

**\*\*DRAFT REGION 10 MINING STRATEGY\*\*  
2006 – 2008**

**EPA Region 10**

**INTRODUCTION**

This document describes EPA Region 10's strategy for addressing the challenges posed by historic, active, and proposed mines in Region 10. Region 10 includes the states of Alaska, Idaho, Oregon, and Washington. There are thirteen active mines in Region 10 and two new large mines under development in Alaska. There are proposals for eight new mines that are in or near to entering the environmental review phase. Our work on new and active mines is one of EPA's regional priorities. In some parts of Region 10, inactive and abandoned mines have resulted in adverse impacts on the environmental and risks to human health. Significant EPA resources are committed to assessment and remediation of some of these mine sites.

The Region 10 Mining Strategy summarizes, by state, our currently known regulatory program obligations related to the mining industry over the next three years and identifies actions to support meeting these obligations. The specific actions to be undertaken were developed to maintain the Region 10 Mining Team expertise, provide program improvements and increase efficiency, coordinate our actions with those of other agencies and stakeholders, and allow for focusing of resources.

**BACKGROUND**

Mining has played a significant role in the development of this country. The industry has, and continues to be, an important contributor to Regional economies in the Northwest and Alaska. As mining continues to expand in Region 10 and abandoned mines continue to have impacts on human health and the environment, EPA must find ways to continue to work effectively with mining stakeholders, including other federal agencies, states, tribes, local stakeholders, and industry, to promote environmental protection goals. This strategy provides a framework for that effort and plans for EPA Region 10's involvement in mining activities over the next 3 years (2006 through 2008).

Mining projects pose unique regulatory and technical challenges. As an industrial sector, mining work affects every major EPA program, including programs implementing the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Safe Drinking Water Act (SDWA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Resource Conservation

and Recovery Act (RCRA). Some of these authorities are delegated to some of the Region 10 states. In addition, the states have their own statutory programs related to mining. Mines on federal land are regulated by the federal land management agencies, including the U.S. Forest Service (USFS) and Bureau of Land Management (BLM). The complex array of federal and state environmental regulations can create a challenge for agencies who must coordinate their actions. This Region 10 Mining Strategy promotes meeting our regulatory obligations related to the mining industry, while working closely with other agencies and tribes to coordinate efforts and assure that EPA resources are effectively utilized as part of an overall team effort.

From a technical perspective, mines can vary extensively in size and environmental impacts. Impacts can include large areas of land disturbance, habitat loss, and changes in water quality and quantity due to the process of mining, disposal of waste rock, disposal of tailings, and wastewater discharges. Impacts from mining sites can occur over many years and remedies may be costly. The Region 10 Mining Strategy promotes maintaining and enhancing our technical expertise in mine site evaluation and remediation and the use of cost-effective environmental controls at proposed, existing, and historic facilities to minimize the current and future costs incurred by the public.

Significant EPA resources are involved in work on mining sites in Region 10. This is reflected in the fact that more than 90 Region 10 employees are involved with mining projects in some capacity. They work in many different EPA programs, often on the same projects, applying different tools and expertise to achieve environmental protection goals.

In recognition of the cross-programmatic nature of EPA's regulation of mining activities, the technical challenges posed by mining sites, the need to coordinate effectively with other stakeholders, and the need to promote consistency in the regional response, in 1995, Region 10 management endorsed the development of a regional mining team lead by a regional mining coordinator. The regional mining team consists of staff involved in mining issues from all the EPA programs. A core team of the regional mining team developed the original Region 10 Mining Strategy. An important component of the Region 10 Mining Strategy is maintaining the expertise of the Region 10 mining team.

The development of regional mining teams and strategies is consistent with action items in EPA's National Hardrock Mining Framework (NMF) issued by the Office of Water in 1997. The NMF describes the environmental protection challenges mining projects can present and emphasizes problem solving by working with other stakeholders in an open, cooperative manner whenever possible. The NMF discusses the various regulatory and non-regulatory tools in the EPA "toolkit" for addressing these problems. It also recognizes the role of other federal agencies, Tribes, States, local government, and industry in promoting environmentally sound mine site management. One expectation of the NMF is that EPA Regions with significant mining activity will tailor Framework recommendations to their own regional issues and priorities.

The regional mining coordinators and the mining team developed the first draft region 10 mining strategy in 1998. The 1998 Region 10 Mining Strategy specified strategic principles to guide EPA's involvement in regulation of mining sites and strategic actions and state-by-state priorities consistent with the strategic principles. The strategic principles have been retained in this updated Region 10 Mining Strategy. The strategic actions and state-by-state priorities have been updated to reflect actions that have been accomplished and current priorities. In 2005, the acting Regional Administrator of EPA Region 10 included work on new and active mining projects as one of Region 10's seven regional priorities. This Region 10 Mining Strategy is consistent with the regional priority plan for mining and many of the recommendations and action items in the NMF.

The Region 10 Mining Strategy consists of the following sections: Program Goals and Strategic Principles, Strategic Actions, and State-by-State Priorities. The "Program Goals and Strategic Principles" section outlines the overall objectives of the Region 10 Mining Strategy and the strategic principles used to guide strategy development. The "Strategic Actions" section describes actions meant to implement the strategic principles. Mining program work anticipated for the next three years (2006 – 2008) is described in the "State-by-State Priorities" section.

## **PROGRAM GOALS AND STRATEGIC PRINCIPLES**

Following are the overall objectives of the Region 10 Mining Strategy:

- To protect human health and the environment through the appropriate and timely application of statutory authorities and creative usage of available tools and influence at proposed, active, and abandoned mine sites.
- Coordinate EPA's mining work within the Region 10 offices.
- Coordinate our actions with those of other agencies, states, tribes, industry, and other entities to increase effectiveness.
- Strategically target discretionary resources to the highest priority mines, watersheds, or programmatic areas.

The Region 10 Mining Team identified the following eleven Strategic Principals to meet these goals and guide mining program improvements.

**1) Understand the Environmental Impacts of Mining.** - Mining has a significant impact on the environment in Region 10. Impacts can include large areas of land disturbance, loss of habitat, changes in water quality and quantity, and a variety of secondary and tertiary impacts. It is essential to clearly understand these impacts to develop an effective EPA Region 10 Mining Strategy and to deal with environmental concerns at individual sites where EPA has a regulatory responsibility.

**2) Early Involvement** in new mining operations is critical - Region 10 needs to be actively involved in the earliest stages of mine site evaluation and planning. As our understanding of the impacts of mining improves it will be critical to apply these lessons learned to new mine development. A pro-active approach to problem identification and problem solving is far preferable to a reactive mode. Predictive tools should be improved, and widely applied, to maximize the value of early involvement.

**3) Developing and Maintaining Effective Partnerships** with other agencies, states, tribes, and industry - EPA needs to be an effective partner with other stakeholders to maximize our contribution to overall improvements in addressing environmental issues in the mining sector. States, tribes, and other federal agencies often provide a leadership role in mine site management. By sharing our experience and expertise, and utilizing the experience of others, we will be able to leverage our limited resources to achieve greater benefits.

**4) Focus Efforts on Priority Sites/Watersheds** - Even though our work on mining is a regional priority, EPA has limited resources. Consequently, resources must be devoted to the highest priority problems. This is particularly important in dealing with the large numbers of inactive and abandoned mines.

**5) Use Existing Tools More Effectively** - There are many tools available to address the environmental consequences of mining. EPA, states, other federal agencies, local government, and tribes all have programs, both regulatory and non-regulatory, that apply to mine sites. A primary element of this strategy is to understand the tools available to EPA and others to address mining, and to use them more effectively.

**6) Maintain/Enhance In-house Expertise** - Mine site environmental issues are very complex. Many disciplines are called upon to fully evaluate potential mine site impacts. Experience has taught us that it is imperative that EPA have competent in-house staff to evaluate mining projects. This technical capability is essential to effective EPA program delivery and increases our credibility with state and federal partners, and the regulated community. By sharing our expertise we can build the capacity of our partners. We can also enhance our own expertise by working more closely with the regulated community, and other mining stakeholders, to solve problems of mutual interest.

**7) Maintain a Primary Point of Contact on Mining Issues** – A Regional Mining Coordinator is necessary to provide overall direction and leadership for the Region 10's wide-ranging involvement in the mining sector, and to promote and advance the Region 10 Mining Strategy and associated strategic principles and actions. It is also important to maintain primary contacts for mining in Region 10's Operations Offices in Alaska and Idaho, as these are the states with the greatest level of mining activity, and are States where EPA continues to implement the National Pollutant Discharge Eliminations System (NPDES) program. The Alaska and Idaho mining coordinators, in addition to

program-specific work, keep track of mining issues and developments, help to ensure early and meaningful involvement on projects, and develop and maintain effective partnerships with the mining companies, state and federal agencies, tribes, and other stakeholders.

**8) Utilize a Team Approach to Site Management** - A multi-disciplinary (technical and programmatic) team is the most effective way to manage both the Region 10 Mining Program and EPA involvement at individual sites.

**9) Promote Scientific and Technological Improvements** - Improvements are needed in the analytical tools used to predict and mitigate mine impacts. A better understanding of the nature of both existing and future impacts will assure the best possible solutions. Promoting innovative, cost effective technologies for mine site management is another critical priority.

**10) Improve Policy Basis for Decisions** - Where gaps or uncertainties are identified in our existing regulatory tools, the Mining Team supports working with other regions and headquarters to develop new policy or regulations to support and guide our work.

**11) Evaluate our Progress and Make Improvements** - The Mining Team is committed to continued improvements in program delivery. Evaluating our effectiveness and efficiency in contributing to achievement of environmental goals will assist in determining needed refinements.

## **STRATEGIC ACTIONS**

The Region 10 Mining Team has developed the following actions to implement the strategic principles outlined above. Strategic actions are presented for each of the strategic principles. It should be noted that many of these action items are applicable to more than one strategic principle. For example, becoming actively involved early on during new mine environmental review promotes the strategic principles of “early involvement” and “developing and maintaining effective partnerships”.

These strategic actions enhance the Region’s ability to meet our mining program goals and statutory obligations.

### **1. Understanding the Environmental Impacts of Mining**

- a. Update the Region 10 Mining Profile, which includes: (1) The Region 10 mine site data base which specifies for each mine: status (historic, current, proposed), description, contacts, EPA response activities to date (e.g., NPDES

- permits, CERCLA activities, etc.). (2) Create maps for each state that include this information in GIS layers that also identify waterbodies and watersheds.
- b. On specific sites, work with states/tribes and other partners, including industry to identify specific mine site impacts.
  - c. Use a watershed approach to gain better technical/scientific grasp of impacts to watersheds from multiple historic mine sites. While the impact of an individual mine may not be great, the cumulative impacts within a mining district can be significant.

## **2. Early Involvement**

- a. Continue to be actively involved early in Environmental Impact Statements (EISs) for major mines. Coordinate with the state and federal agencies early to clarify roles and responsibilities.
- b. Emphasize pollution prevention by comprehensively addressing environmental issues early in the EIS and permitting process.

## **3. Developing and Maintaining Effective Partnerships**

- a. Continue active participation in the Idaho Joint Review Process and continue regular contact with the Alaska state agencies.
- b. Meet regularly with federal land management agencies to discuss mining issues (e.g., Federal Mining Dialogue and quarterly calls with US Forest Service).
- c. Develop a Region 10 Mining Web Page that includes a list of mining sites in the region (and link to the mine site data base), a list of region 10 mining contacts, and an annual report on Region 10 mining activities.
- d. Evaluate options for recognizing environmentally sound mining practices in Region 10.
- e. Pursue funding of the Tri-State agreement, a cooperative effort with Idaho, Washington, and Oregon to share information and expertise on mining issues.
- f. Provide technical assistance to state and federal agencies and tribes in technical areas, such as hydrology, waste characterization, and water quality modeling.
- g. Work with partner agencies and mining companies to ensure that all large

mine sites have adequate reclamation plans, long-term site management plans, and financial assurance.

- h. Continue efforts to understand each state's mining program and explore ways to complement rather than duplicate state efforts.
- i. Develop tribal capacity so tribes can be meaningful participants. Participate in Tribal mining committee with Alaska tribes.
- j. Maintain communication and coordination with EPA's National Mining Team and Abandoned Mined Lands Team and mining teams in other EPA regions.
- k. Attend industry conferences, e.g., the Northwest Mining Association and Alaska Miners Association annual meetings.

**4. Focus Efforts on Priority Sites/Watersheds**

- a. Host meetings on a state-by-state basis with federal land management agencies and states to discuss inactive and abandoned mine sites inventories and priority setting. Incorporate concerns of tribes and environmental and community groups into the priority setting process.
- b. Continue to use the Region 10 core Mining Team to set priorities for evaluating newly proposed mining projects.
- c. Use the Region 10 mine site data base to identify priority watersheds.

**5. Use Existing Resources More Effectively**

- a. Implement innovative pilots for existing authorities (e.g., use of watershed NPDES permits for priority watersheds, use of offsets for new mines in impaired watersheds).
- b. Utilize watershed site assessments under CERCLA. In this way multiple mine sites are assessed in a single assessment, as opposed to individual mine site assessments.
- c. Through the Region 10 Mining Team, improve internal coordination between EPA's Superfund, NEPA, and Compliance programs so that lessons learned can be shared with the goal of preventing/minimizing impacts from current and future mining activity.
- d. Investigate opportunities for implementing the EPA HQ Office of Water's Good Samaritan Initiative for remediating inactive abandoned mine sites.

- e. Continue to promote the use of the Source Book (EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska, EPA Region 10 Office of Water, January 2003) to consistently identify information needs for mining EISs and promote consistency in EPA's responses.

**6. Maintain/Enhance In-House Technical Expertise**

- a. Attend mining conferences and present papers on mining environmental issues and EPA regulations pertaining to mining.
- b. Fund training for Region 10 staff on mine site issues.
- c. Host Abrownbags@ on mining issues and include external partners.
- d. Maintain the mining library within the Regional Office.
- e. Continue participation in National workgroups.

**7. Maintain a Primary Point of Contact for Mining Issues**

- a. Continue to support the Regional Mining Coordinator position.
- b. Continue to support the Idaho Operations Office and Alaska Operations Office mining contact positions.

**8. Utilize a Team Approach to Site Management**

- a. Assign teams to all major new mine projects where EPA has regulatory responsibilities to improve the effectiveness of EPA participation.
- b. Maintain the Core Mining Team and Regional Mining Workgroup and use these groups to consult on site-specific issues.

**9. Promote Scientific and Technological Improvements**

- a. Develop and maintain information on available mine site remediation and mine water treatment technologies. Share success stories.
- b. Promote the implementation of innovative or "semi-passive" approaches toward long-term mine cleanup and restoration, where such approaches meet environmental goals.

- c. Promote the use of reprocessing/remining where there is a net environmental benefit reasonably anticipated.
- d. Utilize EPA's Office of Research and Development (ORD) expertise on mine site cleanup and water treatment technologies.
- e. Work with the NWMA to identify innovative approaches to mine site management and publicly recognize the facility operators.
- f. Encourage EPA technical and programmatic experts to present papers/poster sessions at appropriate conferences and workshops.
- g. Follow-up on the environmental review of mining projects by investigating whether the actual impacts are as predicted in past EISs. This would entail developing a technical resource document that describes environmental impact predictions in past mining EISs, determines whether or not the predictions have been accurate, and where predictions have not been accurate describes what can be done to improve predictions in the future. This will assist EPA, in improving predictions in future NEPA documents.
- h. Incorporate the role of traditional environmental knowledge in NEPA, CWA, and Superfund analyses and decisions.

**10. Improve Policy Basis for Decisions**

- a. Develop testing protocols for mine waste that is subject to the new definition of "fill material".
- b. Become involved in efforts to establish a Good Samaritan provision in the Clean Water Act.

**11. Evaluate Our Progress and Make Improvements**

- a. Develop a workplan for implementing the Region 10 Mining Strategy.
- b. At a yearly retreat, evaluate progress in implementing the Region 10 Mining Strategy.
- c. Annually, update workload expectations for the next year (update state-by-state priorities of the Region 10 Mining Strategy).
- d. Seek feedback from our partners and industry.

**STATE-BY-STATE PRIORITIES**

While the strategic action items discussed above are pertinent to all the Region 10 states, there are certain priorities that warrant an emphasis on a state-by-state basis. Those priorities as well as the anticipated mining work for the next three years are described, for each state, in this section.

The state discussions are not meant to capture all mining related activities in a state, but to reflect those areas where EPA may either take a primary role or a significant collaborative role. Most of the actions listed in this section are, or will be, done in coordination with or jointly with the state and federal agencies or tribal governments who share responsibility for regulating the mining industry.

**Alaska**

**Mining Summary**

There is significant mining activity in the state of Alaska and the state holds vast mineral resources that are yet undeveloped. According to statistics from the Alaska Division of Geological and Geophysical Surveys, the value of the Alaska mineral industry in 2004 was estimated at a record \$1.4 billion dollars. This includes \$1.18 billion in production from the operating mines, \$166 million spent on development, and \$64 million on exploration. As mineral prices continue to increase, these numbers are expected to rise.

As summarized in the following table, there are currently four large operating mines in the state and two large mines that are fully permitted and under construction. In addition there are more than 300 placer miners, over 100 medium/large suction dredges, and numerous small suction dredgers (over 1000 permitted under NPDES by EPA). Based on 2004 statistics from the USGS, Alaska is the nation’s and world’s largest producer of zinc due to the Red Dog mine. Alaska ranked first, nationally, in silver production and third in gold production.

<b>Mine Name</b>	<b>Operator</b>	<b>Commodities produced</b>
<b>Operating Mines</b>		
Red Dog	Teck Cominco	zinc, lead, silver
Greens Creek	Kennecott	silver, lead, zinc
Fort Knox/True North	Kinross	gold
Usibelli	Usibelli Coal Mine. Inc.	coal
<b>Mines Under Development</b>		
Pogo	Teck	gold – beginning in 2006
Kensington	Coeur Alaska	gold – beginning in 2006

There are currently four large mining projects being proposed in the state, including Donlin Creek (Placer Dome), Pebble (Northern Dynasty), Rock Creek and Big Hurrah (NovaGold), and Chuitna Coal (PacRim). In addition, several of the operating mines (Red Dog, Usibelli, Fort Knox) have planned expansions. Exploration continues to increase in the state, so more projects may be on the horizon should metals prices stay high.

EPA's challenge is to keep pace with the mining industry through our work to review and permit, if EPA permits are needed, new mines and ensure compliance with the environmental laws under EPA authorities at existing mines. This work requires a substantial level of effort considering the size and variability of the State of Alaska, in terms of available resources, environmental conditions, remote locations, and geography. Additionally, there are 229 federally recognized tribes with extensive subsistence and traditional use of large areas of the State. The combination of the wide-ranging regulatory responsibilities coupled with the sheer size of the state and the pace, volume, complexity and magnitude of projects and tribal trust responsibilities poses a unique challenge to EPA.

In terms of abandoned mines, according to available estimates there are over 4,000 abandoned and inactive mines in the state, covering nearly 28,000 acres. Inventory and prioritization with respect to environmental concerns are ongoing at several levels of government.

### **Regulatory Framework**

The primary state agencies responsible for regulating the mining industry in Alaska are the Alaska Department of Natural Resources (ADNR) and the Alaska Department of Environmental Conservation (ADEC). Alaska has specific regulations pertaining to mining and reclamation that are administered by ADNR. ADEC administers programs related to water quality standards and wastewater treatment requirements and is the primary state agency involved in cleanup of inactive and abandoned mine sites.

Currently EPA is responsible for issuing NPDES (CWA 402) permits for dischargers in Alaska. EPA has issued NPDES permits for all the operating mines shown in the above table, except for the Fort Knox Mine. EPA is responsible for reviewing and approving or disapproving state water quality standards revisions and total maximum daily loads (TMDLs). The Army Corps of Engineers is responsible for issuing permits for dredge and fill activities under CWA section 404. EPA reviews section 404 permit applications and has a role in 404 compliance. EPA is responsible for regulation of ocean disposal and SDWA programs in the state. Under section 309 of the CAA, EPA is required to review all major EISs. In addition, EPA is responsible for NEPA compliance for new source NPDES permits. Therefore, EPA may have a role as a lead NEPA agency,

reviewing agency, or cooperating agency.

EPA is responsible for administering the RCRA and CERCLA programs in Alaska. EPA performs site assessment, removal, and remedial work. EPA reviews site assessment plans prepared by the BLM, USFS, and the State and scores these sites under CERCLA to determine if the sites are worthy for consideration on the NPL.

For mines on federal land, the BLM and USFS approve plans of operation and reclamation plans and conduct and oversee mine cleanup actions. The Surface Mining Control and Reclamation Act (SMCRA) program for regulating coal mining has been delegated to the state with the Department of Interior Office of Surface Mining (OSM) providing oversight. The US Fish and Wildlife Service (US FWS) and National Oceanographic and Atmospheric Administration (NOAA) are responsible for Endangered Species Act compliance.

### **EPA Activities in Alaska (2006 – 2008)**

This section summarizes anticipated mining work for the next three years. This work may change depending upon project schedules, regulatory requirements, the emergence of new work, and availability of resources.

#### **NEPA Review and Compliance:**

The proposed Donlin Creek Mine, Pebble Mine, and Chuitna Coal mine are located on State lands. Proponents of these mines have indicated that they plan to submit NPDES permit applications to EPA in 2006. Therefore, EPA anticipates being heavily involved, and potentially the lead agency, for NEPA compliance on these projects. EPA has assigned project managers from the Anchorage Operations Office for the Donlin Creek and Pebble projects and will soon decide on a project manager for the Chuitna Coal project. As resources allow, we strive to assign project managers located in Alaska to each Alaska large mining project where EPA has a significant regulatory role.

Where EPA is not the lead agency for development of a NEPA document, we will participate as a cooperating agency to ensure compliance with NEPA for the NPDES permit action and will also review the NEPA documenter under our CAA 309 authority.

EPA anticipates reviewing the EIS or EA for the Rock Creek Mine.

The Usibelli Mine and Red Dog Mine have plans for expansion of their mining operations. Possible future expansions will be analyzed through the NEPA process as required prior to issuance/modification of NPDES permits to allow discharges from the expansions.

#### **NPDES Permits and Compliance:**

Issuance of NPDES permits for mining facilities, particularly new source NPDES permits

for new mining projects, is a priority for EPA's permits unit. Between 2006-2008, EPA plans work on the NPDES permits cited below.

Permit reissuances - Red Dog Mine, Usibelli, Stormwater Multisector General Permit  
new NPDES permits - Donlin Creek, Pebble, Chuitna, Usibelli (Rosalie),

Alaska is seeking delegation of the NPDES program. Should the program be delegated during a permit issuance, EPA will work with ADEC to ensure a smooth transition.

Water Quality Standards and TMDL Actions:

EPA anticipates working with ADEC on the following water quality standards actions related to mines in Alaska.

Cadmium and total dissolved solids (TDS) site-specific criteria for Red Dog Creek (Red Dog Mine receiving waters).

Use Attainability Analysis (UAA) or site-specific criteria for Hoseanna Creek (Usibelli Mine receiving waters).

CWA 404 Permit Document Reviews and compliance:

EPA will review 404 permit application notices for new mining projects including Donlin Creek, Pebble, Chuitna, and Rock Creek. In addition, EPA will provide compliance assistance to the Corps.

SDWA Permits and Compliance:

Disposal of wastewater via underground injection control (UIC) wells is being explored by mining companies in Alaska as a possible alternative to NPDES. EPA anticipates issuing a Class V UIC permit for the Rock Creek Mine in conjunction with the state's permitting process.

CERCLA:

EPA is currently conducting site assessments in the Hollis area evaluating mercury in sediments and surface water resulting from historic mining. EPA recently completed an assessment of the Moth Bay mine site near Ketchikan, AK to determine if acid mine drainage is impacting adjacent surface waters. EPA is also working with the USFS on the Ross Adams Uranium Mine located on Prince Wales Island. The USFS has completed the site inspection (SI) with input and participation from EPA. EPA will continue to work with the USFS to review proposed action plans for this site.

EPA will continue to perform about 2 mining site assessments per year and review assessment conducted by the USFS.

**Programmatic Issues for Alaska (2006 – 2008)**

In addition to meeting our regulatory obligations as outlined in the previous section, the following programmatic issues related to Alaska are important to meeting the goals of the

Region 10 Mining Strategy.

EPA and State Coordination: Both EPA and ADNR have multi-media mining teams. EPA is committed to meeting periodically with ADNR to coordinate activities affecting the mining industry, particularly related to permitting new mines. Currently this occurs on an “as requested” basis. EPA will reevaluate the need to formalize participation on a routine basis.

The 2006 Performance Partnership Agreement (PPA) with ADEC commits EPA and ADEC to appoint a primary point of contact who will meet to review the status of ongoing projects, review federal and state legal and policy requirements, and identify any issues needing review. EPA has a primary point of contact and will request ADEC to appoint a primary contact.

Interagency Mining Teams: EPA will continue to actively participate in the review and analysis of large mining projects. EPA will investigate the need to develop an interagency team composed of key contacts from other federal and state agencies that would help coordinate Alaska mining issues in a fashion similar to the Idaho Joint Review Process.

Toxics Release Inventory (TRI) Communication: In the 2006 PPA, EPA and ADEC committed to coordinated communication of EPA’s annual TRI data. Last year Alaska was ranked first in the nation for total TRI chemical releases mostly due to solid wastes from mining operations. According to the PPA, EPA and ADEC will coordinate announcements to include EPA quotes in news releases explaining the TRI data to coincide with EPA’s public announcement of data release. In addition, EPA will assign staff to work with ADEC to draft an Alaska-specific TRI document that provides additional context on factors to consider for Alaska’s TRI releases and other waste management activities. EPA will maintain continued timely notice of activities from headquarters, such as proposed rulemaking changes, that may affect Alaska.

Tribal Capacity Building: Tribes in Alaska have expressed concerns to EPA about environmental impacts due to abandoned mines, active mines, and proposed mines that may affect them. EPA has a government-to-government relationship with, and trust responsibility to tribes. EPA has agreed to participate on a Tribal Mining Committee with Alaska tribes in order to help tribes understand mining regulation and technical issues so they can more effectively participate in review of regulatory decisions related to mining operations.

Abandoned Mine Site Prioritization: In the late 1990s meetings were held with other federal agencies and the state to discuss existing inactive/abandoned mine site (IAM) inventories and begin developing a strategy for developing a state-wide IAM inventory and setting priorities in order to guide future work. EPA will communicate with these agencies to determine the need to reinvigorate this effort. Having an agreed upon list of

IAMs and priorities will facilitate decision-making regarding what projects to fund given limited cleanup money and where leveraging funding from various agencies may be most effective. EPA will work with other stakeholders to investigate funding mechanisms to develop such an inventory and prioritization.

## **Idaho**

### **Mining Summary**

There are currently three large metal mines and three phosphate mines operating in Idaho as shown in the following table. In addition, there are several small metal mining operations, and a significant number of small scale suction dredge placer mining operations in the state. According to preliminary USGS statistics, in 2004 Idaho ranked third in silver production and third in phosphate rock production. Metal and industrial mineral production was worth approximately \$322 million.

<b>Mine Name</b>	<b>Operator</b>	<b>Commodities produced</b>
Lucky Friday	Hecla	silver, lead, zinc
Galena	Coeur d'Alene Mines	silver, copper
Thompson Creek	Thompson Creek Mining Co.	molybdenum
Smoky Canyon	Simplot	phosphate
Dry Valley	Agrium	phosphate
South Rasmussen Ridge Enoch Valley	Monsanto	phosphate

There are currently two large mining operations being proposed in the state, the Atlanta Gold Mine (Twin Mining) in the Boise National Forest and the Idaho Cobalt Mine (Formation Capital) in the Salmon Challis National Forest. EPA is participating on interagency teams lead by the USFS in early NEPA review of these projects.

Large mining operations that are undergoing reclamation include the Beartrack Mine, Grouse Creek Mine, and Kinross DeLamar Mine. Impacts from inactive mines that are currently being addressed under Superfund authorities include the Coeur d'Alene basin, Blackbird Mine, Grouse Creek Mine tailings pond, and southeast Idaho phosphate mines. According to the USFS, there are over 5,000 inactive mines in Idaho covering over 27,500 acres.

### **Regulatory Framework**

The primary state agencies responsible for regulating the mining industry in Idaho are the Idaho Department of Water Resources (IDWR), the Idaho Department of Lands (IDL), and the Idaho Department of Environmental Quality (IDEQ). IDWR administers programs pertaining to the use of dams and impoundments, underground injection wells, stream channel protection, and small scale recreational suction dredge operations. IDL's primary role as it relates to mining is administration of the surface mine reclamation program, administration of the financial assurance requirements for reclamation of surface mines and closure of ore processing facilities that use cyanide, and the dredge and placer mining program. IDEQ is the state agency that administers programs related to water quality standards and wastewater treatment requirements, permits ore processing facilities that use cyanide, and is the primary state agency involved in cleanup of inactive and abandoned mines.

Currently EPA is responsible for issuing NPDES (CWA 402) permits for dischargers in Idaho. EPA has issued NPDES permits for many of the large operating mines and for several mines that are under reclamation. EPA is responsible for reviewing and approving or disapproving state water quality standards revisions and TMDLs. The Army Corps of Engineers is responsible for issuing permits for dredge and fill activities under CWA section 404. EPA reviews section 404 permit applications and has a role in 404 compliance. The RCRA program has been delegated to the state, but EPA provides oversight and has implementation authority on tribal lands. Under section 309 of the CAA, EPA is required to review all major EISs. In addition, EPA is responsible for NEPA compliance for new source NPDES permits.

EPA administers the CERCLA program. EPA performs site assessment, removal, and remedial work. EPA reviews site assessment plans prepared by the BLM and USFS and the State and scores these sites under CERCLA to determine if the sites are worthy for consideration on the NPL.

For mines on federal land, the BLM and USFS approve plans of operation and reclamation plans and conduct and oversee mine cleanup actions. The USFWS and NOAA are responsible for Endangered Species Act compliance.

### **EPA Activities in Idaho (2006 – 2008)**

This section summarizes anticipated mining work for the next three years. This work may change depending upon project schedules, regulatory requirements, the emergence of new work, and availability of resources.

#### **NEPA Review and Compliance:**

EPA is currently a reviewing agency on the Idaho Cobalt EIS and will continue work on this project. EPA is a cooperating agency for the Atlanta Gold project. We will review the Smoky Canyon expansion EIS and other EISs for phosphate mine expansions that are

expected in the near future.

NPDES Permits and Compliance:

Issuance of permits for mining facilities, particularly new source NPDES permits for new mining projects, is a priority for EPA's permits unit. EPA plans to work on the NPDES permits cited below:

Permit reissuances - Thompson Creek Mine, Grouse Creek Mine, Beartrack Mine, Sunshine Mine, Stormwater Multisector General Permit

New permits - Atlanta Gold, Idaho Recreational Suction Dredge General Permit

Water Quality Standards and TMDL Actions:

EPA anticipates working with IDEQ on the following TMDL approvals for watersheds where mining sources contribute to impairment (pollutants for which TMDLs will be issued are shown in parenthesis: Blue Joe Creek (metals and pH), Jordan Creek (mercury), Louse Creek (metals and pH), Salmon Falls Creek Reservoir (Mercury), Deep Creek (metals, pH), Moose Creek (pH), Holes Creek (metals), Clark Fork River (metals), Brownlee Reservoir (mercury).

CWA 404 Permit Document Reviews and Compliance:

EPA will review 404 permit application notices for new mining projects including Idaho Cobalt and Atlanta. EPA will continue to provide compliance assistance to the Corps on the Emerald Creek garnet mine and other mine sites as they are identified.

RCRA:

EPA will continue work on the post closure permit for the FMC elemental phosphorous plant.

CERCLA:

Involvement in the Coeur d'Alene basin is a continuing priority for the Superfund program which has established a Coeur d'Alene team. Other ongoing work over the next three years includes: Eastern Michaud Flats RI/FS, Blackbird Mine RD/RA, Grouse Creek removal action (finalization of the EE/CA). In addition, we will continue our efforts to investigate and cleanup inactive phosphate mines in Southeast Idaho in cooperation with the state, USFS, BLM, Shoshone-Bannock Tribes, and other stakeholders.

EPA is currently planning a PA/SI of the Gold Hill Mine in the Grimes Creek watershed. Additional watershed site assessment will be planned in coordination with the State.

EPA will continue to conduct mine site assessment work and continue to perform one or two mining site removal actions per year.

**Programmatic Issues for Idaho (2006 – 2008)**

In addition to meeting our regulatory obligations as outlined in the previous section, the

following programmatic issues related to Idaho are important to meeting the goals of the Region 10 Mining Strategy.

Interagency Mining Teams: EPA will continue to support the Idaho Joint Review Process (JRP), which promotes interagency coordination and communication for proposed mining projects, and actively participate in the review and analysis of large or controversial proposed projects. EPA will continue to participate on Interagency teams that have been established for existing large mine sites. These teams are intended to enhance coordination and communication between stakeholders and provide oversight and technical assistance to mining companies on issues related to operation and reclamation.

Southern Idaho Mercury Team: Mercury pollution in sediments and water bodies in some areas of southern Idaho may be due to mercury emissions from gold mines in Nevada. EPA has an internal working group, including representatives from the water, air, and environmental assessment offices, that is working on this issue.

Closure Planning and Financial Assurance: Currently several of the large active and inactive mines in Idaho have reclamation liabilities that are not recognized or addressed in closure plans or financial assurance estimates. For instance, several mines are expected to require water treatment in perpetuity, yet have no bond allocation to meet these needs. EPA will work with mining companies and agencies to promote appropriate long-term planning and financial assurance mechanisms.

Abandoned Mine Site Prioritization: Since the late 1990s, a number of meetings have been held with the other federal agencies and the state to discuss existing inactive/abandoned mine site (IAM) inventories and begin developing a strategy for developing a state-wide IAM inventory and setting priorities in order to guide future work. EPA will communicate with these agencies to determine the need to reinvigorate this effort. Having an agreed upon list of IAMs and priorities will facilitate decision-making regarding what projects to fund given limited cleanup money and where leveraging funding from various agencies may be most effective. EPA will work with IDEQ and other stakeholders to investigate funding mechanisms to develop such an inventory and prioritization.

Tri-State Agreement: EPA will investigate funding for and discuss with Idaho, Oregon, and Washington, their interest in redeveloping the Tri-State Agreement. From 1992-2000, EPA funded the Tri-State Agreement which provided funding for Idaho, Washington, and Oregon to share training and resources, facilitate technology transfer, and produce guidance for mine operators with the goal of cooperatively reducing or preventing pollution caused by mining. The Tri-State Agreement assisted the states in enhancing their oversight of mining activities

## **Oregon**

### **Mining Summary**

Oregon has the least mining activity of the four Region 10 states. Currently there are no operating or proposed metal mines in the state. Gravel/aggregate extraction from rivers, floodplains, and upland sites occurs. Gravel mining can have serious effects on salmon/fish habitat. Recreational placer mining occurs in some parts of the state, primarily Baker, Grant, Josephine, and Lane counties.

There are an estimated 3,500 inactive and abandoned sites in Oregon covering over 9,000 acres. The White King/Lucky Lass uranium mine, is a Superfund site that is currently in the Remedial Design stage. The state's highest priority abandoned mines for cleanup include the Formosa Mine and Black Butte Mine.

### **Regulatory Framework**

The primary state agencies responsible for regulating the mining industry in Oregon are the Oregon Department of Environmental Quality (ODEQ) and the Oregon Department of Geology and Minerals Industry (DOGAMI). DOGAMI has regulations specific to mined land reclamation. ODEQ is the state agency that administers programs related to water quality standards and wastewater treatment requirements and NPDES permits. ODEQ is the primary state agency involved in cleanup of inactive and abandoned mines.

The NPDES permits program has been delegated to the Oregon. EPA provides oversight in review of some major NPDES permits. EPA is responsible for reviewing and approving or disapproving state water quality standards revisions and TMDLs. The Army Corps of Engineers is responsible for issuing permits for dredge and fill activities under CWA section 404. EPA reviews section 404 permit applications and has a role in 404 compliance. RCRA and SDWA programs have been delegated to the state. Under section 309 of the CAA, EPA is required to review all major EISs.

EPA administers the CERCLA program. EPA performs site assessment, removal, and remedial work. EPA reviews site assessment plans prepared by the BLM and USFS and the State and scores these sites under CERCLA to determine if the sites are worthy for consideration on the NPL

For mines on federal land, the BLM and USFS approve plans of operation and reclamation plans and conduct and oversee mine cleanup actions. The USFWS and NOAA are responsible for Endangered Species Act compliance.

### **EPA Activities in Oregon (2006 – 2008)**

This section summarizes anticipated mining work for the next three years. This work may change depending upon project schedules, the emergence of new work, regulatory requirements, and availability of resources.

Water Quality Standards and TMDL Actions:

EPA will review the following TMDLs where mining activity is a source of metals to the watershed:

Oregon is in the process of issuing a TMDL for mercury in the Willamette River Basin.

One of the sources being addressed in the TMDL is historic cinnabar mining in the Coast Range. Oregon and Idaho have jointly issued a TMDL for the Hells Canyon area of the Snake River. This TMDL addressed all listings except mercury. The TMDL for mercury is scheduled for issuance in spring 2006. To date the states have not initiated data collection to determine mercury sources, so the impact of historic mining is not known.

CERCLA:

EPA will continue oversight of the RD/RA work at the White/King Lucky Lass mine superfund site. EPA conducted a review of ODEQ's site assessment work at the Formosa Mine. The evaluation of these reports is ongoing.

EPA recently completed the field work for the Upper Row River PA/SI – a large interagency effort which collected samples at a large number of mine sites in the Bohemia mining district. EPA will continue to conduct three to four individual mine site assessments per year in Oregon.

**Programmatic Issues for Oregon (2006 – 2008)**

In addition to meeting our regulatory obligations as outlined in the previous section, the following programmatic issues related to Oregon are important to meeting the goals of the Region 10 Mining Strategy.

Tri-State Agreement: EPA will investigate funding for and discuss with Idaho, Oregon, and Washington, their interest in redeveloping the Tri-State Agreement. From 1992-2000, EPA funded the Tri-State Agreement which provided funding for Idaho, Washington, and Oregon to share training and resources, facilitate technology transfer, and produce guidance for mine operators with the goal of cooperatively reducing or preventing pollution caused by mining. The Tri-State Agreement assisted the states in enhancing their oversight of mining activities

Abandoned Mine Site Prioritization: In the late 1990s meetings were held with other federal agencies and the state to discuss existing inactive/abandoned mine site (IAM) inventories and begin developing a strategy for developing a state-wide IAM inventory and setting priorities in order to guide future work. EPA will communicate with these agencies to determine the need to reinvigorate this effort. Having an agreed upon list of

IAMs and priorities will facilitate decision-making regarding what projects to fund given limited cleanup money and where leveraging funding from various agencies may be most effective. EPA will work with ODEQ and other stakeholders to investigate funding mechanisms to develop such an inventory and prioritization.

## **Washington**

### **Mining Summary**

There are currently two operating metal mines in Washington. The Pend Oreille Mine (operated by Teck Cominco) near Metalline Falls produces lead and zinc concentrates. The Kettle River Mine (operated by Kinross) near Republic produces gold. Coal produced at the Trans Alta Mine near Centralia is used for power generation at the Centralia steam plant. A major expansion of the Trans Alta mine is planned for within the next five years.

The Buckhorn Mountain Gold Mine (Kinross) in Okanogan County is currently the only new mine proposed in the state. Ore from the Buckhorn Mountain mine would be trucked to the Kettle River mill for processing. The state is preparing an EIS for this project.

Superfund removal and remedial work is ongoing at sites including the inactive Midnite uranium mine, located on the Spokane Indian Reservation and at the Holden Mine near Lake Chelan. Investigation of the Upper Columbia River at Lake Roosevelt is a regional priority.

### **Regulatory Framework**

The primary state agencies responsible for regulating the mining industry in Washington are the Washington Department of Ecology (Ecology) and the Washington Department of Natural Resources (WDNR). Washington has regulations for surface mining, metals mining and milling operations, and surface mining reclamation. Ecology is the state agency that administers programs related to water quality standards and wastewater treatment requirements and NPDES permits and is the primary state agency involved in cleanup of inactive and abandoned mines

The NPDES permits program has been delegated to Washington. EPA provides oversight in review of some major permits. EPA is responsible for reviewing and approving or disapproving state water quality standards revisions and TMDLs. The Army Corps of Engineers is responsible for issuing permits for dredge and fill activities under CWA section 404. EPA reviews section 404 permit applications and has a role in 404 compliance. RCRA and SDWA programs have been delegated to the state. Under section 309 of the CAA, EPA is required to review all major EISs.

EPA administers the CERCLA program. EPA performs site assessment, removal, and remedial work. EPA reviews site assessment plans prepared by the BLM and USFS and the State and scores these sites under CERCLA to determine if the sites are worthy for consideration on the NPL

For mines on federal land, the BLM and USFS approve plans of operation and reclamation plans and conduct and oversee mine cleanup actions. The OSM regulates coal mining under the SMCRA program. The USFWS and NOAA are responsible for Endangered Species Act compliance.

### **EPA Activities in Washington (2006 – 2008)**

This section summarizes anticipated mining work for the next three years. This work may change depending upon project schedules, regulatory requirements, the emergence of new work, and availability of resources.

#### **NEPA Review and Compliance:**

Ecology has requested EPA's assistance in reviewing the EIS for the Buckhorn Mountain project. EPA review will focus on water quality and geochemistry. OSM is planning an EIS for the Trans Alta mine expansion. EPA anticipates reviewing this EIS.

#### **CWA 404 Permit Document Reviews and compliance:**

EPA will continue involvement in reviewing 404 permit application notices and mitigation plans for the Trans Alta Mine.

#### **CERCLA:**

Superfund program work over the next three years includes: issuance of a Record of Decision (ROD) and RD/RA actions for the Midnite Mine Site, continued partnership with the USFS on remediation of the Holden Mine Site, and sampling and preparation of an RI/FS for the Upper Columbia River site. In addition, EPA will continue site assessment actions as identified by the state and mine site removal activities (e.g., Anderson-Calhoun Mine/Mill).

### **Programmatic Issues for Washington (2006 – 2008)**

In addition to meeting our regulatory obligations as outlined in the previous section, the following programmatic issues related to Washington are important to meeting the goals of the Region 10 Mining Strategy.

**Tri-State Agreement:** EPA will investigate funding for and discuss with Idaho, Oregon, and Washington, their interest in redeveloping the Tri-State Agreement. From 1992-

2000, EPA funded the Tri-State Agreement which provided funding for Idaho, Washington, and Oregon to share training and resources, facilitate technology transfer, and produce guidance for mine operators with the goal of cooperatively reducing or preventing pollution caused by mining. The Tri-State Agreement assisted the states in enhancing their oversight of mining activities

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## **Canada**

The boom in new mining activity affects our neighbors to the north as well. A number of Canadian mining operations could have potentially significant impacts on transboundary waters, most of them affecting southeast Alaska. In the past few years, EPA has been involved in reviewing the Tulsequah Chief mine proposal for potential impacts to the Taku River watershed. Currently, EPA is reviewing plans for the proposed Galore Creek Mine for potential impacts to the Stikine River. In addition to involvement on specific mine sites that could impact transboundary waters, the following action is recommended.

EPA and Canada and BC Coordination: EPA should maintain a regular dialogue with Canadian officials, as well as state officials in Alaska and Washington, to keep abreast of new mining proposals and to assure that the potential impacts to cross-boundary waters are properly addressed and mitigated.

## **CONCLUSION**

The mining industry in the Northwest and Alaska devotes considerable resources to identifying and managing environmental concerns as an integral component of mine site development and operation. Clearly mining practices have improved considerably in the past decade. Nonetheless, modern mines can still pose potential environmental threats in spite of improved practices to mitigate environmental concerns. Ongoing and potential environmental impacts posed by both current and historic mining in the Region are significant in some parts of the region.

Region 10's Mining Strategy seeks to address the challenges posed by historic, active,

**DRAFT October 24, 2005**

and proposed mines. The Strategy summarizes, by state, our regulatory program obligations related to the mining industry over the next three years and identifies actions to support meeting these obligations. The specific actions to be undertaken were developed to maintain the Mining Team expertise, provide program improvements and increase efficiency, and allow for focusing of resources. Three critical themes guide this effort: good science and engineering early in the planning process is essential to managing environmental concerns; priorities must be established (both programmatic and geographic); and finally, we must work in partnership with others to increase our effectiveness and support the work of others.