



CuMo Exploration Project Team Summary of Supplemental Environmental Assessment

August 2013

The U.S. Forest Service (USFS) has released its Supplemental Environmental Assessment (SEA) regarding the CuMo Exploration Project. The SEA was prepared by the USFS and Enviroscientists, an independent third-party contractor working directly for the USFS. The report complements the Forest Service's 2011 Decision Notice and Finding of No Significant Impact. It will fulfill a court order to perform additional environmental evaluation prior to completing exploration of a large strategic metals asset in Idaho. The new report concludes that by following proper procedures, the exploration program can avoid or mitigate groundwater quality impacts – the key consideration for the federal district court.

The SEA resulted from an August 2012 decision rendered by Federal District Court Judge Edward Lodge in response to litigation by environmental groups. Those organizations challenged the Environmental Assessment process and Finding of No Significant Impact. Judge Lodge affirmed the Forest Service process and denied four of five claims in the litigation. However, he remanded the fifth claim regarding deficiencies in groundwater analysis to the USFS for further clarification.

The SEA focuses on the following subject areas:

- Additional analysis on potential impacts to groundwater quality;
- Additional mitigation and monitoring;
- An update to changes in status of the wolverine and gray wolf under the Endangered Species Act;
- New monitoring information provided by the project proponent, CuMoCo, on the great gray owl and northern goshawk;
- New information provided by CuMoCo on Sacajawea's Bitterroot;
- A Comprehensive Plan of Operation and Best Management Practices Checklist to minimize impacts of roads and drill pad construction and reconstruction.

CuMoCo has explored the CuMo Project since 2004, relying on scientific methodology and best practices in every facet of research and development. Corporate leadership believes the SEA affirms that exploration can proceed with no significant impact to the environment and a substantial positive impact on the local economy.

The release of the SEA initiates a 30-day public comment period, beginning August 20 and ending Sept. 18, 2013. During this comment period, individuals and organizations may provide written, facsimile, hand-delivered, and electronic comments concerning this SEA. Additionally, the USFS has scheduled open houses on September 3, 2013 (Idaho City), September 4, 2013 (Boise), and September 5, 2013 (Garden Valley/Crouch).

Written comments received by the USFS directly as well as those received at the public meetings will be placed on the Forest Service's project website www.fs.fed.us/nepa/fsusdapop.php/. The USFS will create an appendix to the decision document that includes all comments received on the SEA during the notice and comment period.

The Forest Service's response to the court focuses on the following:

ADDITIONAL ANALYSIS ON POTENTIAL IMPACTS TO GROUNDWATER QUALITY

Section 3.1 Soils and Geology: Additional information about soils and geology has been added to support the groundwater analysis and disclosures.

Section 3.2 Water Quality: The USFS has evaluated potential impacts to groundwater quality from CuMoCo's Proposed Action and Alternatives. This includes a comprehensive description of proposed "closed-loop" drilling process, management of the potential for drill fluid losses or gains, fluid disposal, and drill hole abandonment, as summarized here:

- CuMoCo will utilize diamond core drilling designed to remove rock samples during a short-time period and then plug and abandon the drill hole
- Drilling fluid will be continuously circulated by pumps in a "closed-loop system" that forms a coating on the borehole wall to confine most drilling mud to the borehole;
- Once alluvium is drilled through, any aquifers within the alluvial formations will be sealed off from each other, from surface water, and from any aquifers encountered deeper in the bedrock;
- When drilling is completed, drilling mud will be pumped into on-site sumps, located outside of steep slopes and areas where groundwater levels could rise above the bottom of the sump;
- Drill holes will be abandoned in accordance with state standards.

Section 3.2.1.1.2 Water Quality Standards: Although not required, CuMoCo has conducted limited surface water quality sampling in the Project Area. Laboratory analyses suggest that water in Grimes Creek, Charlotte Gulch, and Mohawk Gulch meet applicable Idaho surface water standards.

The historic Blackbird mill site, a separate parcel of patented claims located near the bottom of Charlotte Gulch, reportedly exceeds standards for zinc, cadmium and lead. The presence of these metals is due to the oxidation and weathering of minerals from historic mining activities. These are not associated with CuMoCo's exploration activities.

The Enterprise Group site is frequented by outdoor recreation enthusiasts who may encounter low concentrations of heavy metals, especially arsenic and lead, which DEQ has determined do not appear to pose a substantial health risk.

Section 3.2.1.2 Groundwater: The geology and mineralization of the Project Area suggest that:

- Permeability of crystalline rocks, their ability to transmit groundwater, generally decreases with depth.

- Granitic rocks underlying the Project Area are low producers of groundwater. Aquifers, if present, are low-yielding.
- Typical of intrusive dome deposits such as the CuMo deposit, most granitic rocks visible in Project Area outcrops and encountered during drilling are generally highly fractured or jointed near the surface.
- The likelihood of groundwater flow from the Project Area to the Payette River is remote and further consideration is not warranted because: no northerly orientation of structures and faults has been identified between the Project Area and the Payette River, and no springs have been identified on the escarpment.
- The water table (groundwater surface) is expected to mimic topography and gravity-discharge into local streams.

Section 3.2.1.3 Aquifer Units and Properties: Regional faults have been grouped in three sets: northerly trending, northwest trending, and northeast trending. Within the Project Area, a dominant northeast trending structural zone exists on the north side on the molybdenum mineralization.

Two primary aquifer-types have been identified in the Project Area. A near-surface “perched aquifer” occurs in open fractures to depths of 200 to 300 feet and appears to be present over the entire Project Area.

A second aquifer is deeper and spatially localized along faults and other structures present in parts of the Project Area. Multiple aquifers of this type are considered possible. They may or may not be connected to other fracture zones containing water, where flowing artesian conditions have been encountered.

Section 3.2.1.4 Groundwater Elevations and Flow Directions: Groundwater in crystalline systems like the Project Area typically follows: 1) near-horizontal in the near-surface open fractures that trend parallel to the ground surface; and 2) lateral or vertical flow in structural or fault controlled aquifers. Jointing, fracturing and faulting influence the direction and volume of groundwater flow.

Perched aquifers in the Project Area are likely to have some connection with surface water systems. This groundwater is likely flowing toward the west-southwest.

Deeper aquifers are confined to limited areas. Because a majority of faults and fractures have a northeast-southwest trend, any groundwater flow in these deeper aquifers would likely be in that direction. Groundwater flow rates likely average approximately 150 feet per year.

Section 3.2.1.5 Groundwater Recharge and Discharge: Groundwater recharge in the perched aquifer in the near-surface fractured bedrock is anticipated to principally occur within the local watershed via the infiltration of precipitation. Discharge primarily feeds the surface drainage system. Some portion of the water would flow into the more localized structures and faults and recharge the deeper aquifer.

Section 3.2.1.6 Groundwater Quality: Groundwater samples and analysis suggest a low likelihood of inherent contamination and contaminant mobilization and/or cross-flow induced by drilling operations. Analyses of groundwater samples indicate compliance with state water quality standards.

ADDITIONAL MITIGATION AND MONITORING

Section 2.3.2 Water Quality Mitigation: CuMoCo will implement Best Management Practices in the vicinity of newly constructed temporary roads to prevent sediment delivery to adjacent surface waters.

CuMoCo's Stormwater Pollution Prevention Plan and stormwater discharge permit will be maintained and updated throughout the life of the Project.

Water used in drilling fluids will be drawn from sources that meet state water quality standards. Drilling mud and hole plug products will conform to national guidelines for groundwater integrity. Material Safety and Data Sheets for all products will be maintained.

If artesian pressures result in flows from a drill hole, CuMoCo will increase drill fluid viscosity or abandon and plug the hole.

Surface seals on drill holes that do not require regrading will be completed below grade of the drill pad and covered with growth media.

Each active drill site will be routinely inspected to ensure compliance with drilling conditions and procedures.

Section 2.3.2 Water Quality Monitoring: During drilling operations, CuMoCo will:

- Monitor the amount of water used in each drill hole.
- Monitor and record drill fluid loss/gain by drill interval; quantity and use of loss circulation materials; and drill mud pump pressures.

CuMoCo will continue to perform inspections required under its EPA-issued Multi-Sector General Permit.

Section 2.3.3 Terrestrial and Avian Wildlife Mitigation: If an occupied wolverine natal den is discovered in the Project Area, the District Wildlife Biologist for the Boise National Forest will be notified and activities near the den site will be evaluated. If determined to be affecting denning, those activities will be suspended from April 15-May 15.

Section 2.3.3 Terrestrial and Avian Wildlife Monitoring: CuMoCo performed extensive monitoring for great gray owls and northern goshawks, and submitted reports to the Forest Service in 2012, which are included in the project record. CuMoCo will continue to perform monitoring for these species.

Section 2.3.5 Vegetation Mitigation and Monitoring: CuMoCo performed extensive surveys in 2012 and began implementation of a monitoring plan for Sacajawea's bitterroot. The surveys are included in the project record. CuMoCo will continue to implement its Field Procedures Manual specifying vehicle washing and monitoring procedures to minimize the spread of noxious weeds. CuMoCo will continue the Sacajawea's bitterroot monitoring program to assess population changes and impacts.

Section 2.3.7 Traffic and Public Safety Mitigation: CuMoCo has installed and will maintain signs to notify the public of active truck traffic.

Section 2.3.8 Fuel Transportation Requirements: CuMoCo will comply with state and federal regulations to transport, monitor, and handle fuels, lubricants, and containers to and on site. Only standard petroleum fuels and lubricants and “over-the-counter” retail products will be used.

Annual spill awareness and response training will be conducted for company personnel and suppliers. Any spills will be addressed in accordance with CuMoCo’s approved SPCC plan.

Section 2.3.9 Fire Safety and Emergency Response Procedures: Project activities will be conducted in accordance with State of Idaho, Boise County Fire District, and USFS fire protection rules and procedures. An emergency fire response plan will be posted onsite and personnel will be trained in emergency response procedures.

Section 2.3.10 Implementation Monitoring: The FS will use a checklist to ensure CuMoCo is complying with mitigation and monitoring requirements identified in Sections 2.3.1 through 2.3.9 prior to implementing any ground disturbing activities.

Section 2.4 Other Federal, State or Local Approvals Potentially Applicable to Both Action Alternatives: CuMoCo has entered into a Water Supply Bank Rental Agreement with the Idaho Department of Water Resources that expires November 2016.

CuMoCo submitted a Stormwater Pollution Prevention Plan and Notice of Intent to EPA and will update it as required.

CuMoCo obtained a 401 water quality Certification from the State of Idaho and will update it as required.

The USFS consulted with US Fish and Wildlife Service during preparation of the original EA. Additional consultation regarding a change in status for the wolverine will be completed before the final Supplemental EA decision is made.

CuMoCo entered into a Road Maintenance Agreement with Boise County and will continue to abide by its commitments.

Section 3.3.2.1.5 Rare Plants: A Supplemental Information Report concluded that the effects disclosure in the 2011 EA only required an update to reflect that additional survey information had been collected.

Section 3.5.2.1 Affected Environment / Direct and Indirect Effects:

- The SEA included additional information about CuMoCo’s Spill Prevention Control and Countermeasures Plan (SPCC) and Field Procedures Manual that minimize risks to Grimes Creek.
- While Boise County is responsible for general road maintenance for Grimes Pass Road along the fuel transport haul route, CuMoCo will provide additional maintenance to address the impacts of its commercial traffic.
- CuMoCo's daily vehicle trips will be limited.

- Petroleum products will be transported in USDOT certified slip tanks. The project's suppliers and transporters also must comply with federal regulations, ensuring slip tanks are properly sealed and leak proof.
- Contractors will be required to develop safety and health manuals, and perform routine vehicle inspections and safety meetings.

Section 3.7.2 Public Safety / Environmental Consequences: To reduce the risks of CuMoCo's operation resulting in unplanned fire events:

- CuMoCo will provide equipment and training necessary for immediate response to unplanned fire events;
- Equipment that could contact dry vegetation will have functional spark arresters;
- Personnel working in the area will have shovels, axes and fire extinguishers on site;
- Fire response kits strategically will be placed around the Project Area;
- On-site staff will monitor fire conditions and maintain a communication network with fire officials;
- The on-site Forest Service administrator will ensure compliance.

AN UPDATE TO CHANGES IN STATUS OF THE WOLVERINE AND GRAY WOLF UNDER THE ENDANGERED SPECIES ACT

Section 3.4.2.1.2 Wolverine: Wolverine may be sensitive to multiple forms of human disturbance. In Idaho wolverines generally occur in remote mountainous areas. The ongoing Idaho Wolverine Winter Recreation Research Project has documented wolverine presence in areas of both high and low winter recreation.

Wolverine denning overlaps with proposed project implementation of Alternatives A and B, i.e., April 15 – May 15. Thus the potential exists for den abandonment or dispersal. Modification of source habitat from the construction of temporary roads and drill pads would account for only 2.6 percent of the Project Area.

- Potential direct impacts associated with temporary road and drill pad construction, maintenance, and operation, i.e., collision-related mortality, are minor.
- CuMoCo traffic represents a small percentage of total usage by the general public.
- Traffic speeds would be relatively slow.
- Individual wolverines are highly mobile.
- Mechanical disturbance would likely discourage the presence of individual wolverine within the Project Area.
- Given the overall location of the Project Area and generally light snowfall accumulation, the likelihood of the presence and occupancy of a natal den would be low.
- At time of overlap in natal den occupancy and proposed activities i.e. April 15-May 15, kits are old enough to be mobile and atypically moved by the mother.

If an individual wolverine is sighted during road or drill pad construction or road maintenance work during April 15-May 15, disturbance activities near the den site could be suspended as directed by the District Wildlife Biologist.

Section 3.4.2.2.5 Gray Wolf: The SEA concludes that:

- Direct mortality would not be expected because wolves are highly mobile and can easily avoid construction equipment and humans.
- Deer and elk would leave the Project Area during winter and wolves would likely follow them and not be present until spring and summer.
- It would be unlikely to find a wolf den with pups along the proposed roads as pups are usually born in the early spring at which time deer and elk are likely at lower elevations. Because of the large territory size of wolves and the 5-7 year period of drilling, temporary road construction, and reclamation, it is unlikely wolves would choose the modified Project Area for denning.
- The Project Area is not a wilderness setting. Cabins, trails, motorized and non-motorized recreation occur in and near the area.

Given the wide ranging nature, large territory size, the ability of wolves to use multiple habitat types, and the success of wolf reintroductions, cumulative impacts to wolves from Alternatives A or B would be unlikely and minor.

ADDITIONAL MONITORING INFORMATION ON THE GREAT GRAY OWL AND NORTHERN GOSHAWK

No great gray owls were observed during 2007, 2011, or 2012 field surveys. One great gray owl was detected from playback calls during the 2012 field surveys.

Nesting of the great gray owl and northern goshawk may be impacted by noise and construction activities under Alternatives A and B. Any impacts would cease once the project is completed.

To mitigate potential impacts to nesting of these species under either action alternative, qualified personnel will conduct surveys for raptor presence and nesting activity prior to annual implementation of road construction and drilling activities in the spring or early summer. As appropriate, CuMoCo will implement protective measures to minimize disturbance of a nest site.

Past impacts on great gray owls and northern goshawks in the modified Project Area are likely undetectable today and would not substantially contribute to cumulative impacts when combined with the potential aspects of Alternatives A or B.

Conclusions and Overall Determination for Great Gray Owl and Northern Goshawk:

- 1) Any impacts would represent a small portion of existing source habitat;
- 2) Any impacts would be temporary to short term;
- 3) Minor large tree and/or snag removal may occur under either action alternative;
- 4) Any disruption or failure of nesting would be localized to the modified Project Area, and the species may be able to re-nest within the same season if disturbance ceases or wanes;
- 5) Source habitat occurs adjacent to the modified Project Area;
- 6) Nest survey mitigation measures minimize potential to disturb breeding;

- 7) There are no existing or reasonably foreseeable future projects in or near the modified Project Area that would significantly add to the relatively minor impacts of Alternatives A and B. The impacts of past actions in the modified Project Area are likely undetectable.

MONITORING OF SACAJAWEA'S BITTERROOT

Sacajawea's bitterroot is a USFS Region 4 Sensitive species and is thus-far not known to occur outside of the Boise, Payette, Sawtooth and Salmon Challis National Forests. The plant forms a small, herbaceous rosette of fleshy, notched leaves, with white flowers and a sturdy taproot that typically grows above 5,000 feet on sparsely vegetated, gravelly, well-drained soils. Plants flower from May to early July and become dormant quickly. Plants are no longer visible after mid-July. Suitable habitat for Sacajawea's bitterroot is generally described as xeric, rocky opening in mixed-Douglas fir and ponderosa pine stands.

During 2005-2006, almost 1,500 individuals of Sacajawea's bitterroot were counted by USFS Botanists during surveys of the work area originally proposed by Kobex Incorporated Ltd., and later taken over by CuMoCo. This was presumed to be an underestimate of population size, as the entire project area was not surveyed. Additional plant locations were identified in June 2007 in an expanded project area, and although individual plants were not counted, the estimated total population for Sacajawea's bitterroot in the CuMo area was raised to 2,000-4,000 plants.

The proposed Sacajawea's Bitterroot Monitoring Area bounds approximately 260 acres and delineates the portion of the Project Area where Sacajawea bitterroot plants have been previously located. This includes 150 acres considered to offer the greatest extent of suitable habitat and potential for additional unidentified individuals.

During the summer of 2011, subsequent to the issuance of the 2011 DN/FONSI and EA, field surveys were conducted for Sacajawea's bitterroot within the Sacajawea's Bitterroot Monitoring Area. During this survey, 13,621 individual Sacajawea's bitterroot plants were counted, nearly 10 times the 1,500 plants previously counted by the Forest Service. This count is also substantially higher than the 2,000-4,000 estimated to inhabit the entire CuMo site at the time the 2011 EA and DN/FONSI were prepared, yet the count was limited to the 260-acre monitoring area which covers less than ten percent of the entire CuMo site.

Since the 2011 survey took place only in the small monitoring area and counted individuals only in areas where Sacajawea's bitterroot was typically expected grow, it is now evident that there may be substantial unsurveyed Sacajawea's bitterroot populations and habitat at locations throughout the CuMo site.

A COMPREHENSIVE PLAN OF OPERATION AND BEST MANAGEMENT PRACTICES CHECKLIST TO MINIMIZE IMPACTS OF ROADS AND DRILL PAD CONSTRUCTION AND RECONSTRUCTION

Project Implementation: To gain USFS approval for construction or reconstruction of temporary roads and drill pads, CuMoCo would complete a pre-disturbance checklist addressing:

- Potential impacts to surface water;

- Road design and erosion control best management practices to be implemented;
- Monitoring for rare plants, the great gray owl, and northern goshawk within the Project Area; and
- Cultural resources.

Checklists would be reviewed by the Forest Supervisor to determine whether the anticipated effects are within the scope of the EA and decisions made in the Decision Notice/Finding of No Significant Impact (DN/FONSI).