207-01

FILE COPY

United States Department of Agriculture
Forest Service
Intermountain Region
Caribou-Targhee National Forest
1405 Hollipark Drive
Idaho Falls, ID 83401

ACTION MEMORANDUM

REQUEST FOR APPROVAL OF NON-TIME-CRITICAL REMOVAL ACTION AT POLE CANYON OVERBURDEN DISPOSAL AREA SODA SPRINGS RANGER DISTRICT CARIBOU-TARGHEE NATIONAL FOREST IDAHO

CERCLIS ID #
IDN001002245-02

USDA United States Department of Agriculture | Forest Service | Caribou-Targhee National Forest | 1405 Hollipark Drive Idaho Falls, ID 83401 208-524-7500

File Code: 2160 **Date:** October 2, 2006

Route To:

Subject: Request for Approval of a Removal Action for the Pole Canyon Overburden Disposal Area, Smoky Canyon Mine, Caribou County, Idaho

From: Jeffrey L. Jones

Thru: Larry Timchak

To: Regional Forester

I. Purpose

A release, or significant threat of a release of hazardous substances, has or is occurring that poses a threat to public health or welfare or the environment, on and/or from lands under the jurisdiction, custody, or control of the USDA Forest Service, Caribou-Targhee National Forest (National Forest System or NFS administered lands).

The purpose of this Action Memorandum is to request, and document approval of, a non-time-critical removal action at the Pole Canyon Overburden Disposal Area (the ODA). The ODA is part of J.R. Simplot Company's (Simplot) Smoky Canyon Mine, Caribou County, Idaho (the Site). This non-time-critical removal action is authorized by section 104 (42 U.S.C. 9604) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; 42 U.S.C. 9601 *et seq*) and is selected pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) 40 C.F.R. 300, *et seq.*

This proposed action is to address Pole Canyon Creek, which flows beneath a phosphate waste rock embankment in Pole Canyon. The Site Investigation (SI) determined that significant concentrations of selenium and other contaminants of potential concern (COPCs) were discharged into the environment down gradient and beneath the ODA. It is anticipated that Simplot will undertake the proposed non-time-critical removal action under an Administrative Settlement Agreement and Order on Consent (ASAOC).

II. Site Conditions and Background

A. Site Description

The Site is located in Caribou County, in the southeast corner of Idaho, approximately 10 miles west of Afton, Wyoming, and 23 miles east of Soda Springs, Idaho. Active mining and milling operations are along the eastern face of the Webster Range above, Sage Valley. Construction operations were initiated in 1983 subsequent to the joint issuance of a Record

of Decision signed by the U.S. Geological Survey and the Forest Service. Throughout the history of the Smoky Canyon Mine, Simplot has leased the mine from the United States under the Mineral Leasing Act and operated the mine. The mine itself is located on National Forest System land. Simplot disposes tailings from phosphate ore processing in basins east of the mine on State of Idaho and private lands. The Site includes the area where mine facilities are located on National Forest System land and the areal extent of contamination emanating from those facilities, and all suitable areas in very close proximity to the contamination necessary for the implementation of response actions. Contamination identified in the SI report extends east of the mine several miles onto adjacent private lands and downstream along the drainages of Sage Creek, Hoopes Springs, and Crow Creek.

1. Removal Site Investigation:

Simplot completed a Site Investigation (SI) in 2005 for the inactive portions of the Smoky Canyon Mine. Samples of surface water, ground water, soil, vegetation, fish, insects, and small mammals were collected and analyzed to identify the extent of contamination from the Site. Selenium in surface water was measured above background at Hoopes Springs, Sage Creek in Sage Valley, and in Pole Canyon Creek down gradient of the ODA (a reference map is included in Appendix A). Selenium, identified as a hazardous substance at 40 CFR 302.4, is the primary contaminant of concern at the Site. However, cadmium, chromium, copper, nickel, vanadium, and zinc are routinely sampled since there are indications these too could lead to pollution from the Site. These elements are contaminants of potential concern (COPCs) identified in the Area Wide Risk Assessment conducted by the Idaho Department of Environmental Quality (IDEQ), with Forest Service participation.

The Forest Service identified the Pole Canyon ODA and the groundwater transport of contaminants to Hoopes Springs as the area of highest priority because of the elevated selenium concentration in Hoopes Springs 2 miles downstream from the ODA. Selenium concentrations immediately downgradient of the Pole Canyon ODA are far above applicable standards. Ground water concentrations are as high as 1.48 milligrams per liter (mg/L) in the shallow alluvial aquifer and 0.822 mg/L in the deeper bedrock aquifer. These values are more than 30 and 16 times, respectively, the Maximum Contaminant Levels (MCLs) cited in the Idaho Groundwater Rule (IDAPA 58.01.11.200) Federal Drinking Water Standard for Human Health (40 CFR 141.51) of 0.05 mg/L. Surface water concentrations measured in May of 2006 at 0.936 mg/L are 187 times the cold water biota standard of .005 mg/L. At Hoopes Springs, the headwaters to a fish-bearing stream, selenium concentrations exceed the cold water biota standard. In May, 2006, selenium concentrations at Hoopes Springs were measured and reported from 0.007-0.019 mg/L. Selenium concentrations at Hoopes Springs are documented to be increasing gradually.

2. Physical location:

The Pole Canyon ODA is part of the Smoky Canyon Mine, which lies entirely on NFS lands of the Caribou-Targhee National Forest, approximately 23 miles east of Soda Springs, Idaho. Pole Canyon lies immediately south of mine panel (open pit) A and the office/mill/shop facility, and was used as the primary overburden disposal area for the development of the A, and to a lesser extent D, panels. The ODA is located at approximately the center of the mine between two mined out pits (Panel A and Panel D). The legal description is: Section 31, Township 08 South, Range 46 East.

3. Site characteristics:

The Smoky Canyon Mine is an active phosphate mine operated by Simplot since 1983. Under a 2003 Administrative Order on Consent (AOC), with the Forest Service as lead agency, Simplot undertook a Site Investigation (SI) to identify the source(s) of contamination at the Site and prepared a Draft Engineering Evaluation/Cost Analysis (EE/CA) to develop removal action alternatives to address releases of hazardous substances. In December of 2005, Simplot's draft Environmental Evaluation/Cost Analysis (EE/CA) identified several removal action alternatives. In May 2006, Simplot delivered their Final EE/CA. Panels A, D, the northern portion of panel E, the related waste embankments and the environmental pollution they create will be addressed in subsequent studies.

The Pole Canyon ODA contains approximately 30 million cubic yards (50 million tons) of run-of-mine waste material generated during the development of panels A and D. Waste rock from mining activities in panel A was end dumped from high on the slope into Pole Canyon to gravity separate material by size. Larger materials that rolled to the lowest points in the drainage became the coarse drain structure beneath the fill. Waste from panel D was added to the surface and western edge later.

Pole Canyon Creek originates west of the mine, high on Webster Ridge in a drainage south and parallel to Pole Canyon. Annual runoff and springs flow east through a French drain into the Pole Canyon ODA. Beneath the Pole Canyon ODA a portion of the flow is naturally lost to the permeable Wells formation, a porous and fractured limestone. During elevated flows, water passes through the fill and out the toe of the dump east of the mine a few hundred feet from the Forest boundary. Spring runoff in 2006 demonstrated that a surface connection between Pole Canyon Creek to Sage Creek periodically occurs. Highly permeable conditions in the alluvial materials in lower Pole Canyon, and extending into Sage Valley, infiltrate the entire discharge of Pole Canyon Creek during low flow conditions, especially when diverted for irrigation by the private landowner east of the mine.

Flow from Sage Creek passes through the mine in an engineered fish passage culvert and out into Sage Valley. Sage Creek then flows east across private lands to a confluence with Crow Creek, and subsequently, the Salt River, and the upper Snake River.

Water is currently infiltrating and passing beneath the ODA. A water balance performed as part of the investigation indicates more water is entering the ODA inlet, than is discharging from the ODA outlet. Evidence developed from the SI shows that the ODA was placed over the Wells Formation, which is a highly permeable, sandy limestone formation. The Wells formation, identified by Dale Ralston (1980) and others, occurs throughout southeast Idaho and is the regional ground water aquifer. The ability for large quantities of water to infiltrate along outcrops and from areas where the outcrop intercepts streams provides the recharge for this system. Many streams that flow over the formation, except in times of high flow, tend to subside, as the water flows into this fractured and sandy limestone.

The SI determined that contaminated water infiltrating beneath the ODA intercepts the Wells Formation. Stream water infiltrating into the Wells Formation flows southward along the Sage Valley Branch fault (thrust fault) emerging at discharge points at Hoopes Springs.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant:

   There is a release of selenium from the Pole Canyon ODA into Pole Canyon Creek, Sage Creek and further into Crow Creek and the groundwater feeding Hoopes Springs.

   Additionally, selenium is bioaccumulating in the vegetation used to reclaim these facilities and in the fish and wildlife that reside in close proximity to this Site.

5. National Priorities List (NPL):

   This site is not listed on the Environmental Protection Agency's (EPA) NPL.

6. Maps, pictures, and other graphic representations:

   See Appendix A for the site and overall project area maps.

B. Other Actions to Date

Several pilot studies are in place at seeps around the Site. These study areas were developed to isolate seep water from megafauna using the site as drinking water sources. Large diameter non-seleniferous rock was placed over surface exposures for this highly

contaminated water. Visual monitoring indicates that this measure is effective to eliminate surface exposure to large animals, however, the fate of the contamination where it flows into the alluvial groundwater system in still uncertain.

Additionally, Simplot has installed fencing as an institutional control on some seeps and sediment ponds to isolate these from livestock as a water source.

C. State and Local Authorities Role

1. State and local actions to date:

In 2000, the Federal and state agencies responsible for the administration of phosphate mining and the management of environmental resources joined with the Shoshone-Bannock Tribes to sign a Memorandum of Understanding (MOU) detailing a joint response to releases of hazardous substances from phosphate mining operations throughout Southeast Idaho and the Fort Hall Reservation where mining had occurred. That document describes lead and support agency roles in the response to releases at any of the sites identified in the MOU.

At the Smoky Canyon Mine site, the Forest Service was designated lead agency in the development of an Administrative Order on Consent that legally commits J.R. Simplot Co. to conduct a Site Investigation (SI) and Engineering Evaluation Cost Analysis (EE/CA) at the Smoky Canyon Mine. IDEQ, and EPA chose to sign the AOC with the Forest Service and J.R. Simplot Co. as support agencies to this process.

The State of Idaho is represented by the Idaho Department of Environmental Quality (IDEQ). IDEQ concluded an area wide investigation, Risk Assessment, and development of a Risk Management Plan for all phosphate mining areas in Southeast Idaho and the associated environments. IDEQ performed this work under a Consent Decree/Administrative Order on Consent signed by the active and former phosphate mining companies, the participating agencies and Shoshone-Bannock Tribes in 2000.

IDEQ is also the lead response agency for several individual southeast Idaho phosphate mines. At the Smoky Canyon Mine Site, IDEQ is one of the support agencies that review, comment on and provide input on the actions at the Site to assure that state applicable or relevant and appropriate requirements (ARARs) are met. The Forest Service has briefed Soda Springs and Caribou County elected officials regarding the Site.

Idaho Department of Health (IDH), in cooperation with the Agency for Toxic Substances and Disease Registry, conducted a health assessment for the southeast Idaho phosphate mining region. IDH published its conclusions in 2006 on

the internet and provided those conclusions to the agencies participating in the selenium investigations. [1] IDH concluded, that based on current land use practices, there is no threat to human health.

2. Potential for continued State/Local response:

IDEQ remains the lead agency for the final components of the area wide investigations as it conducts and formulates Total Maximum Daily Loads (TMDL) for streams impacted by phosphate mining in southeast Idaho. IDEQ continues to provide technical advice as a support agency at all the Forest Service lead sites, including the Smoky Canyon Mine Site. IDEQ's role, as identified in the 2000 Interagency/Tribal Memorandum of Understanding, continues as IDEQ serves as the lead agency at several phosphate mine sites across SE Idaho.

III. Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities

Conditions at this Site meet the criteria for a non-time-critical removal action as stated in the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 CFR 300.415, as follows:

A. Threats to Public Health or Welfare or the Environment

1. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; (40 CFR 300.415(b)(2)(i)):

The Smoky Canyon SI report establishes that discharges of water from Pole Canyon exceed Clean Water Act criteria of .005 mg/L for the protection of aquatic life (40 CFR 131.36) for selenium in freshwater. Ground water, suspected to transport selenium from the Pole Canyon ODA, discharges as Hoopes Springs, nearly two miles down gradient, at concentrations measured in 2006 at .019 mg/L, or nearly four times the regulatory criteria. Hoopes Springs is a set of springs that merge into a single stream on private land adjacent to the NFS lands boundary. Flow from the spring system passes east through Sage Valley across private lands to form a confluence with Sage Creek. Both of these streams contain habitat suitable for spawning by resident and migratory trout from Crow Creek and potentially the Salt River in neighboring Wyoming. Data collected as part of the SI, and a parallel NEPA analysis, indicate selenium is present in the water column, sediment, the food chain, and fish associated with these streams.

[1] Southeast Idaho Phosphate Mining Resource Area Bannock, Bear Lake, Bingham, And Caribou Counties, Idaho EPA Facility Id: IDN001002245 February 24, 2006, U.S. Department of Health and Human Services Public Health Services, Agency for Toxic Substances and Disease Registry

Water borne concentrations of selenium emerging from Hoopes Springs were first reported as near the regulatory criteria in J.R. Simplot Co.'s 1997 annual water quality report. Since then, values have increased with the highest concentrations recorded during the spring sampling period in 2006. In addition, selenium concentrations in water column measurements from Sage Creek and further downstream in Crow Creek were the highest in 2006 and extended further downstream than previous monitoring indicated. Slightly higher than normal winter precipitation in 2005-2006, coupled with a rapid snowmelt, mobilized selenium in surface water at unprecedented concentrations.

The adjacent landowner has historically utilized water from all of the affected drainages associated with the Smoky Canyon Mine as flood irrigation water. SI data did not indicate that selenium is bio-accumulating in Sage Valley vegetation; however, continued use of polluted irrigation water could lead to a situation similar to that seen in 1997, downstream of the Maybe Canyon overburden disposal area. At that site, horses that grazed on pasture irrigated with selenium polluted water developed chronic selenosis from exposure in forage and drinking water and were consequently destroyed.

Data from alluvial water wells in Sage Valley indicate that selenium exceeded Idaho's Groundwater Quality Rule standard (IDAPA 58.01.11.200) in two monitoring wells down gradient in Sage Valley. In addition, copper, cadmium, and total chromium exceeded "Removal Action" levels presented in the Area Wide Risk Management plan. Secondary contaminants, sulfate and manganese, were also measured above the regulatory criteria stated in the Idaho Groundwater Rule.

2. Actual or potential contamination of a drinking water supply or sensitive ecosystem (300.415(b)(2)(ii)).

Selenium levels in Pole Canyon Creek in 2005 ranged from non-detect above the ODA (background) to nearly 1.5 mg/L below the ODA, almost 300 times the cold water biota criteria of 0.005 mg/L (40 CFR 131. 36). At Hoopes Springs, two miles distance downstream from the ODA, selenium levels ranged from 0.007 mg/L to 0.019 mg/L in 2006, a level up to four times the cold water biota criteria and an increase over previous years. Leachate produced from creek water and precipitation infiltrate the waste rock passing into and through the Pole Canyon ODA. Infiltration in part, enters the ground water flow system beneath the ODA through the Wells formation and highly fractured West Sage Valley fault system to emerge as a component of Hoopes Springs flow. Another component of the infiltration continues through the ODA to contribute to Pole Canyon Creek.

Hoopes Springs is a source stream for Sage Creek. It emanates from the West Sage Valley Branch Fault, on the west side of Sage Valley, between Sage Creek and South Fork Sage Creek. Hoopes Springs' average flow is about 6-7 cubic feet per second.

Hoopes Springs, Crow, Sage and South Fork Sage Creeks are fish bearing streams which contain Yellowstone cutthroat trout, and other fish species. Pole Canyon Creek has a surface connection to Sage Creek during high flow events. Yellowstone Cutthroat trout were petitioned for listing as a threatened species in 2004 under the Endangered Species Act (ESA); however, in a news release published by the U.S. Fish and Wildlife Service (FWS) on February 21, 2006, FWS indicated that Yellowstone cutthroat trout did not warrant ESA protection at that time. Yellowstone cutthroat trout are still considered sensitive by the Forest Service and warrant special consideration in actions taken by the agency.

Pole, Sage, South Fork Sage and Crow Creeks all serve as a source of drinking water for grazing animals, primarily sheep, cows, and wildlife in the area. Seasonal residences in Sage Valley get culinary water from wells and springs associated with younger geology in the hills east of the alluvium groundwater system in Sage Valley.

3. The availability of other appropriate Federal or State response mechanisms to respond to the release (300.415(b)(2)(vii)).

No other appropriate Federal or state response mechanism is available to timely and adequately respond to the selenium releases at the ODA.

IV. Endangerment Determinations

Actual or threatened release of hazardous substances from this Site, if not addressed by implementing the non-time-critical removal action selected in the Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. Proposed Actions and Estimated Costs

A. Proposed Action

1. Proposed Action description

The proposed action consists of:

1. a 30" pipeline to divert Pole Canyon Creek around the Pole Canyon ODA;
2. an infiltration gallery to collect all water not diverted by the pipeline and to inject that water into the Wells Formation aquifer;
3. a run-on ditch on the north side of the ODA to collect water before it flows onto the dump; and
4. effectiveness monitoring of parts 1-3.

If Simplot is to divert the run-off from the Spring of 2007, and the expected surge of selenium contamination into groundwater and surface water, there is an urgent need to start construction during the early Fall of 2006 in order to complete the water diversion project before winter.

The proposed action would divert Pole Canyon Creek, upstream of the Pole Canyon ODA, into 30-inch HDPE (high density polyethylene) and concrete pipes, over the top of the ODA, and back into the Pole Canyon Creek channel below the ODA. This action will prevent Pole Canyon Creek water from entering the waste rock, collecting selenium while under the ODA, and entering the Wells Formation groundwater system. Implementation of the proposed action would have an immediate effect to reduce the release of contaminants from waste rock stored in the Pole Canyon ODA. However, monitoring would be designed to detect changes in surface and groundwater quality from the action. The SI report predicts that without monitoring, changes in water quality would be detected at Hoopes Springs in approximately ten years.

Water flowing into Pole Canyon Creek below, or otherwise not captured by the diversion, would enter an infiltration gallery constructed at the inlet side of the ODA. The EE/CA analysis predicts that water entering the infiltration gallery will flow into the Wells Formation aquifer as clean water, instead of entering the ODA, picking up selenium and other COPC before entering the aquifer.

The third part of the plan is to build a run-on diversion ditch on the north upgradient edge of the ODA. This ditch will collect run-on water that flows off the undisturbed land and onto the ODA. This water will be sent through the ditch and released into the Pole Canyon Creek channel below the ODA.

Proper monitoring is required to evaluate the effectiveness of the proposed action. A site specific monitoring plan incorporating existing groundwater wells and additional groundwater wells, downgradient of the Pole Canyon ODA, should measure selenium and COPC concentrations in the shallow and deep aquifers, as well as demonstrate the relative effectiveness of the diversion. The EE/CA infers an immediate reduction in the selenium load discharged from the ODA as the diversion effectively reduces the volume of polluted water to shallow and deep ground water fed by infiltration beneath the dump and to Pole Canyon Creek. Monitoring plans developed for the Site will include leak detection for the pipe and the development of remedies when problems arise. The Operations and Maintenance and Monitoring Plan developed for the site will include leak detection, contingency plans to address system failures, and monitoring to determine the effectiveness of the remedy.

The decision to implement this set of alternatives is based on the factors of implementability, effectiveness, and cost. All of the actions presented here are implementable with the expectations that they address the removal action goals for

the site. It is not expected that these removal actions will by themselves be effective as the sole remedy to comply with ARARs for the site, but they will serve to compliment other actions expected to meet the Removal Action Goals.

When effectiveness of the alternative is considered, diverting Pole Canyon Creek will effectively isolate the source of hazardous substances from creek water that is currently transporting hazardous substances from the site.

Cost was a secondary consideration when compared to implementability and effectiveness, considered in selecting this alternative for controlling the release of hazardous substances from the site.

2. Contribution to remedial performance

This proposed non-time-critical removal action represents the first of what are expected to be several CERCLA response actions at the Site . Pole Canyon represents only a portion of this large site. The Forest Service expects to conduct a comprehensive remedial action at the conclusion of a CERCLA Remedial Investigation/ Feasibility Study (RI/FS). It is expected that the draft EECA and subsequent RIFS will result in a more comprehensive study of the site and cleanup alternatives. A more comprehensive study of the Site and response action alternatives will result. Capping to reduce or prevent infiltration, soil and waste amendments, revegetation, and water treatment were all envisioned as additional response alternatives in the draft EE/CA.

Simplot is currently conducting greenhouse studies to determine if mixing biosolids into the material on the surface of the Pole Canyon ODA will assist with reducing the amount of precipitation infiltrating the ODA and thereby reducing COPC loading to groundwater A future more robust field test of this hypothesis, with monitoring, is anticipated in the near future. The proposed non-time-critical removal action is likely a component of any final remedial action. It should initiate the reduction of selenium loading from the ODA, and is likely to complement rather than duplicate the positive effect of other potential response actions. For example, if water treatment is determined to be necessary, the diversion of clean water is anticipated to decrease the quantity of contaminated water requiring treatment.

3. Description of alternative technologies

None.

4. Engineering Evaluation/Cost Analysis (EE/CA)

The Forest Service released a revised EE/CA for the Smoky Canyon Mine, describing the Pole Canyon ODA diversion project, to the public for review and comment in June 2006. [2] The Forest Service accepted the EE/CA for the limited

[2] Legal Notice, Idaho State Journal initially on May 28,2006 and again June 7, 2006

purpose of reaching a decision for the ODA diversion only.[3] As discussed above, the Forest Service anticipates proceeding with an RI/FS (CERCLA remedial process) to comprehensively respond to selenium and other hazardous substances at the Site. The Forest Service received over 52,000 comments on the EE/CA. A response to significant comments is included in the Administrative Record.[4]

Several commenters expressed frustration and dissatisfaction with the public involvement process. Significant comments discussed the inadequacy of the diversion as the sole remedy to treat releases from the Site and recommend a more comprehensive plan. Significant commenters often expanded the scope of comments to include issues discussing overall dissatisfaction with the EE/CA and the ability of the document to adequately address the complex issues at the site. Commenters focused on the controversial issues surrounding the application of Appendix F for the development of Site Specific Criteria at the site. Selenium criteria for aquatic habitats is, under review at the national level, drawing interest from scientists concerned that the current water quality criteria measured in surface water is inadequate to determine effects on aquatic environments.

The Forest Service agrees that the proposed action is not likely to fully address the releases at the Site. Rather, as explained above, the proposed action is an important first step to begin reducing the releases and their impact on the environment. Many of the commenters are concerned that the proposed action is linked to Simplot's proposed expansion of the Smoky Canyon Mine into the Manning and Deer Creek leases. The proposed action will be a decision made under CERCLA to address the release and threatened release of hazardous substances from the Pole Canyon ODA. It is important to address this contamination, regardless of whether mining continues at the Smoky Canyon Mine. This CERCLA decision does not address future mining at the Smoky Canyon Mine. That decision is the subject of a separate National Environmental Policy Act (NEPA) process. Additionally, more detailed responses to significant comments are provided in the administrative record.

5. Applicable or relevant and appropriate requirements (ARARs)

The NCP requires that removal actions attain ARARs under Federal, state environmental, or facility sitting laws to the extent practicable, considering the exigencies of the situation.

Attached, in Appendix B, is a summary of Federal and state ARARs that have been identified or otherwise considered for this project. ARARS were submitted, reviewed, and commented on by the CERCLA support agencies, including IDEQ, and their sister agency Idaho Department of Lands (IDL).

---

[3] June 7, 2006 Correspondence from Jeff Jones to Alan Prouty
[4] September 20, 2006 Comment response letter to the GYC and Experts

As discussed above, the proposed action is designed to reduce selenium loading into Pole Canyon Creek, the down stream alluvial aquifer, and the Wells Formation aquifer. It is anticipated that the proposed action will substantially improve water quality over time, but alone it will not immediately satisfy water quality criteria ARARs. Surface water may not be improved to below 0.005 mg/L total recoverable selenium (40 CFR 131.36). Ground water quality will improve as a result of the action, but this action may not achieve less than 0.050 mg/L total recoverable selenium in drinking water and ground water (40 CFR 141.51, and IDAPA 58.01.11.200). Other primary and secondary contaminants (particularly in ground water) e.g. cadmium, manganese, sulfate, zinc, and copper are expected to respond positively to the diversion of Pole Canyon Creek around the waste stored in the ODA.

To the extent practicable, efforts will be made to attain ARARs such as conformance with the Endangered Species Act (ESA), CWA 404 with Protection of Wetlands Executive Order 11990, Archeological Resources Protection Act (ARPA) and other state and Federal rules identified in the Area Wide Risk Management Plan.

As examples:

A determination of No Effect was made for the project with respect to threatened and endangered species at this site.[5] Forest Service biologists prepared *a* Biologic Assessment and Biologic Evaluation for this project.

The Forest Service completed a cultural resource survey of the project area. Review and concurrence with the conclusions developed in the report is pending with the Idaho State Historic Preservation Office (SHPO).

Executive order for the protection of wetlands requirements will be met since base flow conditions will be maintained in the reach of Pole Canyon creek between the diversion and the infiltration gallery. Water in this reach will sustain existing riparian species. Overall improvements in downstream water quality are expected to improve conditions in any affected wetlands environments on private and public lands.

Guidance provided in the executive order states: "(b) The term "base flood" shall mean that flood which has a one percent or greater chance of occurrence in any given year." As further interpreted in the order, the flood that has a 1% or greater chance of occurrence is calculated as the 100-year flood using the following simple probability equation:
$P = 1/T$

6. Project Schedule

[5] September 8, 2006, Damien Miller to Jeff Jones

For planning purposes, the proposed action will be phased as appropriate to be completed no later than the summer of 2007. Records show that winter weather conditions can and often does occur at this site in October or early November. To meet the engineering requirements for this type of construction project, installation of the diversion, pipeline installation, and energy dissipation structure must be completed before winter weather conditions set in. Generally, by the end of October, construction must be concluded and equipment demobilized from the Site. Time extensions to continue work will be considered based on site conditions. Early onset of winter weather could stop work, and work extensions could be granted if good construction conditions persist beyond October. To accomplish this, on-site construction must begin by no later than October 2006, and is expected to take 7 weeks. Installation of the diversion, pipeline and energy dissipation structure in 2006 are crucial to reduce discharges anticipated during high flow conditions during the spring of 2007. Completion of any remaining construction (run-on control structure and the infiltration gallery) will occur in 2007. The site work construction schedule is located in Appendix C.

B. Estimated Costs

The estimated costs for this project are itemized in Appendix D. The removal action cost estimate was completed by Simplot and their contractor. The total for this project, which includes the diversion of Pole Canyon Creek, the infiltration gallery and the run-on control ditch, is $3.5 million.

VI. Expected Change in the Situation should action be delayed or not taken

Pole Canyon Creek will continue to enter the Pole Canyon ODA and leach selenium from the waste rock and transport it to the Wells Formation aquifer and out the toe into the shallow alluvial aquifer in Sage Valley. Hoopes Springs will continue to discharge selenium laden water at 2 to 3 times the chronic surface water criteria (0.005 mg/L) listed in 40 CFR 361.36. The concentrations there may continue to increase without intervention. Groundwater near the ODA and downgradient in the Sage Valley alluvial aquifer will remain polluted above the Federal Drinking Water Standards for human health (0.05 mg/L) for selenium and may degrade further above Federal and State of Idaho Groundwater standards IDAPA 58.01.11.200 for selenium and other COPCs.

VII. Outstanding Policy Issues

At this time, there are no outstanding policy issues.

VIII. Enforcement

J.R. Simplot Company has leased and operated the Smoky Canyon Mine during its operational history. The Forest Service anticipates that Simplot will sign an Administrative Settlement Agreement and Order on Consent (ASAOC) with the Forest Service, EPA and IDEQ. Simplot would perform the proposed action under the ASAOC.

IX. Recommendation

This decision document represents the selected removal action for the Smoky Canyon Mine site, Pole Canyon Overburden Disposal Area, Caribou County Idaho, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site. Total cost is estimated to be $3.2 million and it is anticipated the remedy will be implemented by Simplot under the review of the Forest Service and support agencies.

Conditions at this Site meet the NCP 300.415(b) (2) criteria for a removal action. I recommend your approval of the proposed removal action.

Approved:

Jack Troyer
Regional Forester
Intermountain Region

10/2/06
Date