Final Record of Decision

For the Granite Creek Watershed Mining Project Environmental Impact Statement

North Fork John Day Ranger District
Umatilla National Forest

Whitman Ranger District
Wallowa-Whitman National Forest

Grant County, Oregon

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Granite Creek Watershed Mining Plans
Final Environmental Impact Statement

North Fork John Day Ranger District, Umatilla National Forest
Whitman Ranger District, Wallowa-Whitman National Forest

Final Record of Decision

Introduction

According to the 36 CFR 228.4 (Plan of Operations/Notice of Intent Requirements) should the operator or the District Ranger determine that a mining proposal/operation is causing or will likely cause significant disturbance of the surface resources the operator must submit a proposed plan of operations or a modification to an existing Plan of Operations. In the Granite Creek Watershed, a number of mining Plans were previously approved in the early 1980s. Since then, regulatory requirements have changed in this watershed, such as streams were listed under section 303(d) of the Clean Water Act (CWA), and Endangered Species Act (ESA) fish were listed, requiring that the Plans address these changes. In addition to these changed regulatory conditions, all of the old Plans have either expired or completed their activities and require authorization for additional mining activities, and some new plans have been submitted. As with any other project proposed on National Forest System Lands, an environmental analysis must be done in conjunction with the proposed operating plan(s) (36 CFR 228.4 (f)). As per 36 CFR 228.5 (a), the Authorized Officer will review the proposal and the accompanying environmental analysis in order to determine the reasonableness of the requirements for surface resource protection.

The Final Environmental Impact Statement (FEIS) for the Granite Creek Watershed Mining Plans (Granite Mining Project) documents the site-specific direct, indirect, and cumulative environmental effects on National Forest surface resources where mining claimants propose to conduct operations authorized by mining laws and regulations in the Granite Creek Watershed. The project area includes the entire Granite Creek Watershed in northeastern Oregon (Wallowa-Whitman and Umatilla National Forests). The responsible officials for this decision are the District Rangers for the Whitman Ranger District on the Wallowa-Whitman National Forest (WWNF) and the North Fork John Day Ranger District on the Umatilla National Forest (UNF). Plans proposed in this document would be in effect for ten years after the date of this signed Record of Decision.

This Record of Decision (ROD) documents our decision and rationale for selecting a course of action to be implemented for the Granite Mining Project. We have considered the analysis that is documented in the final environmental impact statement (FEIS) for the Granite Mining Project, information in the project file, and input received from the public during the course of the analysis of this project as required by the National Environmental Policy Act (NEPA).

This ROD was developed according to requirements of the National Environmental Policy Act (NEPA) (42 USC §§ 4321-4370), the Council of Environmental Quality’s implementing regulations (40 CFR §§ 1500-1508), Forest Service NEPA regulations (36 CFR Part 220), and Forest Service policy in Forest Service Manual 1900, Chapter 1950, and Forest Service Handbook 1909.15.
Location of Project Area

The Granite Creek Watershed (approximately 94,480 acres) is located in the Blue Mountains of northeastern Oregon and is primarily within the administrative boundaries of the Whitman Ranger District, Wallowa-Whitman National Forest (40,624 acres), and the North Fork John Day Ranger District, Umatilla National Forest (49,539 acres). Approximately 4,150 acres in the watershed are privately held. The Granite Creek Watershed is located approximately 30 miles west of Baker City, Oregon, and 40 miles southeast of Ukiah, in Grant County, Oregon.

The legal description for the watershed is:

- Township 8 South, Range 34, 35, 35½ and 36 East
- Township 9 South, Range 34, 35, 35½, and 36 East
- Township 10 South, Range 34, 35, 35½, and 36 East, Willamette Meridian.

Purpose and Need

Existing Condition

As stated in the Introduction above, in the Granite Creek Watershed, a number of mining Plans were previously approved in the early 1980s. Since then, regulatory conditions have changed, such as Endangered Species Act (ESA) fish were listed and streams were listed under Section 303(d) of the Clean Water Act (CWA), requiring that the Plans address these changes. In addition to these changed regulatory conditions, all of the Plans have either expired or completed their activities and require additional authorization for mining activities.

Two streams in the watershed (Bull Run Creek and Granite Creek) are currently listed as water-quality limited for sedimentation by the Oregon Department of Environmental Quality (DEQ) under section 303(d) of the CWA. All of Bull Run Creek is listed, and Granite Creek is listed upstream of its confluence with Boulder Creek.

On July 10, 1998, Columbia River bull trout (Salvelinus confluentus) were listed as threatened under ESA and critical habitat was designated in 2010. On May 24, 1999, Mid-Columbia River steelhead (Oncorhynchus mykiss) were listed as threatened under the ESA and critical habitat was designated in 2005. Both of these species are found in streams located within the Granite Creek Watershed and both have designated critical habitat within the project area. Westslope cutthroat trout (Oncorhynchus clarkia lewisi), which exists in the watershed, is on the 2011 Regional Forester’s list of sensitive species; and Columbia spotted frog (Rana luteiventris) has a documented population in the watershed and is on the 2011 Regional Forester’s sensitive species list.

One proposed Plan of Operations has a very rare (but not currently listed as sensitive) biscuitroot species, Lomatium tarantuloides, located within the footprint of one of the proposed Plan of Operations (Royal White), and protection of these plants may be required. Also, there are approximately two dozen locations for Region 6 Sensitive Botrychium plant species located within the Granite Creek Watershed on both the Wallowa - Whitman and Umatilla National Forests. However, no Botrychium plants were located at any of the proposed Plans of Operations during site-specific surveys for this analysis.
**Desired Condition**

Desired conditions for the surface resources on the mining claims in the Granite Creek Watershed are derived from goals, objectives, standards, and guidelines from the Wallowa-Whitman and Umatilla National Forests Land and Resource Management Plans (Forest Plans), public scoping, recovery plans for ESA listed Middle Columbia River (MCR) steelhead and Columbia River (CR) bull trout, and interdisciplinary team input. Desired conditions provide a future vision for the area and can help in development of management options for the mining operations in the Granite Creek Watershed over time.

Twenty-eight Plans of Operations would be approved for the mining operations in the Granite Creek Watershed that include requirements and protection measures to ensure that adverse impacts to water quality and surface resources (including special status fish, wildlife, and plant species described above) are minimized.

- Watershed values are protected to the fullest extent possible under existing laws in evaluating and developing mineral operating plans (*WWNF Forest Plan, page 4-25*).
- During development of operating plans or plan modifications, reasonable alternative mitigation measures and/or operating requirements will be developed to define the appropriate stipulations needed to protect other resources while still meeting the objectives of the minerals operator (miner). The test for operating plan requirements is “reasonableness” (*UNF Forest Plan, page 4-81*).

**Purpose and Need**

The Forest Service needs to ensure adverse environmental effects on National Forest surface resources have been reasonably minimized where mining claimants propose to conduct operations authorized by mining laws. Plans of Operation submitted by the miners, as specified in 36 CFR 228.4(a), should be reviewed to consider the Forest Service’s responsibility to approve or require modifications to these Plans in accordance with federal mining and environmental laws. As described above, previous Plans in the area were approved prior to the ESA listing of CR bull trout and MCR steelhead as threatened, as well as designation of critical habitat for both species. Because regulatory requirements have changed, previous plans either expired or mining activities were completed, and new plans have been submitted, there is a need to ensure all reasonable measures are taken by the authorized officer to disclose and minimize the environmental impacts of the proposed operations prior to approving the operating plan, as specified in 36 CFR 228.4(e).

**Summary of Significant Issues**

**Significant Issue 1: Water Quality and Quantity**

Water quality in the Granite Creek Watershed has been impaired by past timber harvest and road building, beaver trapping, grazing and hydraulic, placer, and dredge mining. These activities have altered stream channel morphology, abundance and distribution of riparian vegetation, runoff patterns and volumes, the stream-valley floor surface hydrologic connection, and type of ground cover. The result has been changes in flow regimes, the movement and storage of sediment, release of toxic metals, the movement and storage of water in the watershed, bank stability, and substrate composition. Water quality parameters
affected by these changes are stream temperatures, concentrations of heavy metals, and water clarity (turbidity).

Several Plans withdraw water for their operations. Water withdrawals can negatively impact water quality and quantity. The Forest Service has monitored summer stream temperatures for 12 streams in the Granite Creek watershed. All of these streams have temperatures that exceed the applicable state water quality standard of 53.6°F for bull trout spawning and rearing (See FEIS Appendix 5). Prior to 2010, four of these streams (Beaver, Bull Run, Clear and Granite) were 303(d) listed by Oregon Department of Environmental Quality (ODEQ) as water quality limited for temperature and in two cases for sedimentation. As a result of the completion of the John Day River Basin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP) in 2010 (ODEQ 2010), the four streams were delisted listed for temperature. Delisting does not mean that the stream temperatures are now acceptable, but that all feasible steps will be made to decrease the elevated stream temperatures and prevent further rises, as required by the TMDL. As such, Plans were evaluated for potential impacts to stream temperatures. With respect to sedimentation, Bull Run and Granite Creeks remain 303(d) listed as sediment impaired and Plans were evaluated for the potential to increase sedimentation on these streams. Refer to FEIS Chapter 1 for more detailed information including key indicators for this issue.

**Significant Issue 2: Fish Habitat and Species**

Fish species listed as threatened under the Endangered Species Act and their designated critical habitat occurring within the Granite watershed are CR bull trout and MCR steelhead.

Approximately 40 percent (37,445 acres) of the Granite Mining analysis area occupies Management Area 18 (Anadromous Fish Emphasis) on the WNF. Approximately 17 percent (16,242 acres) of the Granite Mining analysis area occupies Management Area C7 (Special Fish Management Area) on the UNF. These management areas are intended to achieve and maintain optimum conditions for anadromous fish. Emphasis is placed on providing anadromous fish habitat at, or near, the maximum potential of the watershed where this area is applied. Emphasis is placed on protecting fish habitat and habitat investments through reasonable provisions in Plans of Operation and in reclamation requirements.

Past placer mining operations, in an effort to expose placer deposits in the Granite Creek Watershed, have removed trees, shrubs, and ground cover in the flood-prone areas immediately adjacent to the Granite, Clear, Bull Run, Boulder, Last Chance, Ten Cent, Olive, Ruby, Lightning, McWillis, Quartz and Lucas Gulch creeks, and their tributaries. This past mining-caused ground disturbance has altered:

- Instream habitat such as pool frequency and distribution, altered substrate composition (including a loss of fine material), off channel habitat, and instream large woody material (LWM), and
- Riparian habitat such as canopy cover adjacent to stream reaches and bank stability.

Water quality has been affected by past placer mining operations. The exposed soil on the mining access roads and the disturbed flood-prone areas immediately adjacent to Granite, Clear, Bull Run, Boulder, Ten Cent, Olive, Salmon, Ruby, Lightning, Quartz and Lucas Gulch creeks and their tributaries, could negatively affect water quality. This could increase the
amount of sediment entering these streams, resulting in degradation of existing summer steelhead, and bull trout spawning, incubating, and rearing habitat in these streams. Activities proposed in Plans of Operations have the potential to further reduce the quality of fish habitat in the project area. For example, instream disturbance from building and use of stream fords, suction dredging activities and water withdrawals can negatively affect fish. Quality of fish habitat is linked to water quality, and Significant Issue 1, Water Quality and Quantity, directly relates to aquatic species and fish habitat.

Refer to FEIS Chapter 1 for more detailed information including key indicators for this issue.

The Decision

We have selected Alternative 3 of the FEIS (as described in detail in FEIS Chapter 2), which incorporates the mining Plans of Operations (as submitted by the miners) with Forest Service Resource Protection Measures (RPMs) to reduce potential impacts from the proposed mining activities and connected actions. It also includes the stipulations included in the Decision Framework described immediately below. This decision also incorporates into the Plans of Operations the Terms and Conditions from NMFS and USFW Biological Opinions.

This decision meets Wallowa-Whitman National Forest (WWNF) and Umatilla National Forest (UNF) Land and Resource Management Plan (Forest Plan) standards and guidelines, and other applicable laws, regulations and policies, as is documented in the FEIS.

Decision Framework

The District Rangers of the Whitman Ranger District of the Wallowa-Whitman National Forest and the North Fork John Day Ranger District of the Umatilla National Forest are the Responsible Officials for review, analysis, and selecting an alternative from the choices in the Final Environmental Impact Statement (FEIS). The Responsible Officials’ decision is documented in a Record of Decision (ROD). In the ROD, the Responsible Officials may decide to:

1. Adopt the No Action/No Change Alternative (Alternative 1).
2. Authorize the approval of the Plans of Operations as submitted by the miners (Alternative 2).
3. Approve the Plans of Operations with additional Plan-specific Protection Measures and General Requirements (Alternative 3).

Decisions based on this analysis will comply with Forest Plan standards and guidelines, and other applicable laws, regulations and policies. The potential effects described in FEIS Chapter 3 would not preclude current or potential opportunities to conduct minerals, energy, or special use activities in this area. The alternatives would not affect how current State and BLM regulations and law regulate or evaluate the minerals, energy or special uses in the area.
Once the ROD is signed and issued, reclamation bonds and any 401 certifications and valid water rights deemed necessary to be consistent with the CWA, shall be presented to the Forest Service before the Plans of Operation are approved and prior to commencement of mining activities (FSH 2817.23a(1) and 36 CFR 228.8). PACFISH (which amended both Forest Plans in 1995) Minerals Management standard #1 requires a reclamation plan and reclamation bond for mineral operations in riparian habitat conservation areas (RHCAs).

To ensure consistency with Section 401 of the CWA, for those Plans requiring a 401 certificate as a result of this analysis, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed activity(s) requiring 401 certification. The 401 certification is granted by the State of Oregon (ODEQ) and allows for a regulated discharge of pollutants (sediment, heavy metals, warm water, chemicals, etc.) into Waters of the State, and ensures compliance with section 401 of the Clean Water Act (CWA).

For those Plans proposing to withdraw water from streams, prior to Plan approval, the Forest Service will consult with Oregon Water Resources Department (OWRD) to ensure that the water right presented with the proposed plan is valid. It is the State of Oregon that confirms the validity of a water right. To ensure consistency with Section 303d of the CWA, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal (Table 1).

Valid water rights are issued by the Oregon Water Resources Department, and are required for activities that withdraw water from a stream. The USFS has consulted with ODEQ and reviewed the Oregon Department of Environmental Quality John Day River Basin Total Maximum Daily Load/Water Quality Plan (TMDL). The TMDL includes goals for maintaining and restoring flows where possible. New water right applications will be reviewed by ODEQ and conditioned based on TMDL flow restoration goals.

Plans proposing suction dredging in excluded waters as per the State of Oregon, including 303d listed streams and Essential Salmon Habitat (ESH) streams, or streams with naturally reproducing populations of bull trout will not be approved until the moratorium on suction dredging is lifted (see Senate Bill 838 below). In this case, an amended Plan excluding suction dredging can be submitted to the Forest Service (Table 1). Once the State moratorium is lifted, the miner can submit a supplement to their Plan of Operations to incorporate suction dredging into their Plan.

Additional permits may be required by other agencies depending on the type and extent of the operations. In order to insure that all operations are conducted in a manner that will minimize adverse environmental impacts on National Forest surface resources, the operators must comply with applicable State and Federal requirements when conducting their mining operations. (36 CFR 228.8)

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1 A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that load among the various sources of that pollutant. Pollutant sources are characterized as either point sources that receive a wasteload allocation (WLA), or nonpoint sources that receive a load allocation (LA)." - U.S. Environmental Protection Agency, 2011
Table 1: Plans that may need to submit an amended Plan or provide the necessary permits/certificates prior to Plan approval with reasons provided

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Propose Activities with Discharge Potential (Require 401 Certification or amended Plan) (Y/N)</th>
<th>Propose to withdraw water from a stream and potentially increase stream temperatures (Require valid water right or amended Plan) (Y/N)</th>
<th>Propose Suction Dredging in ESH or 303d listed Streams (Require amended Plan) (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belvadear Placer</td>
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<td></td>
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<tr>
<td>Blue Sky/Bull Run (Placer)</td>
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<tr>
<td>Blue Smoke Placer</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Lightning Placer</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Little Cross 1 Placer</td>
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<td></td>
<td>Y</td>
</tr>
<tr>
<td>Old Eric 1&amp;2 Placer</td>
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<td>Olive Tone Placer</td>
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<tr>
<td>Tetra Alpha Placer</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Tetra Alpha Mill &amp; Lode</td>
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<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

**Selected Alternative 3**

This decision is specific to the 28 Plans of Operations submitted by the miners and includes:

1. Authorizing approval of 28 mining Plans of Operations, pending any 401 certifications, valid water rights or Plan amendments deemed necessary as a result of this analysis
2. Inclusion of Forest Service Requirements in Plans of Operations for protection of water quality, soils, fisheries and other resources (FEIS Appendices 2 and 11)
3. Inclusion of Monitoring Measures in Plans of Operations
4. Authorizing use of 4.18 miles of previously closed or decommissioned Forest Service roads (3.73 closed and 0.45 decommissioned)
5. Authorizing use of 8.21 miles of existing miner-created temporary roads
6. Authorizing use of 0.43 miles of new temporary roads created by the miner whether by blading or continued travel
7. Authorizing use of 9 existing fords on FS closed or existing miner-created roads
8. Authorizing construction of 1 new ford (1 ford at Tetra Alpha Placer)
9. Authorizing placement of 1 temporary bridge to be removed at the end of each operating season (Ruby Group)
10. Authorizing installation of 3 new gates (East Ten Cent Creek (2 gates) and Hopeful 2&3 (1 gate))

Alternative 3 includes the 28 Plans and activities identified in Appendices 1 and 2 of this ROD. The Plans of Operations included in this alternative are in the analysis file. Summaries of each proposed Plan of Operations can be found in FEIS Appendix 8. Map 1 at the end of this document displays locations of the Plans of Operations under Alternative 3.
All Plans would contain a variety of requirements to meet 36 CFR 228 Subpart A. All operations must meet all other applicable State and Federal laws, including but not limited to the Clean Water Act, the National Historic Preservation Act, the Archaeological Resource Protection Act, the Endangered Species Act, and all applicable State and Federal fire regulations.

Monitoring requirements are specific to each Plan, except where State and Federal laws and regulations apply. Refer to ROD Appendix 3 for the Monitoring and Inspection Items included in Alternative 3.

**Use of Closed, Decommissioned and Temporary Access Roads**

ROD Appendix 2 displays a list of roads proposed for use under each alternative. The approved Plan of Operations will include a list of all access roads authorized for use by the miner.

**Plan Expiration**

Approval of all Plans would expire 10 years from the date the final ROD is signed. Approval may be extended if the miners are operating within their terms and NEPA compliance is still adequate and current at the time of extension. Prior to any extension, compliance with ESA Section 7 consultation will be evaluated, and re-initiation may be necessary. The complete Plans of Operations are available in the analysis file. Summaries and sketch maps of the Plans can be found in FEIS Appendix 8.

**Inclusion of Forest Service General Requirements**

In addition to the protection measures and reclamation plans submitted by the miners under Alternative 2, each Plan will include General Requirements to meet minerals regulation 36 CFR 228 Subpart A (228 Regulations) that are specific to each Plan’s activities. These General Requirements can be found in ROD Appendix 4 or FEIS Appendix 2.

**Inclusion of Forest Service Plan-Specific Resource Protection Measures**

Unlike Alternative 2, under Alternative 3, additional Plan-specific Forest Service Requirements will be added to the Plans of Operations for protection of water quality, soils, fisheries and other resources. These Plan-specific Resource Protection Measures (RPMs) can be found in ROD Appendix 1 or FEIS Appendix 11.

**Inclusion of USFWS and NMFS Terms and Conditions**

As a result of consultation for this project, final Terms and Conditions were received from U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) in spring of 2016. The final Terms and Conditions will be incorporated into the Plans of Operations prior to Plan approval. Terms and Conditions received from USFWS on April 22, 2016 and from NMFS on May 17, 2016 are included in ROD Appendix 5.

**Rationale for the Decision**

Alternative 3 was selected over Alternative 2 due to the need to reduce potential impacts from the proposed actions to meet the requirements of 36 CFR 228 and other mining-related regulations; WWNF and UNF Forest Plan direction including PACFISH MM1, MM2, MM3 and MM6; the Clean Water Act; and other laws, regulations and policies listed in the Chapter 1 of the FEIS.
Because Alternative 3 ensures reasonably minimized adverse environmental effects from the proposed mining activities, we conclude it best meets the purpose and need and responds to the significant issues of Water Quality and Fisheries.

**Purpose and Need**
Alternative 3 meets the purpose and need by including requirements to prevent or reduce impacts from the proposed mining activities. The Plan-specific Resource Protection Measures established by the Forest Service (ROD Appendix 1), Forest Service General Requirements (ROD Appendix 4), NMFS and USFW Terms and Conditions (ROD Appendix 5), and criteria included in the Decision Framework above, will minimize or eliminate the amount of disturbance to fish and fish habitat. They also address water temperature, sediment, hazardous material spills, location of campsites, fire prevention and suppression, adit discharge, wetlands and floodplains, ongoing and final reclamation, and use of closed, decommissioned and miner-created roads. These requirements meet the intent of PACFISH (1995) guidelines MM-1 through MM-3 and MM-6 (PACFISH 1995); Management Areas 18 and C7 of the WWNF and UNF, respectively; and are also consistent with the intent of the Clean Water Act.

**Significant Issues**
Alternative 3 minimizes the potential for impacts to streams and fish from suction dredging. Suction dredging will not occur on Essential Salmon Habitat (ESH) streams or streams with naturally reproducing populations of bull trout in the Granite Creek Watershed, as they fall under the 2016 moratorium imposed by State Bill 838 (see FEIS Chapter 1). Only 2 Plans will be approved for suction dredging in this decision, Sunshine/McWillis and Yellow Jacket, as they are not located on ESH, nor are they located on streams with naturally reproducing populations of bull trout. These miners will adhere to the terms and conditions in the 2015 State of Oregon 700PM permit to minimize impacts from suction dredging.

**Actions Proposed in Alternative 3 and how they respond to Significant Issues Requiring 401 Certification and additional Requirements and Protection Measures**

**Water Quality (Significant Issue 1)**
The Water Resources section of the Chapter 3 of the FEIS responds to Issue 1 by clearly describing which proposed mining activities would result in a discharge of pollutants (sediment, heavy metals or warm water) into streams. While 18 Plans would result in a discharge of a pollutant under Alternative 2, only 2 Plans (Blue Sky/Bull Run and Belvadear) would result in a discharge of a pollutant (sediment) under Alternative 3 as a result of Plan-specific RPMs (FEIS Chapter 3, Table 3-12).

Also, under Alternative 3, there will be a reduction in the length of time where there will be potential increased stream temperatures from water withdrawals due to the addition of Forest Service Fish Protection Measures related to water quality for the following Plans: Lightning (Lightning Creek), Tetra Alpha Placer (Boulder Creek) and Tetra Alpha Mill and Lode (Boulder Creek) (FEIS Appendix 11). These protection measures will limit withdrawals to before August 15 and prevent withdrawals anytime that the stream is dry below the operation. As a result, potential impacts to stream temperatures and stream flow will be reduced to the time period of about July 1 to August 15, the in-water work window established by Oregon Department of Fish and Wildlife.

Also relative to Issue 1, under Alternative 3, the number of Plans with the potential for a discharge of sediment decreases from 16 to two as a result of the addition of Forest Service RPMs (FEIS Appendix 11) and General Requirements (FEIS Appendix 2). In the two remaining Plans with a discharge potential, one has a reduction in the number of proposed activities that result in a potential for a discharge (Blue Sky/Bull Run). This is the result of the addition of Forest Service RPMs and General Requirements that will eliminate some of the discharge potential. Examples of these RPMs and requirements include clarifying the starting point of stream buffer width measurements, and requiring a barrier of the straw bales/coils between the mining activity and the stream to prevent sediment from entering the creek (FEIS Appendices 1B and 7).

Fisheries (Significant Issue 2)
Under Alternative 3, Forest Service Requirements and Protection Measures are predicted to reduce the potential for indirect effects to fish and fish habitat to an insignificant and non-measureable amount. Direct effects are limited by the small magnitude of some of the proposed activities distributed across the Granite Creek watershed (such as a limited number of fords and stream crossings or trips during the operating season and limited number of Plans proposing to withdraw water). Direct effects from suction dredging are limited by only seven Plans in the Granite Creek watershed (five of those in ESH) proposing the activity, and limits such as seasonal restrictions and distance between suction dredges, as set by the State of Oregon. Also, as stated above, due to the current moratorium on suction dredging in ESH streams, only 2 Plans will be approved for suction dredging in this decision. Table 3-39 of the FEIS displays the Plan-specific effects to fish and fish habitat under Alternative 3, and includes rationale for the expected magnitude of those potential effects.

Inclusion of Monitoring Measures in Plans of Operations
In addition to the monitoring included in Alternative 2, Alternative 3 includes additional measures to ensure that miners have implemented all measures and requirements in FEIS Appendices 2 and 11, and that they are achieving the desired results. Alternative 3 also includes monitoring to ensure that reclamation activities are complete and successfully implemented on closed sites (ROD Appendix 3). This monitoring responds to both significant issues by limiting future impacts to water quality and fish from past and ongoing mining activities.

Authorizing use of closed Forest Service and miner-created temporary roads
Under Alternative 3, road miles with the potential for a discharge decrease from 1.2 miles to zero (FEIS Chapter 3, Table 3-14) because of the addition of Forest Service WRPMs and General Requirements. In addition, there will be no discharge potential from the two proposed Blue Sky/Bull Run Plan roads (0.14 miles) because of the addition of Forest Service WRPMs and General Requirements that will require that two proposed roads be located with input from the Forest Service and appropriate protection measures put into place. The Forest Service General Requirements provide directions for minimizing impacts to the soils and vegetation resources from roads (FEIS Appendix 2, Z-requirements). The WRPMs and
General Requirements respond to both key issues by protecting water and fish resources from the use of roads during mining activities.

**Authorizing use of 9 existing fords and construction of 1 new ford**

The majority of stream crossings will be on existing fords with only one new proposed ford under Alternative 3. General Requirement Z11 (FEIS Appendix 2) and site-specific Water Resources Protection Measures for fords (for examples see Blue Sky/Bull Run and Hopeful 2 and 3) address direct and indirect effects from these ford crossings. The majority of ford improvements would have short-term effects associated with the hardening of fords. Construction of hardened fords can introduce sediment into stream channels and create a long-term reduction of potential for riparian vegetation. Sedimentation from areas disturbed from fording will be limited by rocking streambanks, burying the fine sediments and eliminating the sediment source that could easily reach the creeks (FEIS Appendix 7, pg. 65).

Also, stream crossings on streams with intermittent flow will only occur at Forest Service approved locations (General Requirement Z11). Direct effects are limited by the small magnitude of some of the activities distributed across the Granite Creek watershed, such as a limited number of fords and stream crossings or trips during the operating season (FEIS Chapter 3, Fisheries). The WRPMs and General Requirements respond to both key issues by protecting water and fish resources from the use of fords to access mining operations.

**Authorizing temporary bridge for Ruby Group**

Under Alternative 3, the discharge potential for Alternative 2 would be eliminated from placement and removal of the ATV bridge because the Forest Service WRPM (ROD Appendix 11) for the Clear Creek ford will protect the banks from eroding and contributing sediment into Clear Creek. Therefore this activity is consistent with section 401 of the CWA. The site-specific WRPMs for crossing Clear Creek respond to both key issues by protecting water and fish resources when crossing Clear Creek to access mining operations.

Under Alternative 3, installation of this bridge would be in compliance with PACFISH MM-2 as a result of the addition of Forest Service WRPMs (ROD Appendix 11) that require 1) that the bridge be seasonally removed to prevent wood buildup behind it, and 2) that the ford approaches to Clear Creek be rocked. See FEIS Appendix 3 for a detailed discussion.

**Authorizing installation of 3 new gates (East Ten Cent Creek and Hopeful 2&3)**

Installation of the three gates proposed for East Ten Cent (2 gates) and Hopeful 2&3 (1 gate) under Alternative 3 would prevent public access to those operations, limiting impacts to surface resources from use of the access roads (FEIS Chapter 3, Access/Transportation). The gates respond to both key issues by protecting water and fish resources from the use of roads during mining activities.

**Public Involvement**

Public involvement is a part of the process mandated by NEPA (40 CFR 1501.7), in order to identify issues and concerns related to the environmental impacts of the proposed action. On October 13, 2011, the Whitman Ranger District of the Wallowa-Whitman National Forest (WWNF) and the North Fork John Day Ranger District of the Umatilla National Forests (UNF) mailed a scoping letter for the Granite Creek Watershed Mining Plans proposal to interested parties, tribes, agencies, and miners in the Granite Creek Watershed. The Notice of
Intent (NOI) to prepare this EIS was published in the Federal Register on October 11, 2011. The project was first listed in the April 2010 Wallowa-Whitman National Forest Schedule of Proposed Actions (SOPA).

Both forests had previously initiated environmental analyses for proposed mining Plans of Operation (Plans) in the portions of the Granite Creek Watershed under their administration. As issues identified by each forest were similar, the responsible officials decided that combining the analysis into one EIS would be the most efficient way to complete the task.

Requests for comments (scoping) for the preparation of the analysis began in October 2011. Scoping letters were sent to approximately 200 interested parties, including: individuals, groups, miners, county, State and Federal agencies, and local tribes. A list of interested parties to whom both letters were mailed and copies of the letters are located in the analysis file, as is a copy of the NOI. The letter included a table with a list of the mining operations that would be included in the EIS. Information obtained as a result of the scoping process is located in the Granite Creek Watershed Mining Plans EIS analysis file and was used to develop the issues and alternatives for this FEIS.

During the scoping process the following concerns and comments were received: impacts from road work, excavation, and water use; impacts to water quality, wildlife, management indicator species and threatened and endangered species (TES) and habitat; impacts to native vegetation, roadless areas and wilderness; potential spread of weeds; impacts from OHV use and camping; and adequacy of ESA Section 7 consultation.

Several miners who submitted proposals for the DEIS requested Applicant Status (as authorized under the Endangered Species Act) to review and provide comment on the draft Granite Creek Watershed Mining Project Biological Assessment. A meeting between the Forest Service and the applicant status miners was held July 2, 2014 in La Grande, Oregon to clarify the contents of the draft biological assessment, and to discuss corrections to the miners’ proposed Plans. Follow up field visits with several of the miners and Forest Service personnel occurred in July 2014 to further clarify proposed activities. Two applicant status miners submitted comments to the Forest Service on the March 2015 draft Biological Opinion (BO) from USFWS and draft Terms and Conditions from National Marine Fisheries Service (NMFS). The Forest Service forwarded those comments to USFWS and NMFS for their consideration.

A Draft Environmental Impact Statement (DEIS) was released to the public with a legal notice of a 45-day public comment period published in the Baker City Herald February 20, 2015. A Notification of Availability of the DEIS was published in the Federal Register on February 20, 2015. Comments received from the public, interested organizations, State and Federal agencies, in accordance with 40 CFR 1503.4, have been responded to in the FEIS, Appendix 10.

Tribal Consultation

On October 13, 2011, the Whitman Ranger District of the Wallowa-Whitman National Forest (WWNF) and the North Fork John Day Ranger District of the Umatilla National Forests (UNF) mailed a scoping letter for the Granite Creek Watershed Mining Plans proposal to the Nez Perce Tribe, the Warm Springs Tribe, and the Confederated Tribes of the Umatilla Reservation (CTUIR). Comments received from CTUIR during the analysis process were
addressed. The DEIS was mailed to the same tribes on February 20, 2015. No comments on the February 20, 2015 DEIS were received from local tribes.

The Granite Mining project was presented at the following meetings (USFS = Wallowa-Whitman, Umatilla, and Malheur National Forests):

- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 6/25/16
- USFS & CTUIR Wildlife and Cultural Committees/Program of Work Staff Meeting – 10/13/15
- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 7/10/15
- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 5/5/15
- WWNF & Nez Perce Tribe Staff/Program of Work Staff Meeting – 2/11/15
- USFS & CTUIR Staff/Project Specific Staff Meeting to discuss CTUIR comments – 11/17/14
- USFS & CTUIR Board of Trustees/Program of Work Government-to-Government Meeting – 9/19/14
- USFS & CTUIR Wildlife and Cultural Committees/Program of Work Staff Meeting – 7/15/14
- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 6/4/14
- WWNF, UNF, Malheur NF, Mt.Hood NF, Willamette NF, & Confederated Tribes of Warm Springs Staff and Council/Program of Work Government-to-Government Meeting – 10/30/13
- USFS & CTUIR Board of Trustees/Program of Work Government-to-Government Meeting – 8/23/13
- USFS & CTUIR Wildlife and Cultural Committees/Program of Work Staff Meeting – 6/25/13
- WWNF & CTUIR Staff/Project Specific Staff Meeting – 6/13/2013
- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 5/20/13
- WWNF & Nez Perce Tribe Staff/Program of Work Staff Meeting – 4/4/13
- USFS & CTUIR Board of Trustees/Program of Work Government-to-Government Meeting – 5/9/12
- WWNF & Nez Perce Tribe Staff/Program of Work Staff Meeting – 4/24/12
- USFS & CTUIR Wildlife and Cultural Committees/Program of Work Staff Meeting – 3/27/12
- USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting - 2/22/12

Other Alternatives Considered

In addition to the selected alternative, two alternatives were analyzed in detail and are briefly described below. Alternative 1 is the environmentally preferred alternative. A more detailed description of these alternatives can be found in Chapter 2 of the FEIS.

**Alternative 1 - No Action**

In this analysis, this alternative maintains the current situation; it allows the ongoing Notice of Intent activities to continue in the watershed. None of the proposed Plans would be approved.

For analysis purposes only, selection of the No Action Alternative would result in the following:

- Miners who have proposed to renew/continue with previously approved Plans of Operations would initiate reclamation and closure requirements on their existing mining sites, structures and user-created roads, in accordance with the requirements of their previously authorized Plan of Operation.
- Miners who have proposed a Plan of Operations covered in this analysis would not receive authorization.
Prospecting would continue as described under 36 CFR 228.4 provided it complies with federal and state laws. In areas open to mineral extraction, other activities would continue as defined by 36 CFR 228.4(a)(1).

**Alternative 2 – Plans of Operations as Submitted by the Miners**

Alternative 2 would authorize the approval of the Plans of Operations (Plans) as submitted by the miners. The total number of Plans proposed for approval under this alternative is 28. The Plans of Operations included in this alternative are in the analysis file. Summaries and sketch maps of each proposed Plan of Operations can be found in FEIS Appendix 8.

**Components of Alternative 2**

- Authorizing approval of 28 mining Plans of Operations as submitted by the miners (Note that Tetra Alpha Placer, Mill and Lode has been split into 2 Plans under this alternative (Tetra Alpha Placer and Tetra Alpha Mill & Lode) (FEIS Table 2-2), therefore the change from 27 Plans in Alternative 1, to 28 Plans in Alternative 2)
- Authorizing use of 4.71 miles of previously closed or decommissioned Forest Service roads 4.26 closed and 0.45 decommissioned
- Authorizing use of 8.98 miles of existing miner-created temporary roads
- Authorizing use of 0.3 miles of new temporary roads created by the miner whether by blading or continued travel
- Authorizing use of 9 existing fords on FS closed or existing miner-created roads
- Authorizing construction of 2 new fords (2 fords at Tetra Alpha Placer)
- Authorizing placement of 2 temporary bridges to be removed at the end of each operating season (Bull Run Site #2 and Ruby Group)
- Authorizing installation of 3 new gates on non-system miner created roads (East Ten Cent Creek and Hopeful 2&3)

**Alternatives Not Analyzed in Detail**

In addition to the alternatives described above, two alternatives were considered to address issues raised by the public. These alternatives were dismissed from detailed analysis because they would not reasonably meet the purpose and need for action or add complexity and expands the scope of the decision beyond what is needed to make a decision on the proposed mining operations. The themes of these alternatives included: 1) no mining, reclamation only, existing claims bought out, and 2) addressing water quality problems in the Granite Creek Watershed through road closures and decommissionings. A more detailed description of these alternatives can be found in Chapter 2 of the FEIS.

**Why Alternative 1 Was Not Selected**

No Plans of Operations would be authorized under Alternative 1, however notice of intent level activities would continue in the watershed. This alternative does not meet the purpose and need to ensure reasonably minimized adverse environmental effects on National Forest surface resources where mining claimants propose to conduct operations authorized by mining laws, because no Plans of Operations would be considered for approval. This alternative cannot be implemented, since Forest Service Regulations in 36 CFR 228, Subpart A, does not provide for denying a reasonable Plan of Operations in areas open to mineral extraction.
**Why Alternative 2 Was Not Selected**
Alternative 2 was not selected because it would have been less effective than Alternative 3 in minimizing adverse environmental effects on National Forest surface resources. Although this alternative would ensure miners followed existing laws, regulations and policies for conducting mining activities on national forest system lands, it does not include the General Requirements, Plan-specific resource protection measures and Decision Framework components that will further minimize or prevent potential impacts from the proposed mining activities.

**Comparison of Alternatives**
The difference between Alternative 2 and Alternative 3 is the difference between what was proposed in the Miner’s Plan of Operations, as submitted by the miner, and what the Forest Service proposed as changes to the miner’s proposal to meet requirements of 36 CFR 228. Under Alternative 3, all Plans would include Forest Service Requirements: General Requirements (FEIS Appendix 2), Plan-Specific Resource Protection Measures (FEIS Appendix 11), and Decision Framework components. Alternatives 2 and 3 also include proposals for use of Forest Service roads for mine access that are currently either closed or decommissioned, or are temporary non-system roads. Some of the roads proposed for use differ between Alternatives 2 and 3 (See ROD Appendix 2).

Tables 2 through 4 display a summary of impacts to issues and resources through implementation of each alternative.

**Table 2: Comparison of Effects to Water Quality Issues/Key indicators for Water Quality**

<table>
<thead>
<tr>
<th>Water Quality Issues/Key indicators for Water Quality</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Plans of Operations with potential to discharge sediment into a creek</td>
<td>3</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td># of Plans of Operations with potential to discharge heavy metals into a creek</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td># of Plans of Operations with potential to discharge warm water</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td># of Plans of Operations with potential to discharge creosote</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td># of Plans of Operations with potential to alter stream temperatures</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td># of Plans of Operations with potential to alter stream flow</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 3: Comparison of Alternatives for Fish Issues/Key indicators for Fish**

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Plans of Operations with stream fording</td>
<td>0</td>
<td>9 existing</td>
<td>9 existing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 proposed</td>
<td>1 proposed</td>
</tr>
<tr>
<td># of Plans of Operations with suction dredging in ESH or 303d listed Streams (acres of habitat)</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 4: Effects on Threatened, Endangered, and Sensitive Fish Species (see FEIS Table 3-40 and 3-41 for Plan specific information)**

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>bull trout</td>
<td>0</td>
<td>13</td>
<td>9</td>
</tr>
</tbody>
</table>
By including Plan-specific Resource Protection Measures, General Requirements and Monitoring, this alternative meets the purpose and need of ensuring reasonably minimized adverse environmental effects on National Forest surface resources where mining claimants propose to conduct operations authorized by mining laws.

The Environmentally Preferable Alternative
In this ROD, we have described the Selected Alternative and given rationale for its selection. It is also required by law that one or more environmentally preferable alternatives be disclosed. The environmentally preferable alternative is not necessarily the alternative that will be implemented and it does not have to meet the underlying need for the project. It does, however, have to cause the least damage to the biological and physical environment and best protect, preserve, and enhance historical, cultural, and natural resources [Section 101 NEPA; 40 CFR 1505.2(b)].

In the case of the Granite Creek Watershed Mining EIS, we have determined that the environmentally preferable alternative is Alternative 1 – the No Action Alternative. In this analysis, this alternative maintains the current situation; it allows the ongoing Notice of Intent activities to continue in the watershed. The 28 proposed Plans of Operations would not be approved, therefore 55.45 additional acres of new disturbance in the project area would not occur (FEIS Table 3-24). However, this alternative does not meet the purpose and need to ensure reasonably minimized adverse environmental effects on National Forest surface resources where mining claimants propose to conduct operations authorized by mining laws because no Plans of Operations would be considered for approval. This alternative cannot be implemented, since Forest Service Regulations in 36 CFR 228, Subpart A, does not provide for denying a reasonable Plan of Operations.

Findings Required by Other Laws and Regulations
This decision is consistent with all other current laws, regulations and policies guiding minerals activities on National Forest System lands including, but not limited to: the Wallowa-Whitman National Forest Plan; the Umatilla National Forest Plan, Forest Service Surface Use Regulations (36 CFR 228, Subpart A), the National Environmental Policy Act (NEPA); the National Forest Management Act; the Endangered Species Act (ESA); the 1872 General Mining Law; the Multiple Use Mining Act of 1955; the Clean Water Act; the Clean Air Act; the Preservation of American Antiquities Act; the National Historic Preservation Act; Civil Rights, Minorities and Women; Environmental Justice (EO 12898); and Executive Orders 11988 and 11990.

Wallowa-Whitman National Forest Land and Resource Management Plan (Forest Plan)
The decision to select Alternative 3 is consistent with the intent of the Forest’s long-term goals and objectives listed in Chapter 4 of the Forest Plan. The projects were designed in conformance with Forest Plan standards and incorporated appropriate Forest Plan guidelines.
for mining activities as well as pertinent Management Area direction (WWNF Forest Plan, pgs. 4-33 and 4-34).

**Umatilla National Forest Land and Resource Management Plan**

The decision to select Alternative 3 is consistent with the intent of the Forest’s long-term goals and objectives listed in Chapter 4 of the Forest Plan. The projects were designed in conformance with Forest Plan standards and incorporated appropriate Forest Plan guidelines for mining activities as well as pertinent Management Area direction (Umatilla NF Forest Plan, pg. 4-3 # 19).

**PACFISH**

The WWNF and UNF Forest Plans were amended in 1995 to include PACFISH (USDA and USDI 1995). PACFISH is an Aquatic Conservation Strategy (ACS) that uses a whole watershed strategy to protect and restore anadromous fish habitat, while also indirectly protecting non-anadromous fish, including bull trout. The WWNF Forest Plan Regional Forester’s Amendment #4 specifically includes INFISH (almost identical to PACFISH but covers non-anadromous fish and its habitat). The Granite watershed is an anadromous watershed and therefore falls under the PACFISH strategy. This approach is consistent with INFISH, and thus the proposed activities in the WWNF portion of the Granite watershed under Alternative 3 are in compliance with INFISH and Amendment #4. Only PACFISH will be addressed in the rest of this document, and compliance with INFISH can be assumed whenever compliance with PACFISH is noted.

PACFISH is an interim habitat protection and restoration strategy designed to protect and improve aquatic health using riparian habitat conservation areas (RHCAs) and riparian management objectives (RMOs). Alternative 3 complies with PACFISH standards and guidelines specific to Mineral Management that are relevant to this project (MM1, 2, 3 and 6). With the addition of Forest Service Requirements, none of the potential direct/indirect/cumulative effects would prevent attainment of PACFISH Riparian Management Objectives (HUC 12) or steelhead/redband and bull trout trout population viability. Application of PACFISH direction would maintain or improve fish habitat conditions in the analysis area; therefore there would not be adverse modifications to critical habitat or adverse effects to listed fish, as per applicable PACFISH objectives and guidelines (FEIS, Chapter 3, Fisheries).

**Fish Management Indicator Species (MIS)**

Given the magnitude of activity, area of disturbance and widespread distribution of activities (Tables 3-29, 3-30 (as corrected in Errata) and 3-31) and Forest Service General Requirements, mining activities under Alternative 3 may impact MCR Steelhead and Interior Redband Trout and their habitat, but is not likely to result in a trend toward federal listing and continued viability is expected on the UNF and WWNF (Tables 3-33 and 3-34).

**Wildlife MIS**

The small scale of disturbance from mining activities may temporarily displace individuals but will not be large enough to affect populations of any MIS wildlife species, nor would the effects from the activities jeopardize the viability of any of the MIS wildlife species (FEIS, Chapter 3, Wildlife).
Forest Service Surface Use Regulations (36 CFR 228, Subpart A)
Plans of Operations in the Granite Creek Watershed are consistent with the rules and procedures for use of the surface of National Forest System lands in connection with mining operations.

The National Environmental Policy Act (NEPA) of 1969 (P.L. 91-190)
NEPA establishes the format and content requirements for environmental analysis and documentation. The entire process of preparing the DEIS and FEIS was undertaken to comply with NEPA.

The National Forest Management Act (NFMA) of 1976 (P.L. 94-588)
We find this decision to be consistent with the Wallowa-Whitman and Umatilla National Forest Plans and with the requirements of the National Forest Management Act implementing regulations; specifically:

The Endangered Species Act (ESA) of 1973, as amended
A Biological Assessment (BA) was prepared for ESA threatened MCR summer steelhead and Columbia River bull trout and their designated critical habitat (DCH). A draft review Biological Opinion and Terms and Conditions was received from USFWS on February 2, 2016, and draft Terms and Conditions from NMFS on January 6, 2016. Effects determinations for ESA species in the Granite Creek Watershed Mining Plans are documented in the BA and FEIS Chapter 3, Fisheries. The Biological Assessment found that activities proposed in the Plans will have “No Effect”, “May Affect, but are Not Likely to Adversely Affect”, or “May Affect, and are Likely to Adversely Affect” on ESA listed species and their DCH. Final Biological Opinions were received from USFWS on April 22, 2016 and NMFS on May 17, 2016. Under ESA Section 7 regulations and consistent with provisions of section 7 (a)(3), (b) and (c), Applicants have been designated for the Granite Mining Project (letters in project file). Applicant involvement includes a meeting with the UNF and WWNF July 2, 2014 to discuss the draft Biological Assessment, and opportunities to review updated Biological Assessments, review draft Biological Opinions and draft Terms and Conditions. Draft review documents were mailed to Applicants June 30, 2015, December 21, 2015 and February 12, 2016, along with postings on the WWNF website.

Biological evaluations were prepared for sensitive species as identified by the Regional Forester. The evaluations determined that while there may be impacts to individual species, those effects are not likely to contribute to a trend towards federal listing or loss of viability of the population or species (FEIS Chapter 3, Table 3-36).

1872 General Mining Law as amended (30 USC 22, et seq.)
This decision, as well as the Purpose and Need, Proposed Action, and each action alternative in the FEIS, is consistent with the mining laws.

Multiple Use Mining Act of 1955
The decision is consistent with the Multiple Use Mining Act, in that it responds to activities reasonably incident to mining by placing reasonable mitigations in order to protect surface
resources, allowing the miners to meet their objectives, and not preclude future opportunities to further develop the claims.

The Federal Water Pollution Control Act of 1972 (P.L. 92-500) as amended in 1977 (P.L. 95-217) and 1987 (PL 100-4), also known as the federal Clean Water Act
The Selected alternative will meet and conform to the Clean Water Act as amended, and meets the anti-degradation standards agreed to by the State of Oregon and the Forest Service, Region 6, in a memorandum of understanding (Forest Service Manual 1561.5, Memorandum of Understanding Number: 02-MU-11060000-141.) This act establishes a non-degradation policy for all federally proposed projects accomplished mainly through planning, application, and monitoring of best management practices (BMPs). Identification of BMPs is mandated by Section 319 of the Water Quality Act of 1987, which states: “It is national policy that programs for the control of non-point sources of pollution be developed and implemented.”
Plan-specific Resource Protection Measures and General Requirements will be added to each Plan of Operation and designed to protect beneficial uses.

To ensure consistency with Section 401 of the Clean Water Act, if a 401 certificate and/or valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed activity(s) requiring 401 certification and/or valid water rights (FEIS Chapter 1, Decision Framework).

The Clean Air Act, as amended in 1990
This decision is consistent with the Clean Air Act. This project will have no impact on air quality. No fuel treatments are planned, so there will be no smoke emissions from the burning of fuels (FEIS, pg. 317).

Preservation of American Antiquities Act of 1906
Operations within the boundaries of Plans of Operations in the Granite Creek Watershed shall be conducted to prevent damage to historic monuments or objects of antiquity. The operator shall stop all operations and notify the Forest Service of any discovery of cultural resources.

The National Historic Preservation Act
Both forests consulted with the Oregon State Historic Preservation Office (SHPO) for this project. Concurrence with a "no historic properties adversely affected" determination was received for the Wallowa-Whitman National Forest from SHPO on February 24, 2014. Concurrence with a "no historic properties adversely affected" determination was received for the Umatilla National Forest from SHPO on March 11, 2016.

If unexpected cultural resources are encountered during project implementation, these resources will be protected from disturbance and evaluated for eligibility for inclusion on the National Register of Historic Places. Significant resources will be avoided or mitigated as described below. In accordance with 36 CFR 800 and Section 106 of the National Historic Preservation Act (1966), all unevaluated sites will be avoided pending determination of eligibility for listing on the National Register of Historic Places by the Forest Service and consultation with the Oregon State Historic Preservation Office, affected tribes and other consulting parties. All eligible and unevaluated sites will be protected throughout the life of the project if possible. Protection of these sites, in most cases, shall be accomplished through
avoidance by ground-disturbing activities or by following the Secretary of Interior’s Guidelines for Historic Preservation.

If protection or avoidance of significant cultural resources is not possible, mitigation measures will be developed in consultation with the Forest Service and the Oregon State Historic Preservation Office, affected tribes, other consulting parties, and in some cases the Advisory Council on Historic Preservation.

In an effort to protect historic structures, the removal of any eligible or unevaluated building from a claim location will be considered a separate undertaking and as such will be consulted on as a separate project. What this means is that a separate consultation with SHPO will be initiated when and if these structures are to be removed. In conjunction with this effort, those buildings that are currently eligible or unevaluated will be considered eligible for this current project (Granite Mining EIS) and will be maintained as to preserve the potential historic nature of the buildings following the Secretary of Interior’s Guidelines for Historic Preservation.

Civil Rights, Women, and Minorities
Adverse effects on civil rights, women and minorities not already identified in the FEIS for the WWNF and UNF forest plans are not expected from implementing the selected alternative. To the greatest extent possible, all populations have been provided the opportunity to comment before decisions are rendered on proposals and activities affecting human health or the environment. The proposals within this EIS would not have a direct or indirect negative effect on minority or low-income populations.

Environmental Justice
On February 11, 1994, President Clinton signed Executive Order 12898. This order directs each Federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The President also signed a memorandum on the same day, emphasizing the need to consider these types of effects during NEPA analysis. On March 24, 1995, the Department of Agriculture completed an implementation strategy for the executive order. Where Forest Service proposals have the potential to disproportionately adversely affect minority or low-income populations, these effects must be considered and disclosed (and mitigated to the degree possible) through the NEPA analysis and documentation. Effects on the human environment from implementation of the decision in this ROD are expected to be similar for all human populations, regardless of nationality, gender, race, or income. While minority groups exist in the area, they are not considered environmental justice populations (FEIS, Chapter 3, Table 3-65).

Wetlands and Floodplains
Executive Order 11988 (Protection of Floodplains) requires government agencies to take actions that reduce the risk of loss due to floods, to minimize the impact of floods on human health and welfare, and to restore and preserve the natural and beneficial values served by floodplains. Wetlands and floodplains are affected by the decision in this ROD. Some mining projects will occur within 100-year floodplains, however, the requirements in the
Selected Alternative minimize impacts. Existing wetlands and floodplains have been altered over time (over one century) of mining activity.

Executive Order 11990 (Protection of Wetlands) requires that government agencies take action to minimize the destruction, loss, or degradation of wetlands. Streamside riparian areas, seeps, springs, and other wet habitats exist within the project areas of the Plans of Operations authorized under this decision. Some activities will occur within those areas.

Under Alternative 3, all Plans would be in compliance with EO 11988 (Floodplains) and EO 11990 (Wetlands). This is the result of the addition of Forest Service WRPMs and/or General Requirements W1-3 (FEIS, Chapter 3, Table 3-21).

Consultation with Indian Tribes/Protection of Treaty Resources
Potentially affected Tribes were contacted during the analysis process (FEIS Chapter 1, Public Involvement).

Certain rights and privileges were reserved by the Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of the Warm Springs Reservation and the Nez Perce Tribe by virtue of the treaties of 1855. These treaties resulted in cession by the Tribes to the United States of a large territory that includes the entire Umatilla National Forest and approximately two-thirds of what is now the Wallowa-Whitman National Forest. The treaties provide that the Tribes will continue to have the rights of taking fish in streams running through and bordering the reservations and at all other usual and accustomed stations in common with other citizens of the United States. Further, the tribes retain the right of erecting suitable or temporary buildings for fish curing as well as the privilege of hunting, gathering roots and berries, and pasturing stock on unclaimed lands. These rights remain unaffected, and were considered in the analysis.

Implementation
Before implementation of the Plans of Operations, each operator must submit a signed Plan of Operations which incorporates the requirements identified in the decision to minimize adverse environmental effects resulting from the operations, and must agree to a reclamation bond specific to their Plan.

Procedure for Change During Implementation
Minor changes may be needed during implementation to better meet on-site resource management protection objectives.

In determining whether and what kind of further NEPA action is required, the Responsible Officials will consider the criteria for whether to supplement an existing environmental impact statement in 40 CFR 1502.9(c) and FSH 1909.15, sec. 18, and in particular, whether the proposed change is a substantial change to the intent of the Selected Alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas or specific activities will be considered together in making this determination. The cumulative impacts of these changes will also be considered.
Administrative Review - Objection Opportunity
The pre-decisional administrative review process pursuant to 36 CFR 218, Subparts A and B was followed for this project, with no objections received during the 45 day objection filing period that ended May 2, 2016.

Operators Administrative Review Opportunities
No mine operators affected by this decision filed an objection under 36 CFR 218.

Mine operators affected by this decision may file appeal of the final Record of Decision (ROD) under 36 CFR 214.4(a) after this final ROD is signed.

Errata to the Final EIS
Minor edits and corrections made to the Final EIS during the objection filing period can be found in the Errata included at the end of this document.

Implementation Date
Implementation will begin immediately after the final decision is signed.

Contact
For further information about the Granite Creek Watershed Mining FEIS or this Final Record of Decision, contact Sophia Millar, Environmental Coordinator, Wallowa Mountains Office, 201 East Second Street / PO Box 905, Joseph, OR 97846, (541) 263-1735, or smillar@fs.fed.us.

Jeff Tomac
Whitman District Ranger
Wallowa-Whitman National Forest

Date
6-17-2016

Ian Reid
North Fork John Day District Ranger
Umatilla National Forest

Date
17 June 2016
Appendices to the Final Record of Decision, Map, and Errata to Granite Creek Watershed Mining Project FEIS
## Appendix 1 - Summary of Approved Activities, Protection Measures, and Requirements by Plan under Alternative 3

<table>
<thead>
<tr>
<th>Plan/Type/Forest</th>
<th>Activities Approved in ROD</th>
<th>Access Approved in ROD*</th>
<th>Protection Measures and Requirements in ROD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altona WWNF (Placer)</td>
<td><strong>Action:</strong> Placer mining and gravity processing along the north side of the creek. Construct 2 ponds. Dig and rehab a series of test pits throughout the area (20’x20’x10’deep).</td>
<td><strong>Access:</strong> Use existing rather than decommissioned roads to access area. (see ROD Appendix 2) Create 0.05 miles of temporary access road to access work site.</td>
<td>1. Measurement of the buffer would start at the top of the valley floor terrace-channel bank break in slope of the side channel (See FEIS Appendix 1A and Figures 1A-2 and 1A-3 for explanations of this feature). 2. Put straw bales/coils on the valley floor between the activity site and the creek [side channel] All General Requirements apply except lode requirements (See ROD Appendix 4) Refer to ROD Appendix 3 for all required monitoring and inspection items</td>
</tr>
</tbody>
</table>
### Appendix 1 - Summary of Approved Activities, Protection Measures, and Requirements by Plan under Alternative 3

| Belvadear Group (Placer) WWNF | Action: Placer mining and gravity processing along the east side of the creek. Use of existing ponds. Up to ¼ acre could be worked at a time. | Access: Existing FS roads, existing temporary roads. Create 0.07 miles of temporary access road to access work site Blue Sky site 3. | No WRPMs could be identified that would prevent a discharge of sediment into Olive Creek given the location of the proposed mining in the riparian area. A discharge potential remains, therefore either a 401 certification is needed, or the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes activities requiring 401 certification. Due to the potential for elevated stream temperatures from water withdrawals, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal. All General Requirements apply except lode requirements (See ROD Appendix 4) Refer to ROD Appendix 3 for all required monitoring and inspection items |

| Blue Sky/Bull Run (Placer) WWNF | Action: Placer mining and gravity processing of revegetated dredge tailings. Up to 1/5 acre will be worked at a time to process up to 5 cubic yards a day. Use of existing ponds. Suction dredging in Bull Run Creek. | Access: County road 24, existing FS roads, development of existing and designated temporary roads to work each site. Create temporary access 0.20 miles of temporary | Water Resources Protection Measures

**Blue Sky/Bull Run (Blue Sky site #2)**
1. Place straw bales/coils along the low berm that separates the activity site from Swamp Creek to increase the effectiveness of the low berm.

**Blue Sky/Bull Run (Blue Sky site #3)**
1. Measurement of the buffer would start at the top of the valley floor terrace-channel bank break in slope of the side channel (See FEIS Appendix 1A and Figures 1A-2 and 1A-3 for explanations of this feature).
2. Put straw bales/coils on the valley floor between the activity site and the side channel of Bull Run Creek. |
access road to access Bull Run site 2 without the need for a temporary flatbed bridge (as proposed under Alt 2).

**Ford Use**

- 2 existing fords on Bull Run & Swamp Creek (2-3 months in summer)

**Heavy equipment:**

- 2-4 round trips per season

**Other vehicles (pickup truck):**

- 2-5 round trips per day

3. The test hole must be filled in at the end of each season and the disturbed area seeded and covered with straw.

4. Straw bales will be staked on the valley floor where the mining occurred in a pattern to disperse stream flows during the Spring high flows and prevent concentrated flows that could erode the disturbed area.

**Blue Sky/Bull Run (Blue Sky site #4)**

1. Measurement of the buffer would start at the top of the valley floor terrace-channel bank break in slope (See FEIS Appendix 1A and Figures 1A-2 and 1A-3 for explanations of this feature).

2. Miner’s protection measure related to straw bales applies to this site because the site is adjacent to Bull Run Creek.

**Blue Sky/ Bull Run (Bull Run site #1)**

1. Measurement of the 30 foot buffer would start at the top of the valley floor terrace-channel bank break in slope (See FEIS Appendix 1A and Figures 1A-2 and 1A-3 for explanations of this feature).

2. Miner’s protection measure related to straw bales applies to this site because site is adjacent to Bull Run Creek.

**Blue Sky/ Bull Run (Bull Run site #2)**

1. Measurement of the buffer would start at the top of the valley floor terrace-channel bank break in slope (See FEIS Appendix 1A and Figures 1A-2 and 1A-3 for explanations of this feature).

2. Miner’s protection measure related to straw bales applies to this site because site is adjacent to Bull Run Creek.

3. Temporary bridge: The bridge would be replaced with a two-track road [proposed 7375-M1b] would be made to access the site through the forest. Location of the two-track would be determined with input from the Forest Service.
<table>
<thead>
<tr>
<th><strong>Fords</strong></th>
<th></th>
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<tbody>
<tr>
<td>Swamp Creek ford: Rock and slope ford approaches</td>
<td></td>
</tr>
</tbody>
</table>

**Transportation Protection Measures**

To prevent the public from using temporary mine access Road 7355-M1a, the miner will maintain the berm as an effective road closure, or if multiple trips will be made on Road 7355-M1a throughout the season, the miner will install a gate according to Forest Service specifications (project file).

**Cultural Resource Protection Measures**

*Blue Sky 2*: To protect and preserve the historic integrity of the hand-piled tailings adjacent to the south side of the Blue Sky/Bull Run (Blue Sky site #2) work area, conduct mining activities to avoid the hand-piled tailings adjacent to this work area with a 30-foot buffer. The hand-piled tailings are not located within the proposed work area.

**Wildlife Protection Measures**

*Ponds*

*Source water pond*: General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat

*Settling pond*: General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat

**ODEQ requirements related to Suction Dredging**

Bull Run Creek has been identified as essential salmon habitat. Suction dredge mining is currently not authorized on essential salmon habitat streams until 2021 as a result of the State moratorium. Should the moratorium be lifted prior to 2021, the miner will adhere to the terms and conditions listed in the ODEQ 700PM permit that is in place at that time.
This Plan will not be approved until the moratorium on suction dredging is lifted, or until an amended Plan is submitted to the Forest Service that excludes the proposed suction dredging.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

<table>
<thead>
<tr>
<th>Blue Smoke (Placer) UNF</th>
<th>Action: Placer mining and gravity processing of the high bank area on the north side of the powerline road. A series of holes 20’x25’x10’ deep will be dug. Use of existing ponds. Suction dredge in Granite Creek</th>
<th>Access: Existing power line access road on FS land.</th>
<th>Water Resources Protection Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Water level must stay at consistent elevation in both the processing and overflow settling pond (Pond #3) and must maintain the existing difference in water surface elevations between ponds to prevent a change in subsurface water elevation through the fill.</td>
<td>process site</td>
<td>Wildlife Protection Measures</td>
</tr>
<tr>
<td></td>
<td>Ponds Source water and settling ponds: General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat</td>
<td></td>
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<tr>
<td></td>
<td>ODEQ requirements related to Suction Dredging Granite Creek has been identified as essential salmon habitat. Suction dredge mining is currently not authorized on essential salmon habitat streams until 2021 as a result of the State moratorium. Should the moratorium be lifted prior to 2021, the miner will adhere to the terms and conditions listed in the ODEQ 700PM permit that is in place at that time. This Plan will not be approved until the moratorium on suction dredging is lifted, or until an amended Plan is submitted to the Forest Service that excludes the proposed suction dredging.</td>
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</tbody>
</table>
| **Bunch Bucket (Placer)** UNF | **Action:** Placer mining and gravity processing. Trenches (2'x200’x8’) deep will be dug in order to process 600 cubic yards per year. | **Access:** Existing FS roads, existing temporary roads, and new designated temporary roads to work the site. | **Water Resources Protection Measures**

No activity in the very small creek mentioned in the Plan (site 1) would occur without first receiving input from the minerals administrator and district hydrologist and appropriate WRPMs identified and implemented.

**Cultural Resource Protection Measures**

To protect and preserve the historic integrity of the two historic sites located on the edge of the work area, the miner will avoid the sites with a 30-foot buffer. The two historic sites are not located within the proposed work area.

To protect and preserve the historic integrity of the cabin, shed and outhouse, all of which are owned and used by the miner for Plan activities, the miner and Forest Service will work together to maintain the historic appearing character of the existing buildings.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

| **City Limits (Placer)** WWNF | **Action:** Placer mining of the high bank along the gravel and gravity processing at | **Access:** Existing FS roads and existing | **Wildlife Protection Measures**

**Ponds**

*Source water pond and settling ponds:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.
<table>
<thead>
<tr>
<th>East Ten Cent (Placer) UNF</th>
<th>Action: Placer mining along the west side of the creek. Pits will be dug (12’x10’ deep) in order to get processing material. Continued use of existing structures.</th>
<th>Access: Existing FS roads (UNF closed), existing temporary roads and develop a new temporary road to work site. Two gates for temporary road access.</th>
<th>Water Resources Protection Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1. Equipment access to the mining site will be limited to use of the FS 7350-070 road, 7350-E1a and designated, miner-created two tracks.</td>
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<td>2. A berm of straw bales (1-2’ high) will be placed between the mining activity and the edge of the bench along the creek.</td>
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<td>3. Waste rock will not be placed on the berm but temporarily on the south side of the two-track shown on the site map, in the grassy meadow.</td>
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<td>4. The area to be mined will be worked from the south end to the north end. This allows the bench to be enlarged at the north end prior to any activity in this portion of the cutbank.</td>
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<td></td>
<td></td>
<td></td>
<td>Wildlife Protection Measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ponds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Source water pond and settling pond: General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All General Requirements apply except lode requirements (See ROD Appendix 4)</td>
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<tr>
<td></td>
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<td></td>
<td>Refer to ROD Appendix 3 for all required monitoring and inspection items</td>
</tr>
</tbody>
</table>
| Eddy Shipman (Lode & Placer) UNF & WWNF | **Action:**  
Lode exploration & placer mining.  
Gravity processing of placer material.  
Milling (with an arrastra) and gravity processing of underground lode material.  
Some off-Forest processing.  
Existing ponds.  
Development of Mill site in order to process 5 cubic yards per day.  
Continued use of existing structures.  
| **Access:**  
Existing FS roads along with the development of existing temporary roads to work the site.  
Existing ford on Granite Creek.  
Existing FS gate & barricade.  
**Ford Use** (2-4 months of summer)  
**Heavy equipment:**  
2-4 round trips per season to bring equipment in and out.  
1-2 round trips per week to haul material to processing site.  
**Other vehicles:**  
2-4 round trips per month for fuel and other maintenance items.  
| **Water Resources Protection Measures**  
**Ford**  
1. The channel bed must be stable and the water depths must be below the frame on the vehicle before the ford can be used in order to ensure that equipment can safely cross.  
2. Rock both approaches to the ford used to access Adit A (FS 7300-680 and TA road 7300-E1d).  
**Processing site specific**  
1. Build a berm the lower portion of each pond to prevent surface water and sediment from entering the wet meadow.  
2. Place a straw bale berm during construction and use of the source water and the settling ponds and the edge of the bench to trap any sediment generated by the operation from entering into the wet meadow and Chipman Gulch, and thus Granite Creek.  
**Placer Mining specific**  
1. If any placer mining occurs in old lode tailings or results in disturbing the old lode tailings than L3 and L5 apply.  
2. Place a straw bale berm between the existing horse corral and creek to prevent runoff of nutrients.  
3. No removal of stream shade bearing trees  
**Transportation Protection Measures**  
To prevent the public from using closed Road 7300-680, the miner will maintain the berm as an effective road closure, or if multiple trips will be
| Grubsteak (Placer) UNF | Action: Placer mining and gravity processing at two sites. Each less than $\frac{1}{8}$ acre in size. Existing pond. Continued use of shed. | Access: Existing temporary road, existing miner's bridge and gate to work the site. Existing equipment ford across Clear Creek. **Ford Use** (intermittent use during summer) **Heavy equipment:** 0-4 round trips per season | Water Resource Protection Measures

**Ford**
1. Rock southwest approach of ford

**Site B**
1. Place straw bales/coils as a berm between the creek and the mining activity. Gravels and filter cloth are not be used.
2. Measurement of the 20-foot buffer would start at the top of the valley floor terrace-channel bank break in slope of the SIDE channel (see FEIS Appendix 1A, Figures 1A-2 and 1A-3 for explanation of this feature).
3. Miner must fill the existing hole at Site B at the end of each season.
4. **Flow Alteration potential:** If the hole starts to fill with water, then the miner is to stop and contact the Forest Service. Site conditions will be reevaluated at that time and additional mitigation measures added if necessary.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items |
| Hopeful 1 (Placer) UNF | **Action:**  
Placer excavations and gravity processing of the high bank area (less than ¼ acre) along the old dredge tailings (approx. 2 yards per year). Continued use of existing structures. | **Access:**  
Existing FS road, existing temporary road. (UNF closed) | **Cultural Resource Protection Measures**  
To protect and preserve the historic integrity of the two-room cabin and outhouse, both of which are owned and used by the miner for Plan activities, the miner and Forest Service will work together to maintain the historic appearing character of the existing buildings. |
|----------------------|-------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------|
| **Wildlife Protection Measures**  
**Ponds**  
*Source water and settling pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat | All General Requirements apply except lode requirements (See ROD Appendix 4) | Refer to ROD Appendix 3 for all required monitoring and inspection items |
| Hopeful 2&3 (Placer) UNF | **Action:**  
Placer mining on the North and south sides of the creek. Pits will be dug (6’x3’x10’ deep) in order to process 15 cubic yards a year. 2 existing ponds. Continued use of existing structures. | **Access:**  
Existing FS roads, existing temporary roads, development of temporary roads to work the site. Use 1 existing ford on Granite Creek (east ford). Gate temporary access. | **Water Resources Protection Measures**  
**East Ford**  
1. Channel bed must be stable and water depths must be below the frame on the vehicle before the ford can be used in order to ensure that equipment can safely cross.  
2. North approach: Rock the north approach to the slope break plus 25 feet of additional road.  
3. South approach: The south ford approach and the existing south access road (TA 1035-E1d) are treated as a unit because of the complexity of the WRPMs. See WRPMs under TA road 1035-E1d below |
| **Ford Use**  
| intermittent use during summer  
| **Heavy equipment:**  
| 0-4 round trips per season  
| **Other vehicles:**  
| 1-2 round trips per week with a pickup for fuel and other maintenance items.  
| **TA road 1035-E1d (used to access Site 4 and the south side processing area) and south approach of ford**  
| The south side approach to the east ford and TA 1065-E1d are combined because the discharge call under Alternative 2 is because the characteristics of the road (granitics and rutted) and the ford approach (fines) and the way the road and ford approach interact. In identifying Forest Service WRPMs to prevent a discharge of sediment into Granite Creek from the use of TA 1035-E1d and the ford approach it was necessary to divide the road into segments. See map and sketch in the project file for delineations of segments.  
| **Segment A:** The south side ford approach to the first water bar.  
| 1. Rock this section of road/ford approach.  
| **Segment B:** The road steepens for about 35 feet to reach the top of the hill.  
| 1. Place a water bar at the base of the steep section of road where there is a 2.5 foot wide flat area on the stream side of the road. Forest Service Minerals Administrator will be on site and verify water bar location prior to construction.  
| 2. Design the water bar so that it diverts towards the flat area (only option as the other side is a hillslope). Place straw bales at the stream side edge of the flat area to trap all sediment leaving the road.  
| 3. Do NOT rock this section because rock will only fill the water bar.  
| **Segment C:** The portion of the road at the top to the hill to the second water bar |
1. A water bar will be placed where the road flattens out. Forest Service Minerals Administrator will be on site and verify water bar location prior to construction.

2. This portion of road will be rocked.

**Segment D**: The portion of the road between Segment C and the south processing site. None needed except in the vicinity of the unnamed tributary. WRPMs for this area below.

**Unnamed tributary on the south side**

1. Rock both approaches to where 1) the road flattens out (east side) or there is a change in slope (west side).

2. Leave existing corduroy bridge in the channel

**Pond 2 (North processing site)**

1. Ensure that two proposed ponds are deep enough and sufficiently berm'd to prevent water from overflowing the top of the ponds. Miner will work with the Forest Service Minerals Administrator to ensure proper location of ponds and placement of berms.

2. Source water pond will be the west pond and at least 7 feet from the terrace break in slope.

3. Settling pond:
   a. Will be the east pond
   b. Will be at least 7 feet from the terrace break in slope.
   c. A sediment berm will be created along the stream-side edge of the settling pond to eliminate a small swale.
   d. Straw bales will be put on the stream-side edge of the sediment berm.
### Fish Protection Measures

**Fords**

See Water Resource Protection Measures above.

### Wildlife Protection Measures

**Pond 2 (South side)**

*Source water and settling pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

### Action

<table>
<thead>
<tr>
<th>L&amp;H (Placer/Lo de)</th>
<th>WWNF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> Placer mining, gravity processing; and re-open existing adits for testing. Placer digs will be 20'x30'x10'deep in order to collect material for processing. Use of existing ponds.</td>
<td></td>
</tr>
<tr>
<td><strong>Access</strong> Existing FS roads along with the development of existing temporary roads to work the site. <strong>Heavy equipment:</strong> Occasional use, (1-4 round trips) will bring in at beginning and</td>
<td></td>
</tr>
<tr>
<td><strong>Water Resources Protection Measures</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Lode portion</strong> Adit 3: Waste rock/tailings will NOT be returned to the adit but placed at a site selected with input from the minerals administrator and the district hydrologist. Once in place, the waste rock and tailings will be graded to ensure runoff and capped with a minimum of six inches of soil. The soil cap is to be seeded with an approved Forest Service mix to create a vegetative cover.</td>
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</tr>
<tr>
<td><strong>Cultural Resource Protection Measures</strong> The historic structure (collapsed cabin remains) at the site is potentially eligible for the National Register of Historic Places. Before any mining work can be completed within 30-feet of the cabin remains, or in the cabin</td>
<td></td>
</tr>
</tbody>
</table>
**Granite Creek Watershed Mining ROD**

**Appendix 1**

| **Lightning Creek (Placer) UNF** | **Action:** Placer mining and gravity processing of 3 sites along the highbanks on the south side of the creek. Pits will be 50'x100'x15'deep and process 20-50 cubic yards per day when working. Continued use of existing structures. Suction dredging in Lightning Creek. | **Access:**
Existing FS roads (UNF open), existing temporary roads, existing miner’s bridge and equipment ford across existing open road on Lightning Creek.

**Ford Use** (only during instream work period July15-Aug15)

**Heavy equipment:** 1-4 round trips per season. | **Fish Protection Measures**

1. No water withdrawals are permitted in Lightning Creek after August 15 to protect fish migrating to spawn.

2. If a stream is dry below where the miner is working prior to August 15, then the miner must cease withdrawing water from the creek until flow exceeds the amount withdrawn.

Due to the potential for elevated stream temperatures from water withdrawals, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal.

**Cultural Resource Protection Measures**

The historic mining site is being considered eligible for the National Register of Historic Places (NRHP). To protect and preserve the historic integrity of the seven historic structures proposed for use on the site, the miner and Forest Service will work together to maintain the historic appearing character of the existing structures.

**Wildlife Protection Measures**

end, occasional trips for repairs etc.

**Other vehicles:** Daily access to campsite with a pickup or ATV.

remains themselves, a determination of eligibility would need to be made. If the cabin remains are determined to be eligible for the National Register (a likely outcome), mitigation would be required for any mining work that would cause an adverse effect to the cabin remains. Mitigation measures would need to be consulted upon with the Oregon State Historic Preservation Office and possibly the Advisory Council on Historic Preservation. Mitigation would need to be funded by the miner.

All General Requirements apply

Refer to ROD Appendix 3 for all required monitoring and inspection items
### Other vehicles:

None (bridge)

### Ponds (Existing Processing area ponds)

*Existing processing area ponds:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.

### ODEQ requirements related to Suction Dredging

Lightning Creek has been identified as essential salmon habitat. Suction dredge mining is currently not authorized on essential salmon habitat streams until 2021 as a result of the State moratorium. Should the moratorium be lifted prior to 2021, the miner will adhere to the terms and conditions listed in the ODEQ 700PM permit that is in place at that time. This Plan will not be approved until the moratorium on suction dredging is lifted, or until an amended Plan is submitted to the Forest Service that excludes the proposed suction dredging.

All General Requirements apply except lode requirements (See ROD Appendix 4)

| Little Cross 1 (Placer) WWNF | **Action:** Placer mining and gravity processing at one site on the north side of Granite creek. The total site is less than ¼ acre in size. Suction dredging in Granite Creek. | **Access:** Existing temporary road on FS land. | **Water Resource Protection Measures**

Placer mining activity

1. Place straw bales along creek edge,

2. Place a second set of straw bales 6 ft. to 8 ft. upslope from the edge of the creek.

3. Site will be reclaimed at the end of the season.

4. Any sediment that collected behind the straw bale berm located 6 to 8 feet from the edge of the creek will be removed prior to removing the stream side berm.

**ODEQ requirements related to Suction Dredging**
Granite Creek has been identified as essential salmon habitat. Suction dredge mining is currently not authorized on essential salmon habitat streams until 2021 as a result of the State moratorium. Should the moratorium be lifted prior to 2021, the miner will adhere to the terms and conditions listed in the ODEQ 700PM permit that is in place at that time. This Plan will not be approved until the moratorium on suction dredging is lifted, or until an amended Plan is submitted to the Forest Service that excludes the proposed suction dredging.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items.

|-------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------|

The historic mining site is being considered eligible for the National Register of Historic Places (NRHP), with the north end non-contributing to eligibility, and the south end with contributing standing structures.

For the north end of the site, where current mining work is planned in adits/shafts, no protection or preservation is necessary. No actual mining work is planned for the south portion of the site, but maintenance and possible restoration of the historic cabin and stamp mill are planned. To protect and preserve the historic integrity of the cabin and stamp mill, the structures should be maintained with historic appearance, and any work to be done should meet the Secretary of Interior Guidelines for Historic Preservation. If plans are proposed that would adversely affect the structures, mitigation would be necessary. Mitigation measures would need to be consulted upon with the Oregon State Historic Preservation Office and possibly with the Advisory Council on Historic Preservation. Mitigation would be funded by the miner.

All General Requirements apply

Refer to ROD Appendix 3 for all required monitoring and inspection items.
| Make it (Placer) WNF | **Action:** Placer mining and gravity processing of the highbank along the east side of the creek. 15-20 cubic yards per year will be processed from holes 15’x20’x10’ deep. | **Access:** Existing FS roads along with the development of existing and designated temporary roads to work the site. Existing miner’s gate | **Water Resources Protection Measures**
1. This WRPM is for clarification purposes: Water used for processing will ONLY be put into the depressions that are being used as settling ponds. No water will be returned to the existing off channel pond which is connected to Granite Creek and is the source water pond.
2. The miner must avoid decreasing the processing pond level below the pond outlet elevation so that the pond and Granite Creek remain hydrologically connected via surface flow.

**Cultural Resource Protection Measures**
To protect and preserve the historic integrity of the historic structures and remains on the site, the miner will avoid all structures and remains (cabin, pole structure, footbridge, trash dumps and debris, dam/pond, and car parts) with a 30-foot buffer. The structures and remains are not located within the proposed work area.

**Wildlife Protection Measures**

**Ponds**

*Source water pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

| Muffin (Placer) WNF | **Action:** Placer mining and gravity processing on the east side of the creek. Existing | **Access:** Existing FS roads along with the development of existing and | **Water Resources Protection Measures**

**Sites 1, 2, and 3**

Limit the size of the hole at any one time to either 10 feet or less or start the hole 5 to 10 feet back from point where the hillslope has a break in
| Old Eric 1&2 (Placer) UNF | **Action:** Placer mining and gravity processing of the high bank area along granite creek. Max of 5 cubic yards per year will be processed from this single ¼ acre work site. Suction dredging in Granite Creek. | **Access:** Existing temporary road. | **Water Resources Protection Measures**  
**Settling Pond**  
Water temperature related: No standing water is permissible in the settling pond beyond 1 day.  
**Wildlife Protection Measures**  
**Ponds**  
*Settling pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat  
**ODEQ requirements related to Suction Dredging**  
Granite Creek has been identified as essential salmon habitat. Suction dredge mining is currently not authorized on essential salmon habitat streams until 2021 as a result of the State moratorium. Should the moratorium be lifted prior to 2021, the miner will adhere to the terms and conditions set forth in the State moratorium. |
| Olive Tone (Placer) WWNF | **Action:** Placer mining of the highbank areas along Olive Creek. Holes 30’x30’x10’ will be worked at a time. Two ponds (20’x10’x10’) will be constructed | **Access:** Existing FS road, existing temporary road. Existing access ford on Olive Creek. **Ford Use** (2-3 months of summer) **Heavy equipment:** (2-4 round trips) will bring in at beginning and end, occasional trips for repairs etc. **Other vehicles:** 1-2 round trips per day with an ATV to access the travel trailer. | **Water Resources Protection Measures**

**Settling Ponds**
A trench will be dug parallel to the settling ponds for the pond length plus five feet on either side. The trench will be on the stream side of the settling ponds and 5 to 20 feet away from the ponds and the location field verified with the Forest Service prior to installation. The trench can be lined with 1) a bentonite blanket, 2) filter cloth, 3) plastic to eliminate the potential for subsurface flow to transport sediment into the creek (FEIS Appendix 1B for schematic).

If a bentonite blanket is used then it can be left buried. If filter cloth or plastic is used it must be removed at completion of the project.

**Water Withdrawals**
Due to the potential for elevated stream temperatures from water withdrawals, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal.

All General Requirements apply except lode requirements
Refer to ROD Appendix 3 for all required monitoring and inspection items |
| Rose Bud 1-4 (Placer) UNF | **Action:** Placer mining of the high bank area north of the powerline road. | **Access:** Existing power line access road on FS land. | **Water Resources Protection Measures**
All settling ponds must be sufficiently bermed to prevent water and sediment from overtopping to top of the ponds and flowing down the road and into the old dredge ponds. Berm material can be either sediment or straw bales but must be stable. **Fish Resource Protection Measures**
Miner would limit loss of water in the processing pond to no more than 6 inches of water during daily operations. **Wildlife Protection Measures**
**Ponds**
*Source water pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat
All General Requirements apply except lode requirements (See ROD Appendix 4)
Refer to ROD Appendix 3 for all required monitoring and inspection items.

| Royal White Group (Lode) WWNF | **Action:** Underground mining of existing adits, processing at mill, and continued use of existing structures. (Up to 5 tons will be crushed and milled per day)
Continued use of structures. | **Access:** Existing FS roads, private roads, and existing temporary roads to work the site. Existing miner’s gate | **Botanical Protection Measures**
To preclude the possibility of any severe damage (e.g. direct mechanical destruction of plants or soil compaction) to the population of Lomatium tarantuloides at the Royal White site by inadvertent forays into the area by mining equipment, the miner will not breach the area protected by fallen trees immediately adjacent to Forest Service Road 1042970 that transects the population. Prior to commencement of mining activities, the Forest Service will fall small trees or install another type of barrier around the area to be avoided and protected. **All General Requirements apply**
| Ruby Group (Placer) UNF | **Action:** Exploration of the bank area along Ruby creek. Will process 1-2 cubic yards per 8’ deep hole for a total of 2-5 yards per year. Continued use of the existing structures. | **Access:** Existing FS roads along with the development of existing and designated temporary roads to work the site. 2 existing fords on Clear and Ruby Creek. New miner’s temporary ATV bridge on Clear Creek. | **Water Resources Protection Measures**  

**Fords**  
1. Clear Creek ford: The southwest approach to the ford that crosses Clear Creek will be rocked and sloped. The northeast approach would be rocked.  
2. Ruby Creek ford and TA 1310-E1a:  

The Ruby Creek ford and TA 1310-E1a are combined because the discharge call under Alternative 2 is the result of the way the road and Ruby Creek interact and can mobilize and transport sediment AND the way road use, the ford and Ruby Creek interact to mobilize and transport sediment. In identifying Forest Service WRPMs to prevent a discharge of sediment into Ruby Creek from the use of TA 1310-E1a and the Ruby Creek ford it was necessary to divide the road into segments. See map in the project file for delineations of segments.  

**Segment A:** The portion of TA 1310-E1a between the Clear Creek ford and the Ruby Creek ford.  
1. No WRPMs are needed as this section of the road does not interact with Ruby Creek.  

**Segment B:** The north and south approaches to the ford.  
1. The north and south approaches to the ford and 25 feet of the road on the south side of the ford, just before the approach begins will be rocked.  

**Segment C:** The portion of the road between the Ruby Creek ford and Site 2 |
| Bridge with the ATV | 1. Weed-free straw bales will be placed end to end starting at the north side of the ford to Site 2 along the west side of the road.

2. Straw bales will be two bales deep to act as a dam to prevent water from Ruby Creek from flowing onto Segment C and moving sediment generated by road use into Ruby Creek.

**Segment D:** The portion of the road between Site 2 and Site 1

ater from Ruby Creek is observed flowing onto this segment of road, then WRPMs stated for Segment C would be put into place.

**Mining at Sites 1, 2, and 3**

1. Measurement of the 10 foot buffer would start at the top of the valley floor-channel break in slope (See FEIS Appendix 1A, Figures 1A-2 and 1A-3 for explanation of this feature)

2. Use of the temporary road behind barricade that accesses work sites #1, 2, and 3 is limited to after the road goes dry.

3. Straw bales or waddles must be placed between work sites #1, 2 and 3 and Ruby Creek.

4. Straw bales or waddles must be placed across the access road to sites 1, 2, and 3 to trap any sediment generated by the activity and prevent it from entering into Clear Creek

**Mining at Sites 4, 5, 6, and 8**

1. Measurement of the 10 foot buffer would start at the top of the valley floor-channel break in slope (See FEIS Appendix 1A, Figures 1A-2 and 1A-3 for explanation of this feature)
2. Straw bales or waddles must be placed between test holes and Clear Creek and between the test holes and the side channel to Clear Creek

Mining at Site 7

None needed

Temporary ATV Bridge

1. Stream banks, where the bridge will be placed, will be rocked.

2. At the beginning of each season, this area will be checked and more rock added as necessary.

3. Bridge will be removed each Fall

Transportation Protection Measures

For safety reasons and to prevent the public from using the miner’s ATV bridge on temporary mine access Road 1310-E1a, the miner will install a sign stating “Mining use only – ORMC - claim number XX”. The miner will also install a gate in front of the bridge according to Forest Service specifications (project file).

Cultural Resource Protection Measures

To protect and preserve the historic integrity of the historic collapsed structures and features during mining activities, the miner will avoid the structures and features with a 30-foot buffer. The structures and features are not located within the proposed work area.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items
| Sunshine/ McWillis (Placer and Lode) WWNF | **Action:**  
Placer excavations. Up to ¼ acre will be worked at a time. @ 1000 cubic yards a year will be processed. Continued use of existing structures. Suction dredging on McWillis Gulch. | **Access:**  
Existing FS roads, existing temporary road. Existing miner’s bridge and gate. | **Water Resources Protection Measures**  
**Processing Site 1**  
1. Only Processing site 1 will be used.  
2. Berm the downstream end of the Pond 2 (settling pond) so that the only outlet point is the pipe.  
**Mining at Mining Site #2**  
1. Straw bales or waddles must be placed between the edge of the hillslope and the gulch at mining site #2.  
**ODEQ requirements related to Suction Dredging**  
McWillis Gulch is not essential salmon habitat. The miner will adhere to the terms and conditions listed in the May 2015 ODEQ 700PM permit.  
All General Requirements apply  
Refer to ROD Appendix 3 for all required monitoring and inspection items  
**Cultural Resource Protection Measures**  
The cabin at the site is potentially eligible for the National Register of Historic Places. The cabin is not in a planned work area for the mine, but it may be utilized while mining occurs. To protect and preserve the possible historic integrity of the cabin, the structure should be maintained with historic appearance, and any work that may be done should meet the Secretary of Interior Guidelines for Historic Preservation. If plans are proposed that would adversely affect the structure, mitigation may be necessary. Mitigation measures would need to be consulted upon with the Oregon State Historic Preservation Office and possibly with the Advisory Council on Historic Preservation. Mitigation would be funded by the miner.
| Tetra Alpha (Placer)          | **Action:** Placer mining along the south side of Boulder creek with gravity processing on the north side. Up to ½ acre will be worked at a time and @ 100 cubic yards will be processed per day. Continued use of existing structures. **Access:** Existing FS roads, existing and temporary, development of designated temporary roads to work the site. Ford (Boulder Creek) 1 existing and 2 proposed. Existing Miner’s gate. | **Ford Use:** 1 existing, and 1 proposed upper ford – (2-3 months during summer)  **Heavy equipment:** 1-3 round trips per day will haul loads of material when working.  **Other vehicles:** 2-4 per round trips week with a pickup or ATV. | **Water Resources Protection Measures**  

**Stage 1 area**  
1. The high water mark is defined as the back edge of the meadow because the lushness of the meadow vegetation indicates that this area is frequently flooding and has a high water table. Measurement of the 25 foot buffer would start at the back edge of the meadow.  

**Stage 2 area**  
1. Measurement of the 25 foot buffer will begin at the hillslope-meadow boundary.  
2. A straw bale berm will be constructed at the base of the hillslope.  

**Fords**  
**West ford (existing):** used to access Stage 1 area  
1. Ford approaches will be rocked.  

**East ford (proposed):** used to access Stage 2 area  
1. Construction will take place during the instream work window  
2. Material will be pulled away from the stream and deposited in a location where the sediment will not be able to reach the stream during high flow  
3. Small straw waddles or bales or silt fences will be placed along the stream when pulling back the material during ford construction or maintenance  
4. Ford approaches will be rocked and sloped |
**Proposed TMA 7355-M3d (meadow portion):** Proposed miner access road to access Stage 2 area where it crosses the meadow:

1. Road will be rocked to at least 20 feet back from the creek in the meadow area to ensure that no sediment will make it to the creek and at additional areas as needed to ensure that road would not erode and trigger gullying in the meadow.

2. Two-track location would be flagged by Forest Service personnel.

**Fish Protection Measures**

1. The miner will provide the Forest Service with advanced notification of ford construction so that a fisheries biologist or minerals administrator can monitor the fords and ensure that they do not create a fish barrier during low flows.

2. No water withdrawals are permitted in Boulder Creek after August 15 to protect fish migrating to spawn.

3. If Boulder Creek is dry below where the miner is working prior to August 15, then the miner must cease withdrawing water from the creek until flow exceeds the amount withdrawn.

**Water Withdrawals**

Due to the potential for elevated stream temperatures from water withdrawals, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal.

**Cultural Resource Protection Measures**

To protect and preserve the historic integrity of heritage sites on the access road to the planned work areas, FS road 7355-010 used to access the work areas will not be widened, and any work on the road will require pre-
Appendix 1

Granite Creek Watershed Mining ROD

approval by the Forest Service. The mine operator will be allowed to drive on the open Forest Service Road 7355-010, however the miner has not proposed any mining activity within 30 feet of the sites.

Wildlife Protection Measures

Ponds

Source water /settling pond: General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

<table>
<thead>
<tr>
<th>Tetra Alpha (Mill &amp; Lode) WWNF</th>
<th>Action: Milling and gravity processing of underground lode material. (@ 10 cubic yards, or until settling ponds fill in) No clean out of settling ponds is planned. Continued use of existing structures.</th>
<th>Access: Existing FS roads along with the development of existing temporary roads to access the adit. Existing miner's gate.</th>
</tr>
</thead>
</table>

Fish Protection Measures

1. No water withdrawals are permitted in Boulder Creek after August 15 to protect fish migrating to spawn.

2. If Boulder Creek is dry below where the miner is working prior to August 15, then the miner must cease withdrawing water from the creek until flow exceeds the amount withdrawn.

Water Withdrawals

Due to the potential for elevated stream temperatures from water withdrawals, if a valid water right is not secured, the Plan will not be approved until an amended Plan is submitted to the Forest Service that excludes the proposed water withdrawal.

Cultural Resource Protection Measures

To protect and preserve the historic integrity of heritage sites on the access road to the planned work areas, FS road 7355-010 used to access the work areas will not be widened, and any work on the road will require pre-
The miner will be allowed to drive on the open Forest Service Road 7355-010, however the miner has not proposed any mining activity within 30 feet of the sites.

### Wildlife Protection Measures

#### Ponds

**Source water pond:** General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.

All General Requirements apply

Refer to ROD Appendix 3 for all required monitoring and inspection items

| Troy D (Placer) WWNF | **Action:** Placer mining and gravity processing of the old dredge tailings. (50 yards per day). A water filtration plant (semi-trailers) will filter the water from the settling ponds. Final mineral recovery will take place on private land. Placement of @600 ft of power line. | **Access:** Existing temporary roads, development of designated temporary roads to work the site. Existing miner’s gate. | **Water Resources Protection Measures**

1. Pond A would be used only as the source water pond. (See site map in project file)

2. Pond B would be used as a settling pond. A trench will be dug parallel to the settling ponds for the pond length plus five feet on either side. The trench will be on the stream side of the settling ponds and 5 to 20 feet away from the ponds and the location field verified with the Forest Service prior to installation. The trench can be lined with 1) a bentonite blanket, 2) filter cloth, 3) plastic to eliminate the potential for subsurface flow to transport sediment into the creek (FEIS Appendix 1B for schematic).

If a bentonite blanket is used then it can be left buried. If filter cloth or plastic is used it must be removed at completion of the project.

### Wildlife Protection Measures

#### Ponds
### Yellow Gold (Placer) WWNF

**Action:** Placer mining and gravity processing at the ponds. Several families will work 2 holes (50’x30’x12’d) at a time.

**Access:**
- Existing FS roads along with the development of existing and designated temporary roads to work the site.
- Does not use road 7355055 from the 7355020 road (@ ½ mile)

### Water Resources Protection Measures

1. Settling ponds would be located with input from the minerals administrator and district hydrologist and appropriate WRPMs identified and implemented

2. The foot bridge will be limited to planks of wood that can be moved at the end of each season by hand.

### Transportation Protection Measures

To prevent the public from using closed Road 7355-050, the miner will maintain the berm as an effective road closure, or if multiple trips will be made on Road 7355-050 throughout the season, the miner will install a gate according to Forest Service specifications (project file).

### Wildlife Protection Measures

**Ponds**

*Source water pond:* General Requirement R15 does not apply. Do NOT reclaim as it provides wildlife habitat.

All General Requirements apply except lode requirements
### Yellow Jacket (Placer) WWNF

<table>
<thead>
<tr>
<th>Action:</th>
<th>Access:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placer mining on FS land and gravity processing on private land. Up to ¼ acre will be worked at a time. Suction dredging in Orofino Gulch.</td>
<td>Existing FS roads, miner’s private road, existing temporary roads, development of designated temporary roads to work the site.</td>
</tr>
</tbody>
</table>

### Water Resources Protection Measures

Lode activities are located on private property. However, the miner must ensure that there is no discharge of water, heavy metals or sediment onto Forest Service lands or placement of lode material onto Forest Service lands.

### ODEQ requirements related to Suction Dredging

Orofino Gulch is not essential salmon habitat. The miner will adhere to the terms and conditions listed in the May 2015 ODEQ 700PM permit.

All General Requirements apply except lode requirements (See ROD Appendix 4)

Refer to ROD Appendix 3 for all required monitoring and inspection items

*Refer to ROD Appendix 2 for Plan-specific access roads approved in this ROD
Appendix 2 - Forest Service Closed, Decommissioned or Temporary Roads Proposed for Use by Miners under Alternatives 2 and 3

<table>
<thead>
<tr>
<th>Claim Name</th>
<th>Road Number</th>
<th>From</th>
<th>To</th>
<th>Length</th>
<th>Surface Type</th>
<th>Existing Condition</th>
<th>Alt 2</th>
<th>Alt 3</th>
<th>Comments</th>
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<td>1042E1c</td>
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<td>To</td>
<td>Length</td>
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<td>Alt 3</td>
<td>Comments</td>
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<tr>
<td>Claim Name</td>
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<td>1305-E1a</td>
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</table>

E = Existing non-system road  
P = Proposed, miner created road, no cut or fill.
Appendix 3 – Alternative 3 Monitoring and Inspection Items

Monitoring Under Alternative 3

The Whitman Ranger District and North Fork John Day Ranger District Minerals Administrators are responsible for completing the annual minerals inspections and review to determine if Forest Plan standards and guides, as well as the requirements in the Plans of Operations are being met. If operations are found to be non-compliant, the Minerals Administrator is responsible for assuring corrective action is taken. Depending on complexity of the operation, some of these operations are inspected twice, if not more, during the operating season. Perennial streams in the claim shall be monitored by the Forest Service for water quality, sediment, and temperature through normal compliance inspections, and reclamation inspections.

The Minerals Administrator is also responsible for reclamation reviews. These reviews assure that requirements in the reclamation plans are being properly implemented and completed in a timely manner. A monitoring program would be accomplished on a yearly basis following mining to determine vegetation response, soil stability, and the impact of roads on water quality. Reclaimed areas would be monitored to identify areas of instability and detrimental compaction. These areas would be improved to meet Forest Service standards.

At the same time, the implementation of the PACFISH standards and guidelines for Minerals Management (MM-1, MM-2, MM-3 and MM-6) would also be monitored during annual inspections (ROD Appendix 3). If there are any noticeable impacts to resources, including a discharge of fine sediment into live streams, the operations would be stopped immediately and not allowed to resume until corrected. Screening for annual monitoring includes verification that:

- Applicable standards and guidelines and other regulations have been incorporated into Plans of Operation.
- Forest Service requirements and protection measures developed during site-specific analysis have been incorporated into Plans.
- The Plans contain stipulations for modification, including reclamation requirements and bond amounts.
- For surface-disturbing activities, that reclamation requirements are included, and that a bond is in place.
- Reclamation requirements in the permit provide for needed short- or long-term monitoring and maintenance of the reclaimed project site.
- The Plan of Operations do not prevent attainment of PACFISH riparian management goals and objectives (RMOs) and avoid adverse impacts to listed species and their habitat.
- Terms and conditions in the NMFS and USFWS Biological Opinions have been met

Annual inspections would also examine the following:
Table A3-1: Annual Inspection Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Action</th>
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<tbody>
<tr>
<td>Equipment and Structures</td>
<td>List sizes and take photos of all</td>
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</tbody>
</table>
| Earthwork                   | A) Excavations (testing and mining hole sizes and note if current work)  
                              | B) Processing site (size of compacted area not including settling ponds)  
                              | C) Settling ponds (sizes, if they are holding water, if they have been cleaned out, and if there is vegetation)  
                              | D) Camp area (size of area being compacted by camping)  
                              | E) Roads (lengths of any accesses to sites, condition)                                                                                       |
| Water                       | List if there are any overflows, muddy water, distance of workings to water, etc.  
                              | Inspect fords to ensure fish passage is not impaired or blocked.                                                                               |
| Suction Dredging            | Inspections will ensure compliance with federal laws, regulations and policies (eg. 36CFR 228.4 (a) (4), and 228.4 (e)).  
                              | Resource concerns and damage will be documented in every inspection. The state of Oregon (DEQ and DSL) is responsible for ensuring compliance with its permits.     |
| Weeds                       | List if there are weeds, identify if possible, take picture if you are unsure, take a measurement of area, and GPS                        |
| Access                      | List all the roads and numbers to get to the site                                                                                           |
| Sketch Map                  | Include conversations, any campers on site, any other uses of sites for records. This is also an area for photo references from the sketch map. Also list any non-compliance issues. |

Current regulations allow the district ranger to stop all operations that are noncompliant with the operating plan or the result of an unforeseen significant disturbance (36CFR 228.4 (a) (4), and 228.4 (e)). An example of an unforeseen significant disturbance could be a discharge of sediment into the stream as the result of a large flood. A discharge of this nature would be determined if the inspectors observed sediment discharging into streams or saw evidence of discharge, such as rills and gully development, from the operating area to adjacent streams, or the development of seepage zones along streambanks related to ponds.
BMP Monitoring
Additional monitoring will occur using the 2012 BMP Sampling and Monitoring protocol (2012 BMPs-Appendix G) based on the number of active mines each year. A minimum of two mines or 25% of active operations, not to exceed a total of four each year, would be monitored under the current 2012 protocol. Mine operations that “may affect and are likely to adversely affect” (LAA) fisheries resources would be targeted and one to three random sites would be chosen for sampling each year.

The draft National Core BMP Monitoring Technical Guide (Volume 2, FS-990b, in prep) is expected to be available in 2015, with plans to finalize in 2016. The draft protocols will be publically available when the Draft monitoring guide is released for review. When the monitoring protocols are finalized they will be posted on the webpage for the Granite mining project.

A description of Best Management Practices monitoring is found in the Biological Assessment Appendix G). The minerals forms were recently revised in January 2015, and are available at the following link: http://fsweb.wo.fs.fed.us/wfw/watershed/national_bmps/bmp_docs-minerals.html

Stream Monitoring
The Forest Service will conduct a random sampling inspection of suction dredging activities during each season to ensure that the miners are in compliance with their Plan of Operations. A daily monitoring log referenced in the May 2015 700PM permit is required to be kept by all miners conducting suction dredging activities, and must be legible and available to the Forest Service upon request.

*Plan disturbance levels shall be monitored to assure applicable components of the Plan of Operations are adhered to.*
Method: Inspection
Frequency: Ongoing throughout the operating season, no less than one inspection annually.
Duration: All active periods of operations
Coordinator: Minerals Administrator
Threshold: If disturbance levels are exceeded, the occurrence shall be documented and appropriate action taken to correct the situation.

*Monitor to determine if prescribed erosion control methods are in place and effective.*
Method: Partial inspection, concentrating on areas with high probability of failure
Frequency: preseason, at seasonal closure, and after major rain events.
Duration: Until disturbed areas have revegetated
Coordinator: Minerals Administrator
Threshold: If combination of failure of cross drains and/or seeding is leading to gully erosion, appropriate maintenance shall be performed.

Noxious Weeds Monitoring (Implementation and Effectiveness)
1) Frequency of Monitoring and Responsible Party

Meet the requirements of the Region 6 - 2005 Preventing and Managing Invasive Plants EIS and ROD.

- The District/Zone Minerals Program Administrator shall be responsible for the monitoring for compliance with prevention standards outlined in the Region 6 - 2005 Preventing and Managing Invasive Plants EIS and ROD.

- The miner, the District/Zone Minerals Program Administrator, and the District/Zone Invasive Species Coordinator shall share responsibility for annual inspections of the site and haul routes for noxious weed infestations. The inspections shall continue for five years after a plan has terminated.

- The District/Zone Invasive Species Coordinator shall be responsible for the inventory of all noxious weed infestations that occur on the project site which are reported to him/her.

- The District/Zone Invasive Species Coordinator shall be responsible for monitoring noxious weed presence (following initial report), population size, density, new occurrence, and treatment.

- The District/Zone Invasive Species Coordinator shall inspect all roads to be closed for noxious weed infestations (and inventory/early treatment if necessary) prior to road closure.

2) Effectiveness of Noxious Weeds prevention, monitoring and mitigation

The District/Zone Invasive Species Coordinator will provide cursory evaluation of mitigation measure and treatment effectiveness as district/zone wide data is compiled for reporting purposes. Periodic (5-10 year) Forest reviews will provide in-depth evaluation of mitigation measure/treatment effectiveness.

3) Thresholds

If more than 40 spot infestations, or more than 30 acres of disturbed site become infested with a high priority noxious weed species, mitigation measures and treatment strategy will need to be re-evaluated.

Monitoring protection measures and requirements

During annual inspections, the Forest Service will determine if the miner has implemented all measures and requirements in Appendices 2 and 11, and that they are achieving the desired results. Also, a daily monitoring log (as identified in the 2015, 700PM permit) must be legible and made available to the Forest Service upon request.

Monitoring Closed Sites

Once an operation is closed (all proposed actions are complete), annual inspections by a Forest Service biologist or minerals administrator would occur the first three years and then once at 5 years, and then finally at 10 years after closeout, depending on the type of reclamation work done, to ensure that reclamation activities are complete and successfully implemented.
Appendix 4 - General Requirements for Plans of Operations Included in Alternative 3

Requirements for Protection of Surface Resources

G1. In accordance with 36 CFR §228.4(d), the operator will submit a supplement to a Plan of Operations for any ground-disturbing operations not specifically covered within the initial Plan. Any supplemental plan shall be subject to approval by the authorized officer in the same manner as the initial plan (36CFR §228.5(c)).

G2. Prior to approval of the Plan of Operations, the operator will furnish a reclamation bond (36CFR §228.13(a)). The bond will be calculated based on site-specific conditions addressing the resource concerns listed in 36CFR §228.8(g), Reclamation. The bond shall also cover the removal of all equipment and improvements authorized in the plan, or any subsequent supplements or modifications to the plan. The bond amount may be adjusted during the term of this proposed plan of operations in response to changes in the operations or to changes in the economy.

G3. Operations shall be conducted to prevent damage to historic properties or objects of antiquity protected by American Antiquities Act (16 U.S.C. 433); Section 106 of the National Historic Preservation Act of 1966, as amended; National Environmental Policy Act of 1969; American Indian Religious Freedom Act of 1978; Archaeological Resource Protection Act of 1979, as applicable in 36 CFR 261 Regulations; applicable Sections 36 CFR 800 Regulations; and other laws and various executive orders that protect cultural resources. Operator shall stop all operations and notify the Forest Service of any discovery of cultural or natural history resources and work will not continue in the area of the discovery until the properties have been evaluated and all necessary consultations are complete. Removal or destruction of historic artifacts is a violation of Federal law and as such not allowed.

Historic building that are eligible for listing or are unevaluated will be maintained as eligible by following the Secretary of Interior’s guidelines for Historic Preservation and consulting with the Forest Service.

G4. Surface runoff water from off-site shall be diverted around the operating site to ensure that this runoff water does not have a negative impact on water quality. Wood, certified weed-free straw bales (See R3), silt fences, or other Forest Service approved barriers, may be used to establish a barrier along the banks to control sediment movement into the creek. If tree boles are used, the logs must be embedded so that the entire length of the bole is in contact with the ground, and the logs overlap in a parallel shingle arrangement so that sediment-laden runoff cannot escape the impounded area.

G5. During ongoing mining activities, all disturbed sites (roads, cut and fill slopes, campsites, ponds, dumps, and stockpiles) shall be maintained in a stable condition.

G6. No live trees greater than 7” diameter at breast height (4.5’ from uphill side of base of tree) shall be cut without prior written approval. Prior to tree removal the Forest Service will conduct a stream-shade analysis to evaluate potential impacts to stream temperature and to ensure protection of water quality. All live trees approved for removal shall remain on-site. Forest
Service personnel will determine which trees approved for removal are merchantable. These 
trees will be stockpiled by the operator for Forest Service disposal, or for use during final 
reclamation.

Forest Service shall approve removal of snags or trees with signs of mistletoe, prior to falling.

G7. Mining equipment shall cross creeks only at pre-approved sites, as authorized by the 
District Ranger with FS, NMFS and USFWS mitigations, and 2012 BMPs. All fords shall be 
sloped and armored with rock, based on a site-specific evaluation. Bridges shall be installed so 
as not to result in continued sediment delivery to the stream, and shall be removed upon final 
cessation of mining operations. See project file for additional Fisheries/Aquatics direction.

G8. All use and/or construction of any structures shall be listed and authorized in the Plan of 
Operations or supplement (36CFR 261.10 (a)). Only structures reasonably incident and 
necessary for the proposed level of mining operations will be authorized (FSM 2812, and 69 

G9. Snow removal on roads is not approved unless addressed in an approved Plan of 
Operations or subsequent modifications or supplements to the Plan of Operations.

G10. Excavations left open for more than a week shall have the sides contoured to allow wildlife 
to escape should they fall in.

G11. Other than seasonally, where operations have ceased for a year or more, the operator 
shall annually submit a written statement of intent to the District Ranger which includes the 
operator’s intent to maintain the equipment and structures, the expected date operations will 
resume, and an estimate of extended duration of operations. The operator will maintain the site, 
equipment, and structures in a neat and safe condition during non-operating periods (36 CFR 
228.10).

G12. Plan-specific buffer strips and/or silt fencing (or other materials approved by the District 
Ranger) between the approved operation and the channel of intermittent or perennial streams 
shall be of sufficient width and filtering capacity (as determined by the District Ranger) to 
prevent the introduction of sediment into the stream system during normal seasonal runoff 
events such as snowmelt or high-intensity rainstorm events.

In addition, if straw bales or silt fences are used, they will be installed with adequate support 
(i.e. straw bales staked into the ground, silt fences dug into the ground and with seams on 
stakes facing away from sediment sources) and maintained during use (i.e. fences and bales 
regularly checked for failure or movement, sediment removed with it accumulates to 1/3 height 
of silt fence or bale).

G13. All explosive handling and storage will comply with Bureau of Alcohol, Tobacco, Firearms 
and Explosives (ATF) requirements and Mine Safety and Health Administration (MSHA). 
Copies of any permits that require any improvements (storage facilities, gates, etc.) on national 
forest system (NFS) lands must accompany the Plan of Operation or supplemental Plan, and 
the improvements shall be identified within the approved Plan.

G14. Beaver dams will not be breached by the operators. If pond levels behind the dams 
increase to the point that there is the potential to flood the mining operation, the operator shall 
work with the Forest Service to install pond-level control devices.
G15. Plan-specific stream buffers for mining-related activities (as specified in Appendix 1A of the EIS) are to be undisturbed. No mining activities, storage of equipment or overburden, or vegetation removal is permitted. Driving a vehicle off an existing road within a Plan-specific stream buffer is only permitted where necessary to access the stream for mining related activities such as installation of a pump or dredge put in, as long as there is no significant impact to surface resources, and is consistent with 2012 BMPs. For requirements specific to use of fords, see G7.

G16. If new active goshawk nests are discovered, a 30-acre nest area will be delineated by district wildlife personnel around active goshawk nest sites, and a seasonal restriction on the use of heavy equipment would be recommended in the immediate vicinity of the nests to reduce disturbance to goshawks during courtship and nesting. Nest areas will be deferred from tree removal with the exception of snags cut to address hazards around work areas. An active nest site is one that has been used for nesting within the previous five years. Failure to monitor a nest site does not equate to inactive status.

If a new active goshawk nest is discovered after a Plan of Operation is approved, the Forest would initiate a Plan modification process per (CFR 228.4e) to determine what reasonable additional restrictions could be added to the Plan to mitigate this unanticipated impact.

G17. If unexpected heritage resources are encountered during project implementation, these resources will be protected from disturbance and evaluated for eligibility for inclusion on the National Register of Historic Places. Significant resources will be avoided or mitigated as described below. In accordance with 36 CFR 800 and Section 106 of the National Historic Preservation Act (1966), all unevaluated sites will be avoided pending determination of eligibility for listing on the National Register of Historic Places by the Forest Service and consultation with the Oregon State Historic Preservation Office. All eligible and unevaluated sites will be protected throughout the life of the project if possible. Protection of these sites, in most cases, shall be accomplished through avoidance by ground-disturbing activities.

If protection or avoidance of significant heritage resources is not possible, mitigation measures will be developed in consultation with the Forest Service and the Oregon State Historic Preservation Office and in some cases, the Advisory Council on Historic Preservation.

G18. Approval of this plan does not relieve the operator from complying with all applicable Federal, State, or County laws or regulations. Any regulations/laws referenced herein are for emphases only and not intended to cover all regulations that may apply to this operation.

G19. Copies of any permits/certifications issued by other regulatory agencies related to mining operations on NFS lands shall be submitted to the authorized officer. In some cases this may be required prior to approval of the Plan. (CWA §401(a)(1). BMP Min-8)

G20. Extended occupancy (longer than allowed under the Forest Order) must be incidental to and necessary for the level of proposed mining operation and authorized in the Plan of Operations. No person not actively involved in the day to day operations will be authorized to

2 Be reasonably incident - Reasonably incident means the statutory standard "prospecting, mining, or processing operations and uses reasonably incident thereto" (30 U.S.C. 612). It is a shortened version of the statutory standard. It includes those actions or expenditures of labor and resources by a person of ordinary prudence to prospect, explore, define, develop, mine, or beneficiate a valuable mineral deposit using methods, structures, and equipment appropriate to the geological terrain, mineral deposit, and stage of development and reasonably related activities.
Appendix 4

Granite Creek Watershed Mining ROD

stay longer than allowed under the Forest Order (ORDER NO. 2010-0616-WW-12 and Uma FO 2009-0614-UM-01) (36CFR 261.1(a) and 261.58(a)).

G21. The work site and camp area will be kept clean and orderly. Litter and other non-essential mining items brought in by the operator will be removed by the operator from NFS lands and disposed of properly. Burning or burying of trash is not authorized. (36CFR 261.11 (b)(c)(d))

NOTE: There is no G22 requirement.

G23. During water drafting, pumps should be screened with 3/32" plate screen (or equivalent). Screens should be kept in good and efficient state of repair, and water must not be withdrawn at any time that the screen is removed.

G24. At a pre-arranged meeting time and place, the Forest Service minerals administrator will inspect all equipment prior to its placement on NFS land in order to make sure that it is in working order, and there are no obvious leaks.

G25: Any existing Forest Service section corners and/or marker trees removed or damaged by the miner will be replaced at the miner’s expense.

Hazardous Materials

H1. No processing chemicals shall be used in the process to extract ore unless authorized in a Plan of Operations. Authority will be in conjunction with Oregon DEQ permitting regulations.

H2. No chemical flocculent or surfactant shall be used in ponds unless it is EPA approved and shown to be safe for aquatic species (amphibians).

H3. Operators shall be required to have a lined containment vault under hazardous material storage barrels.

H4. Before commencing operations, operator shall provide a Hazardous Substances Plan. The Plan must include, but is not limited to, hazardous substances (as defined by 29 CFR 1910.120) to be used in the mining operation and identification of operators’ representatives responsible for supervising initial containment action for releases and, if required by Forest Service, subsequent cleanup. Material Safety Data Sheets (MSDSs) for all hazardous materials used will be available at the mining operation and all such materials shall be labeled in accordance with Federal and State regulations. The Plan should show operator’s procedures for reporting and responding to a release. The current names and telephone numbers of those to be notified and their responsibilities should be listed. The Forest's Emergency Response Coordinator (name shall be supplied by the Forest service) should be included as a person to be notified early. The Plan should also list the appropriate hazardous substance response services to be employed for release assessment and cleanup actions.

H5. Spill kits shall be available on site in case of an accidental spill. Spill kits (minimum size 40 gallons) must be able to absorb and contain oils, coolants, solvents and other materials in the event of a spill.
H6. Petroleum products or other hazardous substances shall not be released into land, rivers, streams, impoundments, or natural or man-made channels leading thereto. Storage of fuel, fueling of equipment or routine maintenance shall require the use of oil-absorbing mats, and storage would occur outside the Plan-specific stream buffers for mining-related activities (as specified in Appendix 1A of the EIS). Oil-absorbing mats are required under all stationary equipment to prevent leaking or spilled petroleum base products from contaminating soil and water resources. Such material will be furnished by operator and approved by the District Ranger before use.

H7. Burning of spilled substances shall not occur unless authorized by the District Ranger and Oregon DEQ.

H8. All equipment shall be checked for fluid leaks on a daily basis. All equipment operating on mining operation will be in good repair and shall be free from leakage of lubricants, fuel, coolants, and hydraulic fluid. Servicing of all equipment shall be done only in the areas approved by the District Ranger as part of the Plan of Operations. Unless otherwise agreed, operator shall properly dispose of all contaminated soil, vegetation, debris, vehicle oil filters (drained of free-flowing oil), oily rags, and waste oil in accordance with local, State, and Federal regulations off NFS lands and shall transport such substances in accordance with State and Federal regulations.

H9. Operator shall immediately implement the Hazardous Substances Plan, notifying appropriate agencies, including the Forest Service, concerning all spills, leaks, or other releases of petroleum products or other hazardous substances (as defined in (29 CFR 1910.1200 and/or releases) on or in the vicinity of all NFS lands which are caused by operator's employees, directly or indirectly, as a result of mining operations. Plans of Operations must display storage locations for hazardous substances.

H10. In addition to taking initial action to contain all releases, operator shall be held liable for all damages and costs of additional labor, subsistence, equipment, supplies, and transportation deemed necessary by the government for the containment and cleanup of petroleum products or other hazardous substances.

H11. If the total oil or oil products storage exceeds 1,320 gallons or if any single container exceeds a capacity of 660 gallons, operator shall prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan. Such plan shall meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer. This plan shall include notification of appropriate State and local officials, the Forest Service, and other appropriate agencies.

H12. It is the intent that all releases shall be removed from NFS lands and disposed of according to above regulations. De minimus (trifling) releases are occasional drips that fall from operating equipment. Routine systematic releases are drips that become increasingly worse and/or operator takes no preventative action to curtail releases. The Forest Service is not expected to enforce this provision as to de minimus releases, but routine systematic releases warrant enforcement.
Fire Protection and Suppression Requirements

Specific fire prevention measures are listed below and shall be effective for the period of April 1 to October 31 of each year. The Forest Service may change the dates of said period by advance written notice if justified by unusual weather or other conditions. Required tools and equipment shall be kept currently in serviceable condition and immediately available for initial attack on fires.

Compliance with State Forest Laws - Listing of specific fire precautionary measures herein is not intended to relieve the operator in any way from compliance with the State Fire Laws covering fire prevention and suppression equipment, applicable to operations under this Plan of Operations. These requirements meet the intent of 36 CFR 228.11.

F1. Fire Plan – Before starting any operations, the mine operator shall prepare a fire plan, in cooperation with the district minerals administrator, providing for the prevention, notification and control of fires in the project area.

F2. Substitute Measures - The District Ranger may by written notice authorize substitute measures or equipment or may waive specific requirements during periods of low fire danger.

F3. Emergency Measures - The Forest Service may require emergency measures, including the necessary shutting down of equipment or portions of operations in the mining claim during periods of fire emergency created by hazardous climatic conditions.

F4. Fire Control - The mine operator shall, independently and in cooperation with the WWNF, take all reasonable action to prevent and suppress fires on the mining claim. Independent initial action shall be prompt and shall include the use of all personnel and equipment available in the mining claim.

F5. Fire Precautions

1) Smoking and Open Fires - Smoking and fires shall be permitted only at the option of the mine operator. Campfires shall be on mineral soil within a fire ring (either rock or metal) and shall not be left unattended. Unless restricted by State Law or Federal Regulation, smoking shall be permitted only in such portions of the mining claim that are free of flammable material. Smokers shall extinguish and press out all burning material in a closed container or in mineral soil before leaving the cleared area.

2) Fire Extinguishers and Equipment on Trucks, Tractors, etc. - All power-driven equipment operated on NFS lands, except portable fire pumps, shall be equipped with one fire extinguisher having a UL rating of at least 5 BC, and one "D" handled or long-handled, round-point shovel size "0" or larger. In addition, each motor patrol, truck, and passenger-carrying vehicle shall be equipped with a double-bit axe or Pulaski, 3½ pounds or larger. Equipment shall be kept in a serviceable condition and shall be readily available.

3) Power Saws - Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight and one long-handled, round-point shovel, size "0" or larger. The extinguisher shall be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within 1 minute.
4) Spark Arresters and Mufflers - Each internal combustion engine shall be equipped with a spark arrester meeting either (1) USDA Forest Service Standard 5100-1a, or (2) appropriate Society of Automotive Engineers (SAE) recommended practice J335(b) and J350(a) as now or hereafter amended unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.

(b) A passenger-carrying vehicle or light truck or medium truck up to 40,000 GVW used on roads and equipped with a factory-designed muffler complete with baffles and an exhaust system in good working condition.

(c) A heavy duty truck, such as a dump or log truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

F6. The operator shall observe all the requirements of the Industrial Fire Precaution Level. It is the responsibility of the operator to obtain the Industrial Fire Precaution Level daily. The Industrial Fire Precaution Level may be obtained daily from the Forest Service at approximately 4PM to 6PM, local time. (R6-FS-6300-51 Regional Forester Order No. 3).

F7. Fire Security - When the Industrial Fire Precautions Level is "I" or higher, unless a waiver is granted, the operator shall designate a person who shall perform fire security services listed below on the mining claim and vicinity. The designated person shall be capable of operating the operator's communications and firefighting equipment specified in F-6b, and of directing the activities of the operator's personnel on forest fires. In lieu of having the designated person perform the required supervisory duties, the operator may provide another person meeting the qualifications stated above to direct the activities of the operator's personnel and equipment during all firefighting activities.

Services described shall be for at least 1 hour from the time the operator's operations are shut down. For the purposes of this provision, personnel servicing equipment and their vehicles who are not engaged in cutting or welding metal are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected.

Whenever the Industrial Fire Precaution Level is "II" or greater, a fire security person equipped with a long-handled, round point, Number "0" or larger, shovel, and a five-gallon backpack pump can filled with water will stay at the location of a blast for 1 hour after blasting is done. Blasting may be suspended by Forest Service in writing, in an area of high rate of spread and resistance to control.

F8. Surface blasting - Fuses shall not be used for blasting. Explosive cords shall not be used without written Forest Service permission, which may specify conditions under which such explosives may be used and precautions to be taken.
Invasive Species and Noxious Weeds

IS1. The minerals administrator will provide the mine operator with a noxious weed identification book and a map of known noxious weed locations on or near the proposed activity area so that the operator is able to recognize the presence of noxious weeds.

IS2. Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism, require the cleaning of all equipment (e.g. heavy equipment, pumps, ATVs) prior to entering NFS lands, and will comply with regional (Region 6 - 2005 Preventing and Managing Invasive Plants EIS and ROD), forest-specific invasive plant management plans, and the 2011 Region 6 Aquatics Invasive Species Management Plan.

IS3. Use only gravel, fill, sand, and rock that is judged to be weed free by Forest Service weed specialists.

IS4. The presence of any previously unknown invasive species infestations (aquatic or terrestrial) should be reported to the Forest Service Minerals Administrator as soon as possible. Upon notification, Forest Service employees shall initiate a weed inventory at the reported site.

IS5. All ground disturbing activities will avoid inventoried (as identified on the map provided in IS1) noxious weed infestations during times of seed production. If avoidance is not feasible, then mechanical treatment (pulling chopping, weed eating, etc.) will occur prior to any ground disturbing activities. Treatment of these areas will, at the minimum, remove all flower heads prior to seed set.

IS6. When invasive plants begin to grow on stockpiled soil, mechanical treatment will occur to prevent seed set. Mechanical treatment (like pulling, chopping, etc.) will occur as flowers begin to form. The resulting organic matter may be left on site if removed prior to seed set.

Lode Mines

L1. When water from an adit is used in the mining process, it shall be piped or trenched around the mine dump to a settling pond for use. Certified weed-free straw bales and filter cloth will also be used to minimize sediment if determined necessary by the District Ranger.

L2. Settling ponds shall not be built on mine dumps.

L3. Prior to the beginning of operations, the operator(s) will test any adit discharge for compliance with the CWA and Safe Drinking Water Act, Oregon State and the EPA, at a Forest Service approved testing facility. As conditions change during operations, the operator(s) will periodically test the discharge to see if water chemistry has changed (e.g. heavy metals or sulfides). Upon completion of the operations, a final water quality test of the adit discharge will be completed. Testing procedures will follow DOGAMI protocol.

L4. When processing is conducted on Forest Service land, tailings from the first run will need to be tested at an approved testing facility to see if they have the potential to release acidity or other contaminates. (See EPA standards and CWA for guidelines). Testing of the waste rock
may be required based on the type of rock present. Additional testing will be required throughout the life of the operation as conditions change. Upon completion of the operations, a final test of the tailings and waste rock will be required before the Plan can be closed out. Reclamation procedures may be modified, depending on the results of the testing.

**L5.** When testing of adit discharge, tailings or waste rock, a copy of the test results will be sent directly from the testing facility to the District Ranger. Should the results exceed EPA and ODEQ’s standards, the operator must address this issue prior to continuing this portion of the operation (36CFR 261.11 (c)). A modification to the Plan may be required as per direction found in 36CFR 228.4 (e).

**L6.** Water and winter run off will be diverted around tailings and waste rock piles.

**L7.** When opening a collapsed adit portal, the surface soils will be set aside for later closure of the adit or use as top soil for reclamation.

**L8.** Should water begin to discharge from previously dry adits, the District Ranger will be notified immediately and L3 and L5 would apply.

**L9.** Tailings, waste rock, and soil piles will be placed in separate locations. Tailings and waste rock piles will be placed a sufficient distance from any nearby surface waters such that no surface discharge from the waste rock or tailings will reach the waters.

**L11.** Portal discharges resulting from underground development conducted during the life of the approved Plan of Operations must meet State standards for water quality for the receiving stream. The point of compliance shall be at the point of entry into Waters of the State. If water quality standards are exceeded, then the operator(s) shall comply with OAR 340-041-0004. If treatment systems are needed to meet State Water Quality standards, a supplemental plan must be submitted to the District Ranger for approval prior to implementation.

**L12.** Decontamination procedures for White Nose Syndrome “Geomyces destructans” will be required for all equipment leaving or coming into an adit site. See project file for procedures as of Jan 25, 2013. The most current procedures can be found at the following web site or through local State or Federal Fish and Wildlife office. [http://www.whitenosesyndrome.org/topics/decontamination](http://www.whitenosesyndrome.org/topics/decontamination)

**Placer Mines**

**P1.** When mining or processing old lode tailings or waste rock, then the following Lode requirements apply: L1-6, L8-10, L11.
Reclamation Requirements

Ongoing Reclamation

R1. Prior to reclamation, the operator will coordinate with the Forest Service on reclamation activities for things such as, but not limited to, placement of topsoil, use of slash (e.g. scattering on the surface, burying to create an organic layer), seed mixes and seeding rates, and means of accelerating vegetative recovery and soil development.

R2. Reclamation shall be ongoing to ensure stabilization of the area and so that a minimum amount of ground will be open at any time.

R3. Use certified weed-free straw for all projects, conducted or authorized by the Forest Service, on NFS lands. If State certified straw is not available, use sources certified to be weed free using the North American Weed Free Forage Program Standards or a similar certification process.

R4. All mining excavations, not approved for winter hold over, will be refilled and reclaimed to normal contours before seasonal shutdown of each year. This shall include refilling of the excavations, re-vegetating to avoid active erosion, and mulching with certified weed-free straw.

R5. All mining excavations, approved for winter hold over, shall be stabilized prior to seasonal shutdowns or extended periods of inactivity. This shall be accomplished before any equipment is removed. Stabilization includes, but is not limited to, the following: covering the stockpiled top soil and other areas of bare soil with certified weed-free straw, sloping pond sides and trenches, and installing sediment barriers in disturbed areas such as roads or mined area to prevent soil from reaching stream channels.

R6. Topsoil, where it exists, shall be scraped off the areas to be excavated and stockpiled for later reclamation. All material shall be stockpiled in the order that it was excavated and used to refill the excavation in that order.

R7. At the end of each operating season, areas of stockpiled soil (including silt removed from placer mining settling ponds, or removed topsoil) will be covered with at least 3 inches of certified weed-free straw.

R8. General specifications for revegetation, such as seed mixes, shrub types, and the rate of application or planting densities, will be developed by the time of Operating Plan approval. Actual seed mixes, shrub types, and the rate of application or planting densities will be finalized at the time reclamation begins in coordination with the Forest Service.

R9. Re-vegetated areas will initially be inspected for stocking and planting methods and then evaluated annually by the Forest Service to determine if the site’s original or surrounding densities have been maintained. Year to year improvement must occur in order for that portion of the bond, held for re-vegetation, to be returned. Annual improvement must show establishment of desired species and spread, equal to or greater than 10% each year such that by the end of year 3 there is at least 30% establishment in order to meet the objectives of this requirement (W-W LMP pg. 4-25)(UMA LMP 4-70 & 80)(BMP Min-8).

R10. The operator must follow the requirements of the State of Oregon 600 permit (General
Water Pollution Control Facility Permit issued pursuant to ORS 468B.050) as it applies to use of ponds as settling ponds. Water shall be contained in settling ponds with no sediment discharge allowed. All ponds approved to be left open during seasonal shutdown shall be left dry or at the normal water table. The mine operator shall have certified weed-free straw bales or waddles or other material available on-site, that are approved by the Forest Service, to be used as a filtering agent should overtopping of ponds or significant soil movement from storm events occur.

**Final Reclamation**

**R11.** All mined areas included in Plan of Operation activities shall be returned to natural or near-natural contours; if located on the hillside, the areas will be benched for stability.

**R12.** Following re-contouring of the ground, the ground will be seeded with an appropriate seed species mix or locally appropriate native trees and shrubs. Appropriate seed mixes will be created through consultation with the Forest Service.

**R13.** Mine access roads, landings, and terrace areas created under the mining operation shall scarified to a depth of 2 to 4 inches, seeded with seed certified free of noxious weeds, and covered with certified weed-free straw and wood, if available, to discourage vehicle access.

**R14.** Exposed cutbanks created by the operator (excluding streambanks and terrace banks) shall be sloped to a 2:1 slope to minimize soil movement wherever testing in these banks has taken place.

**R15.** In order to determine which Plan-specific ponds should be reclaimed or retained, and whether modifications are necessary for the retained ponds, refer to Appendix 7, Alternative 3.

**Pond Reclamation:** Where ponds are identified for reclamation, the pond shall be backfilled, re-contoured and seeded as specified in R12.

**Pond Retention AND modification required:** Where existing or newly constructed ponds are identified for retention and modification, the operator should slope sides from 0-18” deep along the north, west, and east edges. This sloped portion of the pond should be a minimum of 3 feet in width. These specifications were developed to provide spotted frog breeding habitat. Species of vegetation planted around the retained ponds will reflect the native species composition for the area. Pre-existing ponds that are occupied/suitable for amphibians shall be left for amphibian habitat.

**Pond Retention BUT no modification required:** Leave pond as is.

**R16.** In mid to late fall, after completion of operations, the miner will distribute certified weed-free straw, 3 inches thick over approximately two-thirds of the area leaving small open patches distributed across the site. Seeding will not take place at this time, but will occur the following year when the straw has partially dried.

**R17.** All stockpiled topsoil and/or other suitable fines, such as silt from the settling ponds, shall be spread over disturbed areas in an ongoing restoration program after consultation with the Forest Service as to placement of fines and/or topsoil, and will be consistent with the approved
Plan of Operations and reclamation standards included in the WWNF Forest Plan and UNF Forest Plan (WWNF Forest Plan, 4-25 #27-29, UNF Forest Plan(4-80 #2)

**R18.** Final reclamation will be evaluated for success, with consideration given to variables such as the time of the year, how much topsoil was available, the density of the existing ground cover, and if native plants are establishing, and is consistent with the reclamation standards included in the WWNF Forest Plan (Forest Plan, 4-25 #27-29 and Umatilla NF Forest Plan (4-70 #1-6, and 4-81).

### Requirements for Working in Wetlands and Floodplains

These requirements, along with the reclamation requirements above, are included to meet the intent of Executive Order 11990 – Protection of Wetlands, and Executive Order 11998 – Protection of Floodplains

**W1.** Mining in the floodplain or wetlands will be accomplished by placing equipment in dry areas located outside the floodplain or wetland. The wet areas and floodplain areas will be mined and reclaimed after July 1. Seasonal reclamation shall be accomplished by late fall in time to allow for the areas to revegetate and stabilize before winter (see R8 and R9 for specifications regarding revegetation).

**W2.** Where wetland vegetation is approved to be removed, it shall be kept wet by placing it in the ponds for up to 14 days while the area is being mined and reclaimed. The vegetation shall be replaced in the riparian area to approximately the original density and monitored for success for 3 years as described in R9 above. The success of final reclamation shall be evaluated as stated in R18 above.

**W3.** The size, location and function of wetlands after reclamation shall be similar to what now exists

### Road-related Requirements (Z-Requirements)

**Definitions:**

**Open road:** Road designated for motorized travel on a Motor Vehicle Use Map and/or designated as a National Forest System Road Operating above a Maintenance Level 1. This includes roads seasonally open.

**Closed road:** Road listed in a forest transportation atlas and a National Forest System Road operating at a Maintenance Level 1 and/or not shown on a Motor Vehicle Use Map.

**Temporary access road:** Roads created by the operator whether by blading or continued travel. A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas. These roads are not necessary for long-term resource management and will be decommissioned after use. The level of decommissioning will be specified in the
operating plan. Temporary access roads are given a number in the operating plans for tracking and mapping purposes. An “M” number is an operator-created road that the operator is responsible for decommissioning and/or obliterating once mining activity is complete. An “E” number is an existing road designated for use by the operator, and the operator is not required to decommission and/or obliterate once mining activity is complete.

**Decommissioned road**: A road that was listed in a forest transportation atlas and has had an action taken to eliminate use of the road, eliminate resource protection concerns, has no deferred maintenance needs, and requires no further maintenance. These roads have a route status of “decommissioned”. If specified in the operating plan, these roads may be utilized as temporary access roads, in lieu of new ground-disturbing construction.

**Requirements:**

The following requirements apply only during the dry season window (generally July 1 to October 1). During the dry season window, it would be unusual to get enough precipitation over a duration long enough to cause significant road damage. Outside the dry season window, weather and road conditions become variable daily. Operators working outside this window will be required to consult with the Forest Service to determine if special road Best Management Practices (BMPs) are required. The type of special BMPs required will vary and may range from timing of vehicular passage to full construction of erosion or drainage control structures.

The operator will be responsible for acquiring state, county and or local permits and activities shall be in accordance with the current edition of the National Forest Commercial Road Use Rules for hauling of mining equipment or excavated materials.

**Z1.** Use of closed and temporary access roads will be incidental to mining operations.

**Z2.** Temporary roads proposed in the Plan of Operations will be flagged by the operator and ground verified by the Forest Service prior to creation. The creation of these temporary roads should be with minimal impact to the environment, fit the terrain, limit the need for excavation by following natural contours, favor lower slope routes, and be consistent with other environmental protections.

**Z3.** Prior to use of existing closed or temporary access roads identified for use in the plan of operations, danger trees shall be identified by certified Forest Service personnel. The operator is responsible for felling of the danger trees and clearing any debris from the road prior to use. Danger trees shall be left on the ground in a stable manner, so as not to roll onto the road or encroach the traveled way, and left for wildlife purposes or dealt with as stated in the G6 requirement.

**Z4.** Existing closed and temporary access roads shall have brush and trees removed to the extent necessary to accommodate the movement of the operator’s equipment and vehicles only. All stumps and brush in the road bed to be removed shall be flush cut no more than 2 inches above the ground. Grubbing of roots and stumps shall only be allowed with prior written approval from the Forest Service. To minimize the potential for road damage, removal of trees and brush is limited to the dry season.

**Z5.** Disposal of trees/brush removed from proposed and existing closed and temporary access shall be accomplished in one of the following ways, based on site-specific characteristics determined in writing by the Forest Service: 1) Vegetation shall be scattered on the downhill
side of the road, and shall not be placed in draws, catch basins, ditch lines, or stream channels.

2) Vegetation shall be moved to a Forest Service designated site, and left in piles of a size approved by the Forest Service.

Z6. The operator shall be responsible for reducing water flow concentrations resulting in road erosion on closed and temporary access roads. Traveled way maintenance activity shall be limited to the dry season to minimize the potential for road damage. Minor road work, such as slough removal, shall be in permitted areas where the fill slope materials have settled over time. Minor blading and shaping of the road shall be permitted to remove minor deformities (i.e. boulders, holes, gullies) in travel ways that impede the passage of high-clearance vehicles. A rocky-based material shall be applied to wet (i.e. seep areas) or eroded areas, as prescribed by the Forest Service, in order to minimize or prevent gullying of the road, concentration of flow, or rutting and pooling of water. All sources of rocky material shall be approved by the Forest Service in writing prior to application.

Z7. All closed roads and temporary access roads used by the operator shall be prepared for seasonal runoff during inactive periods (over winter). Water bars shall be constructed to provide effective surface drainage relief.

Z8. During the use and maintenance of all closed or temporary access roads, surface drainage and erosion control features or structures shall be maintained, repaired or installed. This work shall be accomplished in a manner to effectively control and/or prevent water concentrations upon the road bed and prevent or eliminate the movement of sediment from any activity or source from entering into streams. Examples of erosion control and drainage structures, and those to be maintained, repaired, or installed include silt fences, erosion control blankets, earthen berms, sediment catch basins, drain dips, armored grade sags, water bars and corrugated metal pipes. New installation of these structures shall be agreed upon by the Forest Service prior to installation.

The above structures shall be positioned to optimize the use of existing filter strips (vegetated area of land between road/sediment sources and the stream, capable of providing filtering and confinement, reducing water velocity to prevent transport of sediment into the stream). All drainage and erosion control structures shall be maintained to function during actual use and throughout periods of seasonal non-use. Additional measures shall be employed, if necessary, to counteract additional drainage and erosion needs during traditional wet seasons. The additional structures shall be installed prior to a seasonal shut down. The Forest Service may direct additional measures be implemented prior to high-intensity drainage periods (i.e. winter, spring snow melt and rain).

Z9. Seasonal wet areas in access roads shall be avoided until they have dried up, unless otherwise approved in writing by the Forest Service. If a seasonal wet area must be crossed prior to drying up, the crossing site will be designed to permit continued subsurface diffuse flow (i.e. French drain) and prevent rutting or channel development. The design and materials to be used shall be reviewed and approved by the Forest Service in writing prior to construction.

Z10. Crossing of permanent wetlands to access a site will be avoided.

Z11. Crossing a channel with intermittent flow to access mining operations shall occur only at Forest Service approved locations. Additional measures (i.e., culvert, ford, etc.) may be required if determined necessary by the Forest Service.
Z12. During seasonal shutdowns, to restrict vehicular travel, the operator is responsible for closing roads not designated as open and all temporary access roads as identified in the Plan of Operations.

Z13. Proposed gate location as identified in the Plan of Operations shall be approved by the Forest Service District Ranger before installation. The gate shall be constructed according to the National Forest specifications (project file).

Z14. Temporary access roads that have a road number ending with an “M”, shall be decommissioned or hydrologically obliterated by the operator (as defined below) when mining activities are completed. Methods are to be approved in writing by the Forest Service district ranger prior to decommissioning or hydrologically obliterating.

*Decommission:* To remove those elements of a road that reroute hill slope drainage and present slope stability hazards.

*Hydrological obliteration:* The reclamation and or restoration of land to resource production from that of a transportation facility. The roadbed is treated so that it no longer functions as a road. The wheel tracks or pathway is no longer continuous or suitable for traffic. This may involve some of the following activities: Closing entrances, scarifying road surfaces, decompacting (sub soiling) to establish vegetation and reduce run-off, seeding, partial to full restoration of the stream channel crossings by removing culverts.

**Monitoring**

**M1:** The operator will visually evaluate the clarity of the creek water upstream and downstream of their operation at a minimum prior to beginning work that day and after ceasing operations that day. If there is a change in water clarity below the mining site, the operation shall cease work until the cause of the sediment input is determined by the Forest Service (36CFR 261.11 (c)). Notification of the Forest Service of the change in water quality shall occur no later than the end of the first normal working day after the observation has been made.
Appendix 5 – USFWS and NMFS Terms and Conditions

USFWS Terms and Conditions (from Final BO April 22, 2016)

8.4 Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the UNF/WWNF must see to it that the claimants comply with the following terms and conditions, which will implement the reasonable and prudent measures described above. These terms and conditions shall be incorporated as mandatory requirements for each claimant’s Plan that has been approved by the UNF/WWNF. The UNF/WWNF’s monitoring and enforcement of the terms and conditions within this Opinion will further reduce the risk of impacts to bull trout and designated critical habitat within the Granite Creek watershed. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure #1 (avoid bull trout), the UNF/WWNF shall enforce upon claimants, the following:

   a. Placer mining operations, temporary road construction, water withdrawal and use of stream fords must shut down immediately if the operator observes adfluvial adult (large) bull trout. The operation must remain shut down until the fish move(s) at least 100 ft. upstream of the operation or at least 500 ft. downstream.

   b. Miners must be particularly vigilant with regard to early rearing bull trout, as this life stage may be present in the substrate being affected by fording. If early rearing bull trout are observed or their presence suspected, in or near the substrate while fording is occurring, operations must shut down until the fish have moved out of the immediate area. Miners and a FS fisheries biologist must coordinate regarding the identification of early rearing bull trout.

   c. All mining operations must shut down immediately if any sick, injured, or dead specimen of bull trout is found (see Section 8.5). In addition, if any fish eggs are excavated or if destruction of redds is observed, operators must contact the FS and receive authorization to proceed prior to resuming operations.

2. To implement reasonable and prudent measure #2 (minimize habitat effects), the UNF/WWNF shall enforce upon claimants, the following:

   a. All placer mine “no activity” streams buffers must be maintained between streams and mining activities.
b. Prior to using stream fords, operators must meet with a FS fisheries biologist who will inspect each existing and proposed ford site. No fording will be allowed in areas of known bull trout spawning or in areas identified as spawning habitat.

c. Ford crossing will only occur during the ODFW in-water work window for all use. If the miner proposes to ford outside the in-water work window, then a FS fish biologist must inspect the crossing and approve beforehand.

d. Fords must be located in areas of large substrate not preferred by spawning bull trout.

e. There should not be any streambank disturbance except at fords, because each Plan has a “no activity” buffer. Should unexpected streambank disturbance occur in any way, the banks must be restored to the original contour and re-vegetated with native species at the end of the annual mining season in which the disturbance occurred.

f. Camping areas, paths, and other disturbed sites that are located along stream banks and that are associated with mining operations must be re-vegetated or otherwise restored to their original conditions at the end of the mining season.

g. Any temporary roads, road repair or road maintenance proposed by the operator that will occur within any RHCA or which has the potential to transmit sediment to stream channels must be specifically approved by the FS in detail and in writing, and will be inspected by the FS during the mining season.

h. Operators must cease activities during the wet periods when Project activities are causing excessive ground disturbance (visible ground disturbance due to soil saturation) or excessive damage (muddying/rutting) to roads.

i. Mining operators must not remove, relocate, or disturb stable in-stream woody debris or boulders greater than 12 inches in diameter.

j. The operator will not remove any large down or standing woody debris or trees for firewood within one tree length of the stream.

k. No mechanized equipment will be operated below the mean high water mark except for when fording at designated sites.

l. Gasoline and other petroleum products must be stored in spill-proof containers at a location that minimizes the opportunity for accidental spillage.

m. A spill kit must be available in case of accidental spills. Soil contaminated by spilled petroleum products, must be excavated to the depth of saturation and removed from the National Forest for proper disposal.

n. Operators will not entrain, mobilize, or disperse any mercury discovered during mining operations. Operators must cease operations and notify the FS if mercury is encountered in placer material. Operators must not use mercury, cyanide, or any other hazardous or refined substance to recover or concentrate gold.

o. To prevent the threat of aquatic invasive species, tools used while placer mining, and associated equipment must be thoroughly cleaned with a pressure washer and dried at least five days prior to use on the Forest.

3. To implement reasonable and prudent measure #3 (Implementation, effectiveness, bull trout monitoring and reporting), the UNF/WWNF shall:

a. Once per season, turbidity monitoring shall be conducted to assess the extent and duration of turbidity plumes associated with “no activity” buffers of 20 ft. or less, i.e. Eddy Shipman on Granite Creek, Grubsteak on Clear Creek, and Ruby Group
on Ruby and Clear Creeks. Turbidity monitoring shall occur during active placer mining at 300 ft. downstream of the project area. Turbidity at the downstream sample location shall be recorded every 30 minutes until the plume has dissipated.

b. Once per week during construction and then once a month for the rest of the first season only, turbidity monitoring shall be conducted to assess the extent and duration of turbidity plumes associated with temporary road construction for Tetra Alpha Placer and Tetra Alpha Lode and Mill Mines. Turbidity monitoring shall occur during construction of the temporary road. If noticeable turbidity is observed reaching the stream, all activities must cease immediately or decrease in intensity until no increase in turbidity is observed at a 300 ft. mark downstream of the origin of turbidity.

c. Once per month, per the first season, turbidity monitoring shall be conducted to assess the extent and duration of turbidity plumes associated with each stream ford and must occur during mobilization of both heavy equipment and daily equipment such as pick-up trucks and all-terrain vehicles. Turbidity monitoring shall occur approximately 300 ft. downstream of each ford, immediately following fording (i.e., when the plume reaches the monitoring location), and occur every five minutes until the plume dissipates. Background turbidity shall be collected prior to fording, and may be collected at the downstream monitoring location. The type and number of vehicles/heavy equipment fording the stream shall also be recorded.

d. Stream flow shall be measured, monitored and recorded during water withdrawals for each mine a minimum of once per month each season for the following mines: Grubsteak Mine on Clear Creek, Lightning Creek Mine on Lightning Creek; and Tetra Alpha Placer, Lode and Mill Mines on Boulder Creek.

e. Water withdrawal from instream flow cannot exceed more than the established water rights identified in the Assessment during the water withdrawal period (Table 3).

f. Provide a written report or letter to the Service, by December 31st of each year indicating:
   i. The actual number of bull trout taken, if any, including observations by claimants of any adfluvial and early life stages of bull trout (per Term and Condition 1.a. and 1.b.), and any relevant biological/habitat data or other pertinent information on bull trout that was collected;
   ii. The results of the turbidity plumes observed in the “no activity buffers” for Eddy Shipman on Granite Creek, Grubsteak on Clear Creek, and Ruby Group on Ruby and Clear Creeks.
   iii. The results of the turbidity monitoring associated with each ford.
   iv. The results from stream flow monitoring associated with each water withdrawal.
   v. The results of any unexpected streambank disturbance, along with the restoration and revegetation associated with the disturbance.
   vi. Any new findings by FS fisheries biologist regarding stream fording in newly identified bull trout spawning and rearing habitat and relevant mitigation.
   vii. Claimant/operator compliance with the Terms and Conditions of this Opinion;
   viii. Remedies to address and resolve any identified problems; and
ix. Any environmental effects of the action that were not considered in the Assessment or this Opinion.

x. In addition, the report will include the location and duration of each miner/Plan’s mining activities. Individual operators should keep a daily log of mining activities to facilitate the FS’s compliance with this monitoring requirement.


8.5 Reporting Requirements

If a dead, injured, or sick endangered or threatened species specimen (including a bull trout) is located, initial notification must be made to the nearest Service Law Enforcement Office, located at 9025 SW Hillman Court, Suite 3134, Wilsonville, OR 97070; phone: 503-682-6131. Care should be taken in handling sick or injured specimens to ensure effective treatment or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Review Requirement: The Reasonable and Prudent Measures, with their implementing Terms and Conditions, are designed to minimize incidental take that might otherwise result from the proposed action. These measures should decrease the level of take of bull trout to the degree possible, given the circumstances surrounding the proposed action. With implementation of these measures, the Service believes that some bull trout may be incidentally taken as quantified above. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided, the MNF must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

NMFS Terms and Conditions (from Final BO May 17, 2016)

2.7.1 Terms and Conditions

The terms and conditions described below are non-discretionary, and the USFS or any applicant must comply with them in order to implement the reasonable and prudent measures (50 CFR 402.14). The USFS or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1) To implement reasonable and prudent measure #1 (placer mining), the USFS shall ensure that:

   a) No mining activities occur in reaches and sites that have been identified to contain steelhead or spawning habitat.
   b) All "no activity" streams buffers are maintained between streams and mining
activities.
c) No shade trees or riparian vegetation are removed along stream banks.
d) All required planting, restoration and reclamation are completed at the end of each season.
e) All terms and conditions will be placed in all permits, grants, or contracts issued under the proposed action. All other required state and federal permits must be obtained and submitted to the USFS prior to the USFS authorization of the claims activities.

2) To implement reasonable and prudent measure #2 (stream fords), the USFS shall ensure that:
a) No stream ford crossings are located in known spawning habitat.
b) All motorized vehicles cross streams only during the in-water work period July 15-Aug 15 (ODFW 2008). If the miner proposes to ford outside the in-water work window, a USFS fish biologist will monitor during the spawning season at least weekly to determine that adult steelhead are not present and steelhead redds are not located at the crossing site. All crossings will be inspected and approved by USFS prior to use.

3) To implement reasonable and prudent measure #3 (water withdrawals), the USFS shall ensure that:
a) Water withdrawals will not reduce flows to an extent that prevents the free movement of juvenile fish between habitats.
b) Stream flow is measured, monitored and recorded during water withdrawals to collect data on sufficient flows needs for steelhead survival. Water monitoring collection will occur for each mine at least once per month each season during low flows for the following sites: Olive Tone mine on Olive Creek, Lightning Creek mine on Lightning Creek; and Tetra Alpha Placer, (lode and mill) mine on Boulder Creek.
c) Water withdrawal from instream flow cannot exceed more than State of Oregon established water rights, and must follow Forest Service required Fish Protection Measures during the summer low flow season.
d) All diversions from fish bearing streams must be properly screened.

4) To implement reasonable and prudent measure #4 (water quality), the USFS shall ensure that:
a) Process waste water is not discharged directly into streams occupied by MCR steelhead or designated as its critical habitat.
b) Chemicals which are toxic to fish will not be used in a manner that allows their entry into waters occupied by MCR steelhead or designated as its critical habitat.
c) A supply of sediment control materials (e.g., biofilter, sandbags, straw bales, wattles) is stored at each site.
d) Erosion controls are in place and properly installed from the commencement of disturbance through site restoration. Silt fences will be installed prior to placer activities adjacent to the streams.
e) Turbidity monitoring of all-mining related activities is required at each claim site, as follows:
i) Monitoring will occur at each site, a minimum of once annually at each stream ford crossings and 300 ft. downstream of the each active placer mining area.
ii) During maintenance and use of all stream crossings and temporary road crossings by vehicles and heavy equipment.
iii) During the construction of any new temporary road crossings, a visual sediment monitoring will occur during any ground disturbing activities.

iv) A visual sediment plume does not extend across more than half of the stream width.

v) If a sediment plume is observed, operations will cease and turbidity at the downstream location shall be recorded every 30 minutes until the plume has dissipated.

f) All in-water disturbance or discharge of return water shall be conducted to minimize sedimentation and turbidity in the stream.

g) All vehicles must be fueled, operated, maintained, and stored as follows. Vehicle staging, cleaning, maintenance, refueling, and fuel storage must take place in a vehicle staging area 150 ft. or more (or at pre-approved sites as distant as possible) from any stream, waterbody or wetland.

h) All vehicles operated within 150 ft. of any stream, waterbody or wetland must be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected must be repaired in the vehicle staging area before the vehicle resumes operation.

All equipment operated must be cleaned before beginning operations to remove all external oil, grease, dirt, and mud.

Inspections must be documented in a record that is available for review on request by USFS or NMFS.

i) A chemical and pollution control plan will be prepared and carried out, commensurate with the scope of the project, which includes:

i) The name, phone number, and address of the person responsible for accomplishing the plan.

ii) Best management practices to confine, remove, and dispose of waste, debris, discharge water, petroleum product, or other hazardous materials generated, used, or stored on-site.

iii) Procedures to contain and control a spill of any hazardous material generated, used or stored onsite, including notification of proper authorities.

iv) Steps to cease work under high flow conditions, except for efforts to avoid or minimize resource damage.

5) To implement reasonable and prudent measure #5 (monitoring and reporting), the USFS shall:
a) Provide NMFS with a copy of the annual monitoring report. It should include the following:

i) Information that is required to be provided to the ODEQ and/ or DSL describing the operator compliance with the placer mining rules and the results of visual turbidity monitoring log.

ii) In addition, submit the results of the Forest Service staff’s monitoring log and monitoring results of the downstream extent of the turbidity plume, its width across the stream, and the cubic yards of disturbed material based on the area measurements to NMFS.

iii) Provide monitoring information of water withdrawals, including dates, duration of withdrawals, amounts of water withdrawals, and stream flow measurements.

b) Submit reports upon project completion. To submit the monitoring report, or to reinitiate consultation, contact:

Interior Columbia Basin Office
Attn: WCR-2014-1415
National Marine Fisheries Service
1201 NE Lloyd Blvd., Ste. 1100
Portland, OR 97232-2182
Errata to Granite Creek Watershed Mining Project FEIS
(as of June 10, 2016)

FEIS Cover and Introduction: The project area is located in Grant County only, not Baker and Grant Counties.

FEIS Chapter 1: Under heading “Tribal Consultation” insert: USFS & CTUIR Natural Resource Committee/Program of Work Staff Meeting – 6/25/16

FEIS Summary, pg. S-7; and Chapter 2, Alternative 3, pg. 64: Replace the first bullet with the following: “Authorizing approval of 28 mining Plans of Operations, pending any 401 certifications, valid water rights or Plan amendments deemed necessary as a result of this analysis”. Plan amendments was added to the list.

Replace the 7th bullet with the following “Authorizing use of 10 existing fords on FS closed or existing miner-created roads”. The FEIS had an incorrect number (9).

FEIS Summary, pg. S-7; Chapter 2, Alternative 2, pg. 35; Chapter 3, Access/Transportation System, pg. 254: Replace the 5th bullet with the following: “Authorizing use of 9 existing fords on FS closed or existing miner-created roads”. The FEIS had an incorrect number (11).

FEIS Summary, pg. S-8; Chapter1, Decision Framework, pg. 13; and Chapter 2, Alternative 3, pg. 65: In discussions of water withdrawals that may increase stream temperatures, replace “To ensure consistency with Section 401 of the CWA...” with “To ensure consistency with Section 303d of the CWA...”

FEIS Chapter 2, Monitoring Under Chapter 2, pg. 60: For clarification, replace the second bullet with the following: “Forest Service requirements and protection measures developed during site-specific analysis have been incorporated into Plans”.

FEIS Tables 2-1 and 2-3: Eddy Shipman existing ford is located on Granite Creek, not Olive Creek.

FEIS Table 2-1: For Muffin: From Column 5 “Alternative 2”, delete “(approx 10 cubic yds/year)”. For Rosebud: From Column 5 “Alternative 2”, delete “(processing 2-10 cubic yds per year)”. Both changes are in line with response to comments 62 and 172 (FEIS Appendix 10).

FEIS Table 2-3 and Table 3-53: For Blue Sky/Bull Run, Road 7375-M1a, for clarification, replace the comment in the last column with the following: “Alt 3-during use, miner can modify existing barricade with gate to FS specifications.”

For Grubsteak, Road 1300-M1a, for clarification, replace the comment in the last column with the following: “Existing Miner's Bridge & Gate, existing ford on Clear Creek”.

A-71
For Hopeful 2-3, Road 1035-E1d, replace the comment in the last column with the following: “Existing Ford (Alt 2 = 1) (alt 3 = 1) Granite Creek”. Alt 2 incorrectly showed 2 fords.

For Tetra Alpha Placer, Road 7355-M3a, for clarification, replace the comment in the last column with the following: “Existing Boulder Crk ford”.

For Tetra Alpha Placer, Road 7355-M3c, replace the comment in the last column with the following: “Proposed Ford, Boulder (Alt 2 only)”. Alt 2 only was added.

For Yellow Gold, Road 7355050, for clarification, replace the comment in the last column with the following: “Alt 3 - during use, miner can modify existing barricade with gate to FS specifications.”

**FEIS Summary Table S-4; and Chapter 2, Table 2-6:** Replace Table 2-6 with the following. The table now includes existing and proposed fords.

### Comparison of Alternatives for Fish Issues/Key indicators for Fish

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
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</thead>
<tbody>
<tr>
<td># of Plans of Operations with stream fording</td>
<td>0</td>
<td>9 existing</td>
<td>9 existing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 proposed</td>
<td>1 proposed</td>
</tr>
<tr>
<td># of Plans of Operations with suction dredging in ESH or 303d listed Streams (acres of habitat)</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**FEIS Chapter 2, Table 2-7:** Replace Table 2-7 with the following. Changed number of Plans with LAA call for bull trout under Alternative 2 from 11 to 13.

### Table 2-7: Effects on Threatened, Endangered, and Sensitive Fish Species

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
</tr>
</thead>
<tbody>
<tr>
<td># Plans of Operations Likely to Adversely Affect /LAA ESA Listed Fish Species and/or their Designated Critical Habitat</td>
<td>bull trout # of Plans</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Steelhead # of Plans</td>
<td>0</td>
<td>18</td>
<td>11</td>
</tr>
</tbody>
</table>
**FEIS Chapter 3:** Change any reference to HUC 6 watersheds to HUC 12, and any reference to HUC 5 watersheds to HUC 10. This change in HUC designations was made by US Geological Survey during the course of this project’s analysis.

**FEIS Chapter 3, page 128:** Correct #s for Executive Orders. 11988 is for Protection of Floodplains and 11990 is for Protection of Wetlands.

**FEIS Chapter 3, Table 3-33:** Change headings in columns 2 and 3 from Determination of effects on steelhead and their DCH to Determination of effects on steelhead and/or their DCH.

**FEIS Appendix 10 (Comments and Responses):** The response to comment 185 is changed to clarify which parties are responsible for signing the final Plan of Operations. Response 185 is re-written to the following:

*Response 185*

Refer to Response 74c.

In some cases, there may be options for transferring a plan of operations to new owners. In working with the minerals administrator, those options can be discussed with both parties (*buyer and seller*) prior to or even after the sale of the claim. The transfer of a previously approved plan is based on many factors such as the age of the associated analysis, changes in the environment, new regulations and what the new owner/operator would like to do. In order for a plan to be approved, the *current owner/operator of the claim* and the Forest Service need to agree to the proposed plan and both sign off on the document. Proposed plans are reviewed for compliance with existing analysis and when there are changes in the plan or in the environment then new analysis may be necessary.

**FEIS Table 3-30 is adjusted to match Table 3-24 and clarify contents.**
The numbers in the 5th column were incorrectly copied into the FEIS, and the Table title and footnote were edited to clarify what the values in the table represent. See the corrected Table 3-30 below.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Distance to Steelhead DCH</th>
<th>Distance to Bull Trout DCH</th>
<th>Maximum Area of Active Surface Disturbance at any one time (in acres)</th>
<th>Approximate Total Area Potentially Disturbed from Mining Activities* (in acres)</th>
<th>Ponds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ponds</td>
</tr>
<tr>
<td>Altona</td>
<td>1.0 mile</td>
<td>&gt; 5.0 mi.</td>
<td>0.02</td>
<td>5</td>
<td>Build 2 10’x 20’ x 6’</td>
</tr>
<tr>
<td>Belvadear</td>
<td>20 ft.</td>
<td>&gt;5.0</td>
<td>0.25</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Blue Smoke</td>
<td>&gt;300 ft.</td>
<td>&gt;300 ft.</td>
<td>0.01</td>
<td>1.75</td>
<td></td>
</tr>
<tr>
<td>Blue-Sky/Bull Run</td>
<td>30 ft.</td>
<td>30 ft.</td>
<td>0.2</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Bunch Bucket</td>
<td>150 ft.</td>
<td>150 ft.</td>
<td>0.01</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Plan</td>
<td>Distance to Steelhead DCH</td>
<td>Distance to Bull Trout DCH</td>
<td>Maximum Area of Active Surface Disturbance at any one time (in acres)</td>
<td>Approximate Total Area Potentially Disturbed from Mining Activities* (in acres)</td>
<td>Ponds</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------</td>
<td>---------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>City Limits</td>
<td>200 ft.</td>
<td>200 ft.</td>
<td>0.01</td>
<td>1</td>
<td>E</td>
</tr>
<tr>
<td>East 10 Cent</td>
<td>10 ft.</td>
<td>2.0 miles</td>
<td>0.01</td>
<td>2</td>
<td>E</td>
</tr>
<tr>
<td>Eddy Shipman</td>
<td>10 ft.</td>
<td>10 ft.</td>
<td>0.25</td>
<td>2.5</td>
<td>Build 2 10'x 20' x 6'</td>
</tr>
<tr>
<td>Grubsteak</td>
<td>20 ft.</td>
<td>20 ft.</td>
<td>0.25</td>
<td>2</td>
<td>E</td>
</tr>
<tr>
<td>Hopeful 1</td>
<td>150 ft.</td>
<td>150 ft.</td>
<td>0.01</td>
<td>1</td>
<td>E</td>
</tr>
<tr>
<td>Hopeful 2 &amp; 3</td>
<td>50 ft.</td>
<td>50 ft.</td>
<td>0.25</td>
<td>3.5</td>
<td>Build 2 10'x 10' x 10' B 10' x 15' x 4'</td>
</tr>
<tr>
<td>L&amp;H Placer</td>
<td>0.5 miles</td>
<td>&gt;7.0 miles</td>
<td>0.01</td>
<td>8</td>
<td>E</td>
</tr>
<tr>
<td>Lightning Creek</td>
<td>150 ft.</td>
<td>150 ft.</td>
<td>0.12</td>
<td>5</td>
<td>E</td>
</tr>
<tr>
<td>Little Cross I</td>
<td>50 ft.</td>
<td>50 ft.</td>
<td>0.25</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td>Lucky Strike</td>
<td>&gt;2.0 miles</td>
<td>&gt;2.0 miles</td>
<td>0.01</td>
<td>2</td>
<td>E</td>
</tr>
<tr>
<td>Make It</td>
<td>50 ft.</td>
<td>50 ft.</td>
<td>0.01</td>
<td>2</td>
<td>E</td>
</tr>
<tr>
<td>Muffin</td>
<td>0.25 miles</td>
<td>0.25 miles</td>
<td>0.25</td>
<td>2.5</td>
<td>E</td>
</tr>
<tr>
<td>Old Eric 1&amp;2</td>
<td>150 ft.</td>
<td>150 ft.</td>
<td>0.01</td>
<td>1</td>
<td>E</td>
</tr>
<tr>
<td>Olive Tone</td>
<td>50 ft.</td>
<td>&gt;5.0 miles</td>
<td>0.02</td>
<td>2</td>
<td>Build 2 10'x 20' x 6'</td>
</tr>
<tr>
<td>Rose Bud</td>
<td>200 ft.</td>
<td>200 ft.</td>
<td>0.01</td>
<td>5</td>
<td>E</td>
</tr>
<tr>
<td>Royal White</td>
<td>&gt;2.0 miles</td>
<td>&gt;2.0 miles</td>
<td>0.01</td>
<td>3</td>
<td>Build 2 150' x 10' x 6'</td>
</tr>
<tr>
<td>Ruby Group</td>
<td>20 ft.</td>
<td>20 ft.</td>
<td>0.01</td>
<td>2.5</td>
<td>None</td>
</tr>
<tr>
<td>Sunshine/McWillis</td>
<td>0.25 mile</td>
<td>&gt;5.0 mile</td>
<td>0.25</td>
<td>2.5</td>
<td>E</td>
</tr>
<tr>
<td>Tetra Alpha Placer</td>
<td>25 ft.</td>
<td>25 ft.</td>
<td>0.5</td>
<td>8</td>
<td>E</td>
</tr>
<tr>
<td>Tetra Alpha Lode &amp; Mill</td>
<td>25 ft.</td>
<td>25 ft.</td>
<td>0.1</td>
<td>2</td>
<td>E</td>
</tr>
<tr>
<td>Troy D</td>
<td>25 ft.</td>
<td>25 ft.</td>
<td>0.01</td>
<td>8</td>
<td>E</td>
</tr>
<tr>
<td>Yellow Gold</td>
<td>&gt;2.0 miles</td>
<td>&gt;2.0 miles</td>
<td>0.07</td>
<td>9</td>
<td>Build 3 15'x 20' x 6', 1 E</td>
</tr>
<tr>
<td>Yellow Jacket</td>
<td>0.25 miles</td>
<td>&gt;5.0 Miles</td>
<td>0.25</td>
<td>7.5</td>
<td>Private Land</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.79 acres</strong></td>
<td><strong>104.45 acres</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*This is potential total area disturbed - due to operational size limits displayed in the column to the left, the entire area would not be disturbed at one time; this table does not include suction dredging.