated upslope onto the upland area and thus part of the sample was derived from the floodplain itself. In addition, the percentage of gems recovered from the higher grade sample is actually 18% lower than the sample from the floodplain as shown in Figure 3 and shown graphically in Figure 1. No gravels were recovered on the upland trench at 160 feet.

Figure 4, Transect #2: You are correct: the grade is higher in this sample. However, that trench was started in the floodplain and excavated upslope onto the upland area and thus part of the sample was derived from the floodplain itself. In addition, the percentage of gems recovered from the higher grade sample is 13% lower than the sample from the floodplain as shown in Figure 3 and shown graphically in Figure 1.

Figure 4, Transect #4: You are correct: the grade is slightly higher in this sample (collected from the first sample upslope from the edge of the floodplain). As shown in Figure 3, the percentage of gems recovered from the upland sample is 13% lower than the sample from the floodplain and this is shown graphically in Figure 1. Also Figure 2 shows in this same sample the largest gemstones are half the size of the floodplain sample.

Figure 5, Transect #2: Figure 5 presents depth to the top of the garnet gravels. These illustrate increasing depth to the top of the gravels moving from the floodplain to the upland. There were no garnet gravels in the sample from trench site T281-05-9, so the shallower depth is meaningless and is indicated on the graph with B/R abbreviation. The same is true for the uppermost test site in Transect #1 (T281-05-pond) and Transect #4. As indicated on Figures 2 through 4, there were no garnet gemstones in these samples.

11-13: Figure 3 is arguably the most important set of graphs in the sequence of figures since garnet quality is of paramount importance to the collecting public. Highly weathered, fractured or cemented stones, **no matter how abundant**, cannot be cut into gems and carry no value to hobbyists and collectors. There are numerous locations throughout the area in Idaho where stones of inferior quality can be collected, but very few locations where good high quality stones can be recovered.

Figure 2, Transect #4: The largest stone recovered from the floodplain (sample site GG-03-8) was 4.05 cm in diameter. The largest stone recovered from the adjacent upland was only 2.00 cm in diameter in the next sample site upslope. Collectors are much happier with gemstones that are twice the size of others.

Figure 3, Transect #1: There were no gemstones recovered from the upper end of the upland sample (T281-05-pond), 32% less on the next sample downslope (T281-05-10) and 18% less on the sample next to floodplain (T281-04-3) when compared to the floodplain sample (T281-05-3).

Figure 3, Transect #2: No stones were recovered from the upper end of the transect of the upland sample, 40% less on next sample downslope, and 13% less on sample next to floodplain compared to the floodplain sample.

Figure 3, Transect #3: There were 24% less gem garnets recovered from upper end of the upland sample Transect (T281-05-8) compared to the floodplain sample (T281-05-7).

Figure 3, Transect #4: No gem garnets were recovered from the upper end of the upland sample Transect (GG-04-16), 33% less on next sample downslope (GG-04-15), and 13% less on sample next to the floodplain (GG-04-14) compared to the floodplain sample (GG-03-8).

Figure 4, Transect #3: The average gravel grade of the upland sample (T281-05-8) was 39% less compared to the floodplain sample (T281-05-7).

11-14: Please see #11-10 through #11-13.

11-15: As indicated in #11-2, we had several discussions with you regarding interpretation of this data. The analysis shows that there is no practicable alternative to extraction of the garnet resource from **both** the wetland and upland deposits if the purpose and need for the proposed action is to be met (definition of “practicable”: available and capable of being

done after taking into consideration cost, existing technology, and logistics in light of overall purpose; FEIS p. 161).

11-16: Extensive testing and evaluation from 2001-2005 was conducted in order to find a public garnet collection site that would have minimal impacts to other resources. We were very hopeful to find a site on the non-fish-bearing streams and also hopeful that the upland sites would prove to be a viable alternative. We assigned a geologist with exploratory experience to the project and have evaluated the area extensively. We have many reasons for selecting the proposed mining areas: they have the quality and quantity of garnet gemstones for a public garnet area for a period of at least 20 years and the drainage has enough width to manage water resources with the least impact (FEIS, Figures 12 &13, FEIS pp. 83-92, DEIS pp. 80-89).

11-17: Please see pp. 91-92 of the FEIS (DEIS p. 88) and review the overburden thickness discussion. Safety, costs and logistics are also considered along with environmental impacts. The relative depth to gravels and resulting stripping and stockpiling of overburden is of major concern when faced with excavations on slopes. Mechanized equipment operating on slopes must have a reasonably level surface to operate safely. This requires grading slopes back, the associated cutting of trees and soil stockpiling to facilitate re-grading of the slopes to allow the equipment to operate. In addition, open construction or mining excavation cuts must meet Occupational Safety and Health Administration (OSHA) and Mine Safety and Health Administration (MSHA) requirements. Depths greater than nine feet below ground surface (BGS) would entail the need to excavate extremely large open cuts. Given the specific site conditions and slope angles, it was determined that at depths over 9-10 feet BGS, excavations would require substantial additional site disturbances (with significantly higher loss of canopy cover, increased soil disturbance and much larger overburden stockpiles) to comply with these OSHA and MSHA safety requirements.

11-18: As described in #11-2 through #11-17, we have taken a hard look with extensive analysis at the upland only alternative (renamed No Mining in Floodplains for the FEIS pp. 23-32) and have determined that it is not a practicable alternative. The resource impacts for Alternatives A-C are presented in Chapter 3.

11-19: Interpretation of the words “same quantity” confused this issue. We reworded the FEIS to clarify the intent. What is meant here is that for a “given quantity” of gems, longer washing times and greater volumes of gravel must be washed. In addition, what has also been added to the FEIS is that often you cannot even wash and separate the lower grade garnets; they are cemented together and/or they fracture and fall apart. In order to break down and dissagregate the samples from the upland areas, it was necessary to use a large steel rotary mixer with a strong detergent product to effectively recover the garnets. Testing also required longer agitation times to break down gravels from the upland areas compared to the floodplains (FEIS 24-25, 86). Also, as stated earlier, quantity of gemstone is only part of the picture.

11-20: Please see #11-2 through #11-19. Larger equipment and associated ground impacts, larger stockpiles, greater amounts of tree clearing and an overall larger site

footprint would be required for the “upland terrace’ alternative (FEIS p. 24). This indicates that this alternative would result in more resource concerns.

11-21: Please see #11-5 for discussion regarding a Supplemental EIS. Please see the discussion regarding sampling protocol in #11-7 through #11-9. Your proposed level of sampling (20-foot intervals) would essentially mine the entire area. Large bulk samples were collected and sampling was done on transects to prevent this kind of needless resource impact and expensive sampling. For example, the sampling density cited in Wells (1969), a classic government and industry recognized textbook on placer sampling still used today, recommends sampling at 50- to100-foot spacing in deposits of this type. Sampling was done in a manner to minimize impacts and still provide enough information for an informed decision. Range of variability has been analyzed and is shown above (#11-7).

11-22: Please see #11-2 through #11-19.

11-23: Additional discussion on sediment estimates is included in the FEIS on pp. 145, 150, 155, 158, and 159. Compliance with the Clean Water Act is discussed in both the DEIS (pg. 151) and the FEIS (pp. 160 and 163).

11-24: The floodplains at the parking lots would be restored to the maximum extent possible (FEIS pp. 9-10, 162). A portion of the parking lots is required for pullouts on the narrow access road (Forest Road 447).

11-25: Your preference has been noted.

11-26: Thank you for disclosing some confusion in this discussion. The hike from 281 Gulch to Garnet Gulch would be more strenuous largely because of the steepness of the hike with higher sustained grades, but it would also be approximately 30% longer. Benches were not added to mitigate the length of the trail; they are included only as an amenity. Please see the alternative descriptions (DEIS pp. 8-10 and FEIS pp. 8-11; PF: T-1). For clarification, additional discussion was added to alternatives considered but eliminated from detailed study. Please see the FEIS pp. 33-34.

11-27: Again, thank you for disclosing some confusion in this discussion. The “no new system road” alternative would have required a hiking trail and excavator route from and through **both** 281 Gulch and Garnet Gulch. Therefore, disturbance to wildlife would have continued in both drainages. This project area is very small (780 acres), and transportation alternatives are very limited. Extensive reconnaissance and evaluation was performed to evaluate the transportation needs and the best road location (PF: T-1). For clarification, additional discussion regarding difficulty of hike, disabled access, annual equipment access needs, number and size of stream crossings, safety for excavator, emergency and administrative vehicle access, and toilet pumping is presented for this alternative considered but eliminated from detailed study. Please see the FEIS pp. 33-34.

11-28: The soils and watershed sections referred to (DEIS p. 15) concern the excavations for garnet gravels, not for the road construction. However, the analyses allows for an estimated week (DEIS pp. 31, 34, 131,135). This (reference on DEIS p. 15) was corrected for the FEIS (p. 17). The “full road” is needed for site construction, administrative access,

emergency vehicles, access for people with disabilities, pumping the toilet and excavator access one to three times per year (PF: T-1). Please review Chapter 2, Alternatives Eliminated from Detailed Study for reasons a dedicated excavator route was not desirable.

11-29: Please see #11-27 for an explanation of why wildlife would continue to be disturbed in both drainages.

11-30: You are correct: the DEIS does not show the routes that heavy equipment would use to access Garnet Gulch for mining panels. Heavy equipment would use the permanent road to get up to the parking area. Then from the administrative area to the excavation sites, temporary access trails would be used which would be immediately reclaimed with the mining panel (FEIS p. 18 N.16.c).

11-31: Alternatives B and C both include building the road in Garnet Gulch and removing the 281 Gulch access road and administrative site when the move is implemented. Please see the alternative descriptions (DEIS pp. 7-33 and FEIS pp. 8-35; PF: T-1 and T-3). Road density discussion is presented in the FEIS pp. 38, 52, 57, 61, 71, 146. Although road density in Garnet Gulch will increase by 0.7 miles per square mile (from 3.9 to 4.6 mi/sq.mi.), it will decrease in 281 Gulch by 0.6 miles per square mile (from 4.4 to 3.8 mi/sq.mi.) when Road 3781 is decommissioned. So, overall the project will result in a small increase in road density (FEIS pp. 74, 76-77, 158-159). For clarification, additional discussion was added to this Alternative Considered but Eliminated from Detailed Study. Please see the FEIS pp. 33-34.

11-32: Your preference has been noted (FEIS p. 33-34).

11-33: This project area is very small (780 acres), and transportation alternatives are very limited. Extensive reconnaissance and evaluation was performed to evaluate the transportation needs and the best road location (PF: T-1). Please also see response to #11-27 and the discussion above regarding the “upland terrace alternative”.

11-34: Most collectors are aware of the difference between gemstone and non-gemstone garnets. Tumble grade material is not the primary target of most collectors and rockhounds who visit the site. In fact, the area is so popular because it specifically has historically produced large quantities of high-quality, cutting-grade gemstones exhibiting a star asterism – which is why the legislature designated the star garnets from as the state gemstone of Idaho. The garnets containing inclusions that produce the sought after “stars” are prone to be more highly fractured in the upland areas due to an increase in fracture density likely the result of increased freeze-thaw cycles. Garnets found in the uplands tend to disintegrate while being tumbled because of a greater density and number of fractures and heavy iron oxide development from more intense weathering of the garnets. Tumbling good stones often takes weeks. Tumbling stones does not improve quality of a poor stone it only enhances qualities of good stones (FEIS pp. 24, 86, 88, 96-97).

11-35: Over the years, we have found that only a handful of people actually take out the full five pounds of garnet. If we find that with the new methods many more people are taking

out the limit we can still choose to limit their permit (FEIS Figure 15, PF: PD-48 issues disposition).

11-36: Appendix C of the FEIS includes the restoration plan for 281 Gulch and monitoring plan that will be implemented to ensure quality restoration of the sites (FEIS Appendix A, FEIS pp. 11-18). Also the FEIS pp. 19-21 incorporated additional monitoring to ensure successful restoration.

11-37: John Robison expressed this concern during a phone conversation (6/26/2006) with Chris Dail, Project Geologist. The Water Quality Erosion Control Plan in Appendix A of the DEIS/FEIS describes mitigations and safeguards to prevent damage from catastrophic storm events. Excavation during the dry season, the short duration of ground disturbing activity, and concurrent reclamation and revegetation would reduce this risk to a very low level (FEIS p. 12, C.2; p. 13 F.2.a.; p.17, N.8. & N.9). Also, adaptive management and active monitoring is a part of this project (FEIS p. 11, 20-21, Appendix A p. 15 and Appendix C Monitoring Plan).

12-1: The St. Joe Ranger District will notify the Coeur d'Alene Tribe as requested prior to excavations.

13-1: Thank you for your comment. Your preference for Alternative C has been noted.

14-1: Thank you for your comment. With the new methods, garnet collecting can still be enjoyed for many years to come. Please see Chapter 2 of the FEIS pages 22-23 and comment #1-1 for the reasons why the mining method had to be changed.

15-1: Thank you for your comment. The selected alternative will provide many more years for the recreational digging area.

16-1: Thank you for your comment. With the new methods, garnet collecting can still be enjoyed for many years to come. Please see Chapter 2 of the FEIS pages 22-23 and comment #1-1 for the reasons why the mining method had to be changed.

17-1: Thank you for your comment. With the new methods, garnet collecting can still be enjoyed for many years to come. Please see Chapter 2 of the FEIS pages 22-23 and comment #1-1for the reasons why the mining method had to be changed.

18-1: Thank you for your comment. Your preferences have been noted.

19-1: Thank you for your comment. Your preference has been noted.

20-1: Thank you for your comment.