

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Bonanza Mine and Mill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region X

Subject: POLREP #4
Bonanza Mine and Mill

Sutherlin, OR
Latitude: 43.3899870 Longitude: -123.1845630

To: Brooks Stanfield, EPA Region 10

From: Richard Franklin, On-Scene Coordinator

Date: 10/8/2014

Reporting Period: 9/15/14 – 9/27/14

1. Introduction

1.1 Background

Site Number:	10NE	Contract Number:	START 14-06-0006
D.O. Number:	ERRS 0013/030309.0013	Action Memo Date:	6/4/2014
Response Authority:	CERCLA	Response Type:	Time-Critical
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	8/4/2014	Start Date:	8/4/2014
Demob Date:	11/1/2014	Completion Date:	11/1/2014
CERCLIS ID:	ORN001001174	RCRIS ID:	
ERNS No.:		State Notification:	6/4/14
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Abandoned historical mercury mine and mill.

1.1.2 Site Description

1.1.2.1 Location

The Bonanza Mine and Mill Site is located near the small community of Nonpareil, 6 miles east of Sutherlin, Douglas County, Oregon. The Site is located in the SW ¼ of Section 16 of Township 25 South, Range 4 West, Willamette Meridian (latitude N43° 23'46", longitude W123°10'54").

Except for one former building used as a residence, other mine and mill buildings are no longer present, leaving only the mill concrete foundations, calcine, and waste rock. The mine had 12 adits and more than three miles of subterranean tunnels and shafts. The mine adits have since been abandoned, and no open adits have been located during the 2014 removal action.

Five residences are located close to the mine, including two residences within 200 feet of the former mill. Besides roads and driveways leading to the residences, the land is undeveloped. The nearest off-Site residences are located about a half mile away, to the northeast, along Banks Creek Road.

The Bonanza Mine has an operation history extending from the mid-1860s through 1960. The main mercury-containing mineral is cinnabar, although metacinnabar and native mercury were also reported in the mine workings. Total recorded mercury production was 39,540 flasks (or 3,005,040 pounds).

1.1.2.2 Description of Threat

The data from numerous environmental investigations shows that environmental media are contaminated by elevated concentrations of mercury, arsenic, and other metals, and the source of metals is from historical mercury mining, processing, and disposal operations. Elevated metals concentrations are present in calcine, waste rock, and soil at the former mill site, the surrounding hillside, and valley floor.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Data regarding the nature and extent of the contaminants of concern found at the Site are summarized below.

1999 – Preliminary Assessment

Ecology and Environment, Inc. (E&E) completed a Preliminary Assessment (PA) of Red Rock Road (Road) for EPA in May 1999. The PA evaluated the potential for exposure to public health and the environment from potential metals contamination associated with the Road. The Road is a former railroad grade approximately 17 miles long that was constructed of calcine from the Bonanza Mine. The amount of material used in construction of the Road is estimated at 316,000 cubic yards (yd³). As a result of the PA, further investigation was recommended.

2000 - Site Inspection

E&E completed a Site Inspection (SI) of Red Rock Road and surrounding watersheds for EPA in May 2000. As part of this SI, nine surface soil samples were collected from potential source areas at the Bonanza Mine Site, including the former mill, calcine, waste rock, and an abandoned adit. Mercury concentrations in these areas ranged from 74 to 12,000 milligram per kilogram (mg/kg), arsenic concentrations ranged from 71.3 to 246 mg/kg, and lead concentrations ranged from 6.5 to 1,240 mg/kg. The total on-Site volume of calcine was estimated at 2,080 yd³ and waste rock was estimated at 400 yd³.

2000 – Removal Assessment

In September 2000, Hart Crowser, Inc. (HC) performed a Removal Assessment (RA) at the former mill site for ODEQ to gather additional data to delineate the extent of metals contamination at the Site. As part of this RA, 31 surface and near-surface soil samples were collected from the former mill site and surrounding hillside. Mercury concentrations ranged from 67.7 to 12,000 mg/kg, arsenic concentrations ranged from 20.3 to 314 mg/kg, and lead concentrations were generally below 70 mg/kg. Calcine, waste rock, and roadway soils also had elevated mercury and arsenic concentrations ranging up to 179 mg/kg and 246 mg/kg, respectively.

One sample each of the former mill soil and calcine were analyzed for mercury speciation. Methyl mercury was detected at 0.03765 mg/kg in soil and 0.00246 mg/kg in calcine. Sequential extraction on soil and calcine indicated that most of the mercury was sulfide-bound, primarily in the form of cinnabar or metacinnabar. Volatile mercury was detected at 2,100 and 2,360 microgram per cubic meter (µg/m³).

Water samples were collected from the on-Site well and water storage tank. Arsenic was detected at 0.0536 milligram per liter (mg/L) in a sample collected from the on-Site well and this concentration exceeds the Federal Maximum Contaminant Level (MCL) of 0.005 mg/L for drinking water. Reportedly, well water is used only for agricultural purposes and not for drinking water. Based on the findings of the removal assessment, the first of two removal actions described in Section 2.1.2 (Response Actions to Date) was performed by ODEQ in 2000 in certain areas to achieve prompt human health risk reduction. Water samples have been collected from the spring water storage tank and have consistently had no detections of mercury and arsenic using standard drinking water analytical methods.

2003 – Site Visit

HC returned to the Site on behalf of ODEQ in 2003 to assess whether ecological receptors and/or exposure pathways were present or potentially present at or in the Bonanza Mine Site and along Foster Creek. Impacts to the Site and surrounding properties attributable to contaminated environmental media were not observed during the Site visit. Physical impacts from historical mining operations included the waste rock pile, mine access roads, and mine excavation. Based on the results of the Oregon Natural Heritage Information Center data search and information from the Oregon Department of Fish and Wildlife, HC concluded that there is a possibility that rare, threatened, and endangered species may be present at or near the Site.

2005 – Post-Removal Assessment Report

HC compiled and assessed available information for the Bonanza Mine in 2005 to assist in preparation of a forthcoming Remedial Investigation (RI) Work Plan. This report also developed a preliminary conceptual site model (CSM) for both human and ecological receptors at the Site and identified tasks to be performed during the RI to address data gaps. Volatile mercury was measured in soil from the former mill and calcine. No other environmental media samples were collected as part of this activity. The RI Work Plan has not yet been prepared.

2013 – Soil Assessment

In December 2013, ODEQ screened 118 soil samples using a field portable X-Ray fluorescence spectrometer (FPXRF) to gather additional data to identify those areas where soil concentrations are below a site-specific background concentration for arsenic and a residential risk-based concentration for mercury. Nine discrete soil samples were also collected and sent off-Site for laboratory analysis. The results of this assessment indicated that arsenic and mercury contamination is more widespread in the northern portion of the property than previously anticipated. The results also showed that arsenic and mercury contamination extends into the southern portion of the Site near two existing residences.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

2.1.2.a The following removal actions have been undertaken by the Oregon Department of Environmental Quality (ODEQ) in the past:

2000 – Removal Action

Based on the findings of the 2000 HC RA, HC performed a removal action at the former mill site for ODEQ from 14 through 29 September 2000. The objective of this action was to provide prompt risk reduction by excavating soil exceeding 230 mg/kg mercury in the mill area, and for arsenic and lead the cleanup goals were 50 mg/kg and 400 mg/kg, respectively. Eight yd³ of soil were excavated from the mill furnace area, and this material was transported off-Site for disposal as hazardous waste. Approximately 240 yd³ of mercury-contaminated soil was excavated from the mill area and placed in a lined and covered temporary storage cell near the base of the waste rock pile. This material was removed from the Site in April 2004 and transported off-Site for disposal. Larger debris such as concrete, firebrick, and a metal furnace were placed in a subsurface vault located at the former mill site. Disturbed areas were restored, as closely as possible, to the original site conditions.

Confirmation soil samples were collected after the removal action. A few samples exceeded the mercury cleanup goal (up to 6,400 mg/kg); however, these sample areas are beneath two to six feet of clean material. Characterization samples collected from the surrounding hillside, calcine, waste rock pile, roads, driveways, and cell base had mercury concentrations ranging from 1.53 to 220 mg/kg. Four samples with greater than 230 mg/kg mercury were from the mine adit (306 mg/kg), the temporary repository (500 mg/kg), an area south of the former mill (930 mg/kg), and a small area where free mercury was observed (5,100 mg/kg).

2014 – Removal Action

NRC Environmental, with technical support and documentation from APEX, performed a second removal action at the Site for ODEQ in February 2014. The objective of this action was to achieve prompt human health risk reduction by removing and capping soil in certain inhabited areas of the Site that were impacted by elevated concentrations of mercury and arsenic. At the time this removal action was performed, the contaminants of concern were mercury and arsenic, and the cleanup goals were 23 mg/kg and 17 mg/kg, respectively.

Prior to implementation of the removal action, FPXRF screening was performed at 118 points scattered across the Site. Arsenic ranged from non-detect to 471 parts per million (ppm), and mercury concentrations ranged from non-detect to 1,200 ppm. Using this information, six areas were identified that had arsenic or mercury concentrations above the cleanup goals. During conduct of the removal action (12 through 21 February 2014) and follow-up site visit (12 March 2014), 39 additional data points were collected from across the Site with the purpose of better understanding the metals distribution across the Site. Arsenic concentrations in these points ranged from non-detect to 81 ppm, and mercury concentrations ranged from non-detect to 459 ppm. The results indicated that the mine-waste contamination from the mill site area is more widespread than previously anticipated, including contamination encountered near two existing home sites.

The largest areas of contaminated soil encompass about 16 acres, including the original mill site and calcine pile. ODEQ determined that these areas could not be excavated at this time due to resource constraints. Temporary fencing and gates were installed to restrict access to certain areas and the existing blackberry vegetation restricting access to Area 4 was left undisturbed. Approximately 60 yd³ of contaminated soil and firebrick were excavated from the smaller areas, and this material was placed in a temporary cell near the base of the waste rock pile where it remains. Disturbed areas were restored, as closely as possible, to the original site conditions.

2.1.2.b. The following removal actions have been undertaken by EPA as part of this ongoing removal action for the current reporting period:

Excavation and Reconstruction

The road leading from the Mill Site to Area 2 was excavated to a depth of 18 inches bgs on September 16. Upon completion of the excavation, a section of road between the Mill Site and Residence 2 was screened with the FPXRF at 9 locations; the average concentrations for mercury and arsenic were 173 mg/kg and 154 mg/kg, respectively. ERRS deployed 400 linear feet of geotextile fabric along this section to provide a physical barrier on the most contaminated section of road. START used the FPXRF to screen 22 additional locations along the road, and the average mercury and arsenic concentrations were 40 mg/kg and 73 mg/kg, respectively. ERRS then placed 1.5 inch diameter rock along the road to suppress dust and prepare for potential precipitation.

Residence 6 is the former location of a burned structure immediately downhill from Residence 2. During the initial phase of the removal action, Residence 6 was the temporary staging area for personal belongings stored in a Conex box along with 3 travel trailers. By September 19, the Conex box and trailers were relocated to Residence 1 to allow for excavation at Residence 6. On September 20, most of Residence 6 was excavated to a depth of 12 to 24 inches which totaled nearly 825 yd³ of soil, fire bricks and red cobbles. START performed FPXRF screening at approximately 25 locations on the bottom of the excavation, most of which were less than 80 mg/kg for mercury. However, an oval-shaped section of red cobbles approximately the size of a softball was uncovered in the middle of Residence 6. This section, with dimensions of 30 feet by 70 feet, was screened with the FPXRF which identified concentrations of mercury ranging from 52 – 277 mg/kg. On September 23, START used the Lumex to screen for mercury vapors among the red cobbles, and detected concentrations up to 18,000 ng/m³ near the ground surface (for reference, the NIOSH REL is 50,000 ng/m³). The OSC directed ERRS to excavate approximately 5 truckloads (175 yd³) of the red cobbles and reassess with the Lumex, which identified mercury vapor concentrations of 10,000 ng/m³. The void space between the red cobbles appeared to be a pathway for mercury vapors, and the depth of the red cobbles was unknown. On the following day ERRS spread 30 bags of 3/8 inch bentonite chips among the red rock to seal the void space until it could be backfilled during the following reporting period.

Excavation in Area 1 continued from September 15 - 26. The depth of excavation ranged from 12 inches bgs along the eastern slope to 60 inches bgs near the toe of the repository. During this period, START performed 10 separate FPXRF screening events at 315 locations in Area 1 to guide the excavation of mine-waste contaminated soil. The average concentration of mercury and arsenic was 171 mg/kg and 25 mg/kg,

respectively. The highest concentration of mercury and arsenic was 6,057 mg/kg and 435 mg/kg, respectively. The total volume of mine-waste contaminated soil excavated in Area 1 was 12,400 yd³.

The excavation of mine-waste contaminated soil throughout the Site was completed by the end of the current reporting period.

ERRS imported over 4,650 yd³ of gabion rock, 2.5 inch diameter rock, 1 inch diameter rock, and topsoil from Umpqua Quarry as well as nearly 1,500 yd³ of 1.5 inch diameter rock from Nonpareil Quarry by the end of the reporting period.

Culverts and Erosion Control Measures

On September 18, the weather was overcast and the Site received light rain. Previously the weather on Site was hot and dry. On September 23, ERRS deployed straw bales in drainage channels and placed plastic tarps over piles of clean fill in preparation for a heavy rainstorm predicted the following day. On September 24, ERRS worked a half day shift to limit the generation of mud in the work zones and reduce sedimentation in the drainage channels during the rainstorm. The erosion control measures withstood the downpour without compromise. Specifically, the prior construction of the drainage ditches and the compaction of the repository handled the extraordinary rain event. A record-breaking 1.37 inches of precipitation was received in nearby Roseburg, breaking a record set in 1986 when a mere 0.40 inches fell. Later, on September 26, ERRS began to lay straw and seed to promote revegetation along the eastern sections of Areas 2 and 4.

On September 25, ERRS installed two culverts leading to Area 2; a 12-inch culvert to drain the road leading from the Mill Site and an 18-inch culvert to drain the south section of Area 1. On the following day, a 24-inch culvert was installed from Area 4 across Bonanza Mine Road.

Vehicle Decontamination and Screening

On September 20, START prepared a draft protocol to guide the decontamination and confirmation screening of heavy equipment on Site. The purpose of the protocol was to ensure that bulldozers, haul trucks, excavators, and other equipment used on Site were adequately decontaminated for general use in Level D PPE. The protocol was prepared in response to the decontamination of a 40-ton haul truck which identified persistent concentrations of mercury vapors greater than 1,000 ng/m³ in the vehicle cab despite multiple iterations of cleaning and screening. The protocol was approved on September 22 by OSC Franklin and OSC Liverman, and the scope was expanded to include Club Cars, Gators, and any other wheeled or tracked vehicles potentially exposed to mine-waste contaminated soil. Later that day the protocol was successfully implemented, and the majority of equipment was sufficiently decontaminated during the first iteration. During the reporting period, a total of three haul trucks, three water trucks, two bulldozers, an excavator, and a vibratory compactor were all decontaminated and screened. In accordance with the protocol, all cabin filters were replaced with the exception of one water truck (inaccessible filter) and the excavator (filter on order).

Additionally, START used the Lumex to screen various work spaces, break areas, and work trucks on September 22. The work spaces were less than 45 ng/m³, and the work trucks were less than 250 ng/m³.

Homesite Placement and Utilities

On September 19, David Bussen from Douglas County Planning arrived on Site to assess potential leach field locations. The ideal placement would be in undisturbed soil with level drain pathways and less than 45 degree slope. A possible location was identified north of Residence 1, but it was likely outside the property boundary. Mr. Bussen returned on September 23 to investigate soil conditions from three test pits. A location near Residence 5 and adjacent to an existing leach field was identified as an ideal candidate. START performed FPXRF screening of soil from this location to confirm that the ground was not contaminated with mercury or arsenic (the concentration of mercury was below instrument detection limits, and the concentration of arsenic was less than 35 mg/kg). Regardless of the final location of the homesites, the leach field will likely be placed near the test pit at Residence 5.

On September 18, ERRS began to install a permanent water line leading from the pump house south of Bonanza Mine Road through Area 4 and into Area 2. ERRS also began to install a trench on the west side of Area 4 for a future communication line.

Screening, Sampling and Laboratory Results

The distribution and concentration of mercury vapors appears to be affected by multiple variables, including temperature, humidity, wind speed, wind direction, Site activities, and proximity to the repository, among other factors. The hillside surrounding the excavated areas, along with the footprints of Residences 1, 2 and 6, may also be a source of mercury vapors.

On September 23, START performed two iterations of Lumex screening for mercury vapors at eleven targeted locations. The first iteration took place at 0800 hours and the second iteration around noon. Near Residences 1, 2, 3 and 6, the ambient concentration of mercury vapor in the early morning was moderately elevated (250 to 1,100 ng/m³) and tended to decrease by noon (25 – 300 ng/m³). During previous screening events, the mercury vapor concentrations increased to their highest concentrations in the mid- to late-afternoon, likely as a result of increased air temperature and wind velocity. The repository and/or Mill Site continue to be a likely source of mercury vapors, with concentrations ranging from 2,000 ng/m³ to 3,000 ng/m³ on September 23. Concentrations greater than 5,000 ng/m³ have been routinely encountered around the uphill side of the repository during the afternoon hours.

Per request of OSC Liverman, START prepared a draft summary of field screening data from the beginning of Site operations through September 23.

FPXRF Screening Data

- o Approximately 1,025 FPXRF screenings were performed on Site.
- o The highest concentration of mercury was 9,079 mg/kg, with an average concentration of 263 mg/kg.

- o The highest concentration of arsenic was 1,037 mg/kg, with an average concentration of 66 mg/kg.

Lumex Screening Data

- o The highest 1-second reading for mercury vapor was 90,000 ng/m³.
- o The highest 10-second reading for mercury vapor was 54,000 ng/m³.

On September 19, START received laboratory results for chain-of-custody 10NE-12 which included four soil samples. During the previous reporting period, START conducted confirmation soil sampling from the bottom of the excavations at Residence 1 and Residence 2. The sampling strategy targeted all three sections at Residence 1 and the homesite location at Residence 2; a five point composite soil sample was collected from the bottom of each sample location and homogenized. The FPXRF was used to perform ex-situ screening of the sample prior to submission to an off-Site laboratory on September 11 with 1 week turnaround time. The results from both the laboratory and the ex-situ FPXRF data are included in the following table along with a correlation calculation for arsenic and mercury.

Draft Table 3: Comparison of Ex-Situ FPXRF and Laboratory Data from Residence 1 and Residence 2

Sample Number	Sample Description	Depth	Mercury		Arsenic	
			Ex-Situ	Lab	Ex-Situ	Lab
Concentrations are in mg/kg						
14080208	Residence 1, South	12 inches	162	266	66	63.4
14080209	Residence 1, Middle	24 inches	167	349	110	118
14080210	Residence 1, North	12 inches	89	87.3	144	137
14080211	Residence 2, Homesite	12 inches	79	73.8	51	52.2
Correlation			0.977		0.989	

Based on laboratory data in Table 3, ERRS placed approximately 3 inches of rock at Residence 1 to provide a physical barrier above the bottom of the excavation.

Repository

During the reporting period, ERRS continued to perform compaction of the repository using a vibratory compactor, bulldozers and haul trucks. The repository was expanded toward the south to overlay pre-existing calcine piles and to accommodate the greater volume of mine-waste contaminated materials. An updated survey of the repository on September 23 provided a revised area of 176,000 square feet.

The ERRS removal manager recommended a combination anchor trench and drainage ditch along the eastern toe of the repository; the opposing hillside was too close to the toe to accommodate both features independent of one another. OSC Franklin and the START project manager discussed the situation with the START engineer, who approved the design modification on September 19. During the current reporting period, ERRS installed the anchor trench surrounding the north, west, and south sides of the repository to a minimum of 3 feet deep by 6 feet wide. The remaining section along the eastern side will be installed to a minimum of 4 feet deep by 6 feet wide to accommodate the drainage channel.

Best Management Practices

Continued to monitor and measure Site conditions and maintain Site BMPs. Continued to deploy the DataRam particulate monitors around the top of the repository, the staging area, and Residence 3. Dust suppression efforts were generally effective, even during the hottest days. For example, the time-weighted average (TWA) of particulates from 9/15 to 9/27 ranged from 0.5 µg/m³ to 44.4 µg/m³, which was considerably less than the action level of 1,400 µg/m³.

Neighboring Properties

Lone Rock Timber Management Company owns a significant portion of property surrounding the Site. On September 19, OSC Franklin contacted Lone Rock via telephone and was granted verbal access to the property in order to take photos of the Site. Lone Rock also informed OSC Franklin that they intend to begin construction of a logging road to begin harvesting timber, and that EPA should anticipate a limited increase in truck traffic along Bonanza Mine Road during the early morning and later afternoon.

Greener Cleanup Best Management Practices

START and ERRS collected and segregated plastic bottles and metals cans for recycling. Air-conditioning was used sparingly during the early mornings in the job trailers at the Site. A Fire Prevention and Suppression Plan established procedures for fire prevention and suppression of fires set indirectly as a result of the response action activities performed at the Site.

Off-Site Support Activities

During the reporting period, OSC Heister devoted considerable time to searching for two replacement trailers throughout the Willamette Valley while OSC Liverman prepared a draft action memorandum amendment and maintenance, monitoring, and repair (MM&R) plan. OSC Liverman also coordinated with ODEQ and Douglas County staffs along with SHPO, USFWS, and tribal staffs regarding final project documents.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

EPA has initiated a PRP search for this Site, and EPA will continue to collect and analyze additional

information about mining companies involved with operations at the Site and/or owners of the Site.

2.1.4 Progress Metrics (as of 9/13/14)

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Commingled mercury waste	Soil and other debris removed using hand tools	(2) 55-gallon drums	-	Macro-encapsulation	RCRA Subtitle C Facility (TBD)
Commingled mercury waste	Soil and other debris removed using Hg recovery vacuum	(1) 5-gallon pail	-	Retirement (sulfide treatment)	TBD

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

The following removal activities are expected to occur during the next reporting period (09/28/14 – 10/11/14): decontaminate the remaining excavator; begin to install water line to Residence 5; place backfill in Mill Site; place backfill in Residence 6; haul unscreened topsoil to the repository; spread and compact unscreened topsoil on the repository; prepare to receive the repository liner; continue ditch lines in Area 1 and Area 2; coordinate a survey of the Site boundary; research potential manufactured homes; select new homesite locations; coordinate with utility providers regarding new homesite locations; continue to monitor and measure Site conditions; continue to monitor and maintain Site BMPs; continue to communicate Site activities with representative from the state, the property owner, and the general public.

2.2.2.1 Issues

A Douglas County Sheriff's Deputy informed EPA that hunting season will begin on October 4.

EPA provided ongoing coordination with residents continuing to reside on-Site. On September 24, the EPA, START and ERRS met with Mr. Don Smith, the property landowner, to discuss the possibility of siting the replacement manufactured homes near the EPA command post to reduce the potential for exposure to mercury vapors around the mine site.

2.3 Logistics Section

2.3 Logistics Section

A START engineer was on Site during the week of September 15 – 19. During this time, the engineer verified design and adequacy of erosion control measures, verified design and expansion of the repository to accommodate placement of considerably larger amounts of mine-waste contaminated material, and assisted with delineation of contaminated locations using the FPXRF.

2.5.1 Safety Officer

No respirators were worn on September 24 due to intense rain. Since that date, only personnel working on the repository are wearing respirators. START has been conducting periodic Lumex screening to confirm that mercury vapors are below action levels.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

2.5.1 Safety Officer

Daily safety meetings are held. During each meeting, key personnel review the day's planned activities and any pertinent safety-related issues are highlighted. Personnel are also encouraged to present any particular concern or issues and any recommendation for improvement of project work and/or safety.

During the reporting period, site personnel were downgraded from Level C PPE (with full-face respirator) to Level D PPE based on the results of ongoing air monitoring and sampling.

2.5.2 Liaison Officer

Outreach activities are being addressed by key project personnel on an as needed basis.

2.5.3 Information Officer

See 2.5.2. Additionally, a Community Involvement Coordinator (CIC) has been assigned to the project and is available to also assist with outreach activities on an as needed basis.

3. Participating Entities

3.1 Unified Command

While UC is not established, ODEQ is integrated into the project organization, as appropriate.

3.2 Cooperating Agencies

N/A

4. Personnel On Site

EPA – 1

START – 2

ERRS – 13

ODEQ Western Region – 1 representative performed a Site visit on 9/16.

Douglas County HazMat Team – 5 members performed a Site visit on 9/17.

5. Definition of Terms

N/A

6. Additional sources of information

6.1 Internet location of additional information/report

www.epaosc.org/BonanzaMineandMill

6.2 Reporting Schedule

POLREPs will be prepared about every two weeks to coincide with OSC rotation schedule.

7. Situational Reference Materials

(Reminder - Add certain background documents to the web site)