



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MEMORANDUM

SUBJECT: Request for Time Critical Removal Action at the Headframe Area of the Argonaut Mine Superfund Site, Jackson, Amador County, California

FROM: Patricia Bowlin, On-Scene Coordinator,
Emergency Response Section 1 *PB*

Michelle Rogow, On Scene Coordinator
Emergency Response Section 1 *MR*

TO: Enrique Manzanilla, Director
Superfund & Emergency Management Division

THRU: Kelly Manheimer, Acting Assistant Director
Emergency Response, Planning & Preparedness Branch

I. PURPOSE

The purpose of this memorandum is to request and document approval of \$1,530,000 in direct extramural costs for the selected removal action described herein for the Gallows Headframe Area Removal Action (“Headframe Area”) on the Argonaut Mine Superfund Site (Site). The Site was placed on the National Priorities List (NPL) in 2016 and is located in the City of Jackson, Amador County, California.

The proposed time-critical removal action would mitigate threats to human health and the environment posed by surface soils contaminated with lead, mercury, and arsenic; damaged containers of caustics and other hazardous substances; and asbestos containing materials in the Headframe Area. If site conditions are not addressed, it may result in an imminent and substantial endangerment to public health or welfare through the continued public exposure to harmful concentrations of heavy metals and asbestos.

Prior to listing the Argonaut Mine Superfund Site on the NPL, five previous action memoranda addressed contaminated soils in the Tailings Area of the Site, including at a vacant lot, residential property, Jackson Junior High School and the Eastwood Multiple Arch Dam area. These prior memoranda include requested exemptions to the \$2 million and 12-month statutory limitations for removal actions. These action memoranda were approved on December 5, 2013; May 15, 2014; February 11, 2015; July 2, 2015; and May 12, 2016, respectively.

The proposed response action at the Site is consistent with requirements for removal actions authorized pursuant to Section 104(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604(a); and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415.

II. SITE CONDITIONS AND BACKGROUND

Site Name: Argonaut Mine Superfund Site

CERCLIS ID: CAD983650011

SSID: A930

Site Location: Headframe Area, Spunn Road, Jackson, CA

Removal Category: Time Critical

NPL Status: Listed on NPL on Sept 9, 2016

A. Site Description

1. Removal Site Evaluation

The industrialized area of the Mill Area contains the main shaft, headframe and infrastructure that was necessary to operate the former 5,000-foot-deep mine. This infrastructure includes two former mine mills, blacksmith and machine shop buildings, a former lumber mill area, materials storage and disposal areas, a hoist house, mine headframe, process buildings, a former assay building, offices and other various ancillary buildings with industrial oriented functions. The buildings vary in condition from intact structures to foundation remnants. This industrialized area was used for milling operations related to the Argonaut gold mine from the 1880's to 1942. In addition, the presence of piping, lighting and other materials manufactured after 1942 indicates that activities other than mining occurred at the Site after mining operations ceased.

The Mill Area is bisected by Highway 49. In 2014, as part of the site inspection to support NPL listing, EPA collected surface and shallow subsurface soil samples from 9 locations in the western (above and west of Highway 49) portion of the Mill Area at the Site. Four samples significantly exceeded the respective screening levels for lead, mercury, and/or arsenic¹. Samples collected near the headframe, machine shop, and assay building in the western Mill Area in proximity to the Gallows Headframe contained lead concentrations ranging from 8.2 milligrams per kilogram (mg/kg) to 47,200 mg/kg, mercury concentrations ranging from 0.24 mg/kg to 348 mg/kg, and arsenic concentrations ranging from 154 mg/kg to 743 mg/kg.

On June 17, 2019, OSC Robert Wise and the Calaveras Bomb Squad conducted an explosives assessment of the buildings in the Headframe Area. Containers labeled as containing explosives were reported to be present in the buildings. During the assessment, the team verified that all the containers were empty and did not contain explosive materials.

¹ Regional Screening Levels for lead (400 mg/kg) and mercury (9.4 mg/kg) (EPA Region 9, June 2015). EPA site-specific screening level for arsenic (100 mg/kg).

During the period from February 11 through February 14, 2020, EPA performed a removal assessment in the Argonaut Mine Mill Area. The purpose of the assessment was to evaluate the nature and extent of contaminants of concern (COCs) – lead, arsenic, and mercury – in surface and shallow subsurface soils in the Mill Area of the Site. The selection of COCs was based on previous investigations and historical mining records. A total of 122 soil samples in the western Mill Area and 77 soil samples in the eastern Mill were collected and analyzed for lead, mercury and arsenic at a commercial laboratory. In general, the highest levels of contaminants were detected in soils in the western Mill Area adjacent to a former assay laboratory. The highest levels of lead, arsenic and mercury were co-located in soils in this area near the headframe of the former mine shaft. Additional assessment activities including sampling and hazard categorizing were conducted in July 2020.

Historical mine operations included gold assay processing using lead and crucibles. The area with the highest concentrations of lead, arsenic and mercury was found in an area which contained a waste pile of these crucibles. The maximum concentration of lead in soil was 71,000 mg/kg. The Regional Screening Level (RSL) for lead is currently 400 mg/kg. The DTSC modified screening level (DTSC-SL) for lead is 80 mg/kg. The maximum concentration of mercury in soils was 260 mg/kg and the RSL is 11 mg/kg. The maximum concentration of arsenic in soils was 1,600 mg/kg and the site-specific screening level is 100 mg/kg.

In another area located in the northeastern portion of the Headframe Area, additional soil contamination of concern was identified with maximum concentrations of lead, mercury, and arsenic in soils at 1,100 mg/kg, 8.6 mg/kg, and 1,200 mg/kg, respectively.

In addition, fragments of crucibles were analyzed and found to contain 67,000 mg/kg of lead. An estimated 1,500 cubic yards of contaminated soil and debris has been identified for removal in the Headframe Area. Figures 1A and 1B contain maps and summaries of the lead, arsenic and mercury analytical results in the Headframe Area.

Also, during the removal site evaluation other mine waste and associated materials were identified. Asbestos containing material (ACM) was identified in a pile of transite in a former building location and other materials in one of the buildings. Drums and other containers of caustic and other potential chemicals were also identified in the headframe area buildings. Some of these containers were degraded and in poor condition.

2. Physical location

The Argonaut Mine Site is located along Highway 49 in the City of Jackson, Amador County, California, and is one of many gold mines belonging to the Mother Lode Gold Mining District in the foothills of the Sierra Nevada Mountains. (See Figure 2.) The Site comprises two principal areas: the Mill Area and the Tailings Area. The Tailings Area is not part of this removal action. The Headframe Area, part of the western Mill Area, is the focus of this removal action and is located at the northern end of the Spunn Road residential area west of Highway 49. The geographic coordinates (latitude/longitude) for Argonaut Mine Headframe Area Removal are 38°21'45.4"N 120°47'09.6"W.

3. Site Characteristics

The Argonaut Mining Company historically owned approximately 330 acres of land northwest of downtown Jackson. The property was sold after the mine closed and approximately 90 acres of the former property have been developed as residential neighborhoods. The Argonaut Mine and the adjacent Kennedy Mine are designated as a California State Historical Landmark (No. 786).

The Mill Area occupies approximately 80 acres adjacent to a residential area and has shafts and buildings on the east and west sides of Highway 49. The Headframe Area is bordered to the north by a residential home, two businesses and the Kennedy Mine property, to the west by residential homes, to the south by residential homes and a hotel, and to the east by residential homes and an apartment building. There is evidence that unhoused neighbors are residing on the Site including near the Headframe Area. The Site layout is shown in Figure 3. The elevation of the Mill Area ranges from approximately 1,260 to 1,650 feet above mean sea level.

The western portion of the Mill Area is located on Amador County Assessor's parcel number (APN) 44-360-018 on an eastward steeply sloped hillside with a terraced area constructed of waste rock from the mine. The terraced area is developed with large galvanized metal buildings and a steel hoist tower (headframe) over the main mine shaft. A 1930 Sanborn Map shows the buildings were used as a hoist house, ore bin, compressor house, machine shop, steel shop and storage. A concrete foundation on the southern portion of the parcel appears to be the remains of an assay building that has a small furnace and a crucible dump on the slope between the building and Highway 49. The mine buildings are secured with a chain link fence and gated entrance from Spunn Road. A former 60-stamp mill was located uphill of the mine shaft and has been subdivided by the Argonaut Heights II residential development into more than 50 parcels with homes.

4. Release or Threatened Release into the Environment of a Hazardous Substance or Pollutant or Contaminant.

In the western Mill Area near the Gallows Headframe, surface soils contain high levels of lead, mercury, and arsenic exceeding health-based benchmarks (i.e., RSLs). Lead-contaminated assay process wastes, including crucibles, were observed at or near the ground surface in waste piles outside the fenced area. The contamination has been associated with periodically changing and rearranged infrastructure as the mine operation evolved and pockets of contamination may be present in areas that have not yet been fully characterized around the industrial facility. Removal assessment activities conducted in February and July 2020 in and around the buildings confirm the presence of hazardous substances such as chemicals, caustic materials, and ACM. Contaminated soils and assay process waste piles located outside the fenced area are accessible to the public and may result in exposure to high levels of lead, mercury, and arsenic in excess of acceptable risk levels. In June 2020, EPA conducted an emergency action (discussed later under Current Actions) to install additional fencing to prevent access to high levels of contamination in the Headframe

Area. However, the fence has been breached numerous times, demonstrating that access by the public to this area continues to be an issue.

5. NPL Status

The Site was listed on the NPL in 2016. EPA is currently conducting a remedial investigation and planning for a non-time critical removal action to address mine waste and contaminated soils in the Tailings Area, a separate location of the NPL Site.

B. Other Actions to Date

1. Previous Actions

EPA has conducted the following previous actions in the Tailings Area of the Site:

- a. On November 13 and 14, 2013 an EPA emergency response was conducted to install a fence at the top of Dam 1 (concrete arch dam) to prevent children from walking in tailings area 1 above the dam and being exposed to contaminated soils behind the dam.
- b. Between March 16 and March 28, 2015, EPA conducted a removal action involving the excavation of 1,872 cubic yards of contaminated soils and tailings from a vacant lot at the corner of Pioneer Street and Argonaut Lane. The contaminated material was placed in a small repository with a two-foot-thick capillary barrier evapotranspiration ("ET") cover system in the southeast corner of Tailings area 4. The excavation was backfilled with clean imported soil, graded, hydro-seeded and the property was fenced. Additionally, EPA assisted the City of Jackson with the installation of a subsurface storm water drainpipe to help alleviate flooding in this area and protect the vegetative cap. Soil sampling was conducted at 19 other residential properties based on aerial photo analysis.
- c. In July and August 2015, EPA conducted additional work to remove contaminated soils from eleven residential properties and Jackson Junior High School where high arsenic concentrations in surface soils were encountered. A second small repository was constructed on the northwest corner of the 5-acre parcel.
- d. Between July 11 and 29, 2016 EPA conducted a geotechnical assessment to provide information to DTSC for designing the retrofit of Dam 1 (concrete arch dam). A final report *Argonaut Geotechnical Assessment Report* dated December 2016 documented the results of 10 borings and several trenches and confirmed that the concrete dam was built onto or in the bedrock which allowed DTSC to initiate foundation design. Repairs to residential yards were also conducted during this time frame.
- e. Between May and December 2018, DTSC conducted an action at the site to retrofit the Multiple Arch concrete dam in order to prevent failure and endangerment of the downstream community. The design included a robust spillway and a

concrete/earthen buttress that will prevent movement of the dam. Part of the design included a blanket drain that effectively collects seepage through and under the dam and conveys it into a single 6-inch discharge pipe. This pipe is located downstream of Argonaut Drive and discharges into a creek which flows through the town of Jackson. This action converted a diffuse discharge to an ongoing discrete point source of contaminated seepage. The contaminated mine drainage will be addressed as part of the overall future superfund site remediation activities.

2. Current Actions - Emergency Response Initiated

Based on the observed and documented Site conditions, specifically high levels of lead in an area which was being utilized by the public, EPA OSC Rogow initiated an emergency response on June 1, 2020. The emergency response involved installation of a fence to restrict access to highly contaminated soils and assay process wastes in the Headframe Area. This additional fencing was needed to prevent public exposure to contaminated soils outside of the existing Headframe Area fence (See Figure 4). The fence was constructed from June 2 – 4, 2020 and warning signs were posted the week of June 23, 2020. See the attached Pollution Report 1 (POLREP) for additional information (Attachment 1).

C. State and Local Authorities Role

1. State and Local Actions to Date

The Cal-EPA, Department of Toxic Substances Control (DTSC) was the lead agency for the Site from 1992 through August 2013. In 2008, DTSC's contractor, URS Corporation (URS), performed site investigation activities which consisted of drilling, soil sampling, and ground water sampling. A total of 46 borings and 151 soil samples were collected from the main tailings area. The maximum concentration of arsenic in the tailings area was 670 mg/kg from a boring at a depth of 20 feet. The maximum arsenic concentration detected in the groundwater was 220 ug/l. Since August 2013, EPA has been the lead on site activities except for the 2018 retrofit activities at Dam 1, which were performed by DTSC using state funds.

2. Potential for Continued State/Local Response

DTSC is expected to make additional improvements to storm drain capacity downstream of the main tailings area to improve flows under Highway 49. During the first two weeks of April 2019, DTSC installed an additional 36-inch discharge pipe to improve the ability of the new spillway to accommodate up to the 200-year storm. No known state or local response is anticipated in the Headframe Area.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Headframe Area of the Site have resulted in a release, and potential threat of release, of CERCLA hazardous substances threatening the public health, welfare, or the environment based on the factors set forth in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. § 300.415(b)(2). EPA has determined that the following 40 C.F.R. § 300.415(b)(2) factors apply to the Site:

1. Actual or Potential Exposure to Hazardous Substances or Pollutants or Contaminants by Human Populations, Animals or the Food Chain.

High levels of lead, mercury, and arsenic have been detected in surface and shallow subsurface soils at the Headframe Area. Asbestos and other chemicals have also been identified in this area. The Headframe Area is located at the end of a residential street and even though the area is now fenced, it continues to be accessed by the public. Unhoused neighbors reside near the Headframe Area. EPA installed a fence in June 2020 to prevent exposure to this area, however members of the public continue to breach the fence and walk through the area. Inhalation or ingestion of contaminated soils is the potential exposure pathway for nearby part-time and/or full-time residents and other persons that live or visit in the area. The area is frequented by trespassers because of the historical significance of the Site. Evidence of excavations in the lead contaminated assay wastes piles in the presumed pursuit of residual gold or artifacts indicates actual exposure.

Lead is a toxic metal. Exposure to lead can affect almost every organ and system in the body. Long-term exposure may cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production. Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. At low levels of exposure, lead can affect a child's mental and physical growth. The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans. Lead is a California and RCRA hazardous waste. Lead is a listed CERCLA Hazardous Substance pursuant to Table 302.4 under 40 CFR Part 302.

Arsenic primarily enters the body through ingestion or inhalation as airborne dust. Arsenic and arsenic compounds are considered skin and lung carcinogens in humans and high levels of ingested arsenic are known to produce death. Arsenic is a hazardous substance listed pursuant to 40 CFR Part 302. Arsenic is both a RCRA characteristic waste for the toxicity characteristic (D004) and California toxic waste. Arsenic is a listed CERCLA Hazardous Substance pursuant to Table 302.4 under 40 CFR Part 302.

Mercury poisoning can produce a wide variety of symptoms. These include irritation and burning of the skin and eyes, skin allergies and acrodynia, weakness, fretfulness, sleeplessness, excessive salivation or sweating, itching, swelling, fever, memory loss, and elevated blood pressure. Exposure to elemental mercury vapor may also produce kidney damage and symptoms of respiratory distress, including lung irritation with coughing, sore throat, chest pain or chest tightness, shortness of breath pulmonary edema and pneumonitis and pneumonia, which can be fatal. Mercury is both a RCRA characteristic waste (D009) and Listed Waste (U151). Mercury is a California toxic waste. Mercury is a listed CERCLA Hazardous Substance pursuant to Table 302.4 under 40 CFR 302.

Asbestos exposure can cause serious lung problems and cancer. The Department of Health and Human Services (DHHS), the World Health Organization (WHO), and the EPA have determined that asbestos is a human carcinogen. It is known that breathing asbestos fibers can increase the risk of cancer in people. There are two types of cancer caused by exposure to asbestos: lung cancer and mesothelioma. Mesothelioma is a cancer of the thin lining surrounding the lung (pleural membrane) or abdominal cavity (the peritoneum). Asbestos is a California hazardous waste and is a listed CERCLA Hazardous Substance pursuant to Table 302.4 under 40 CFR 302.

2. High Levels of Hazardous Substance or Pollutants or Contaminants in Soils at or Near the Surface that may Migrate.

Contaminated surface soils or assay wastes may be entrained in naturally and mechanically generated dust and transported by water, by wind, or on the shoes and/or clothing of persons passing through the Site.

3. Weather Conditions that may Cause Hazardous Substances or Pollutants or Contaminants to Migrate or be Released.

In the headframe area extreme weather conditions may cause erosion of the mine waste material down a steep slope onto the state highway and cause fresh exposure of more contaminated soil.

4. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

Hazardous substances (ACM, caustic materials, and other chemicals) in drums and other containers have been observed in the head frame structures. Some of these containers were degraded and in poor condition and may pose a threat of release.

IV. ENDANGERMENT DETERMINATION

The current site conditions, including the presence of lead, mercury, and arsenic contaminated soils, and uncontained asbestos and other chemicals if not mitigated by completing the planned response actions, will continue to pose a threat to human health and the environment. This will occur through inhalation, direct contact and ingestion, and migration of materials off-site and into the local ecosystem. Lead, mercury, arsenic and asbestos are hazardous substances under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

Consistent with the factors set forth at 40 C.F.R. § 300.415(b)(2), the actual or threatened releases of this hazardous substance, if not addressed by completing the response action as proposed in this memorandum, will continue to present a threat of exposure to lead, mercury, arsenic and asbestos and pose an imminent and substantial endangerment to public health or welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Action

Proposed Action Description

Excavation of the contaminated soils and debris, removal of drums and ACM for disposal in an authorized location will mitigate the public health threat posed by direct human contact and inhalation of airborne particles. Site stabilization without disposal would provide only a temporary solution to the threats posed by the Site. Excavation of contaminated soils will be conducted based on the concentrations of lead, mercury and arsenic, with lead being the principle contaminant of concern (mercury contamination is within the boundaries of the soil with high levels of lead). Due to the individuals living in the Gallows Headframe area, the area will be cleaned up to meet the residential lead cleanup level of 400 mg/kg. The lateral extent of excavation will be defined by contiguous lead contamination that exceeds 400 mg/kg. Co-located mercury exceeding 11 mg/kg and co-located arsenic exceeding 100 mg/kg will be removed to the extent practicable. If lead contamination is left in place, it will be at a depth to provide sufficient cover as to mitigate the risk to individuals living or otherwise utilizing the area.

The following waste materials will be removed and transported to an authorized disposal facility:

- 1) Soils contaminated with lead, mercury and arsenic from the Headframe Area – Approximately 1,500 cubic yards;
- 2) Asbestos containing material in buildings and former building areas; and
- 3) Drums containing chemicals, caustic and unknown materials.

The excavations will be backfilled with clean soil, graded for proper drainage, and restored as needed.

1. Contribution to Remedial Performance

There is currently an ongoing remedial investigation being conducted by the remedial program as well as a planned non-time critical removal action. In June 2020, EPA installed a fence and posted danger signs to prevent public access to unrestricted contaminated areas of the Headframe Area. The proposed removal action will substantially reduce any threat of direct or indirect contact with or inhalation of high levels of hazardous substances in the Headframe Area of the Site. The OSC is closely coordinating with the RPM. The proposed removal action will assist in the long-term remediation of the Site by mitigation of the most imminent threats which exist in the Headframe Area of the Site and be conducted in a manner consistent with the remedial cleanup.

2. ARARs

Section 300.415 of the NCP provides that removal actions conducted under CERCLA are required to attain ARARs to the extent practicable. In determining the extent to which compliance with ARARs is practicable, the OSC may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted.

Section 300.5 of the NCP defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under-Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record-keeping, and enforcement are not ARARs for the CERCLA actions confined to the site.

The following ARARs have been identified for the proposed response action. All can be attained.

Federal ARARs:

CERCLA Off-Site Disposal Rule, 42 U.S.C. 9621(d)(3), 40 CFR 300.440 and Resource Conservation and Recovery Act, 42 USC S 6901 et seq. and its implementing regulations, 40 CFR §§ 260-270, including the RCRA Land Disposal Restrictions, 40 CFR § 268.40 Subpart D:

CERCLA waste transferred off-site may only be placed in a facility that operates in compliance with the Resource Conservation and Recovery Act (RCRA). The facility to which excavated soil and any other hazardous wastes will be sent must be among the list of approved receiving facilities pursuant to RCRA.

Resource Conservation and Recovery Act, as amended (RCRA), 42 U.S.C. §§ 6901 et seq., and its implementing regulations (40 CFR Parts 260 -265, and 268), including but not limited to the following specific requirements identified at this time:

40 CFR §§ 261.10 and 261.24, relating to characteristics of hazardous wastes including the toxicity characteristic; 40 CFR §§ 262.20, 262.21, 262.22, 262.23, 262.30, 262.31, and 262.32, relating to hazardous waste manifesting and labeling requirements prior to transportation of hazardous waste containers off-site; 40 CFR §§ 263.20 and 263.21, relating to off-site transport of hazardous waste (handling and manifesting requirements); and 40 CFR § 268, relating to off-site and on-site land disposal restrictions for hazardous wastes.

U.S. Department of Transportation (DOT) Hazardous Material Transportation Rules 22 §§ CCR 66262.20, 66262.22, 66262.23, and 66262.30 through 262.33:

Off-site transportation of hazardous materials will be governed by U.S. DOT regulations. The substantive provisions of the regulations apply to management of hazardous materials onsite.

National Historic Preservation Act:

Provisions under the NHPA Section 106 are meant to protect historic properties from damage during removal actions. The OSC will obtain the services of a qualified Historic Specialist to assist EPA with compliance with the NHPA. Consultation with the State Historic Preservation Officer (SHPO) will be initiated and the proposed removal action will address items raised by the SHPO. Should EPA determine that any adverse effects might occur as a result of, or during, the removal action, EPA will mitigate the impacts and submit it to the SHPO and the Advisory Council on Historic Preservation for concurrence, as required.

State ARARs:

California Health and Safety Code, Title 22, § 66261.20, § 66261.21, § 66261.22, § 66261.23, § 66261.24 (Characteristics of Hazardous Waste)

3. Project Schedule

The project is scheduled to begin in the fall of 2020. The start-up date is estimated pending consultation with the SHPO and required removal planning activities. It is estimated that the removal action will take 4 weeks.

B. Estimated Costs

Extramural costs

Regional Removal Allowance Costs:

Emergency and Rapid Response Services (ERRS) Costs	\$850,000
Superfund Technical Assessment and Response Team (START) Costs	\$400,000
US Coast Guard (USCG) Costs	\$25,000
Subtotal	\$1,275,000
Extramural Contingency (20% of Subtotal)	\$255,000
Total Removal Action Project Ceiling	\$1,530,000

VI. EXPECTED CHANGE TO THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances documented onsite, and the potential exposure pathways to nearby populations described in Sections III and IV above, actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in this memorandum, may continue to present an imminent and substantial endangerment to public health, welfare, or the environment.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues with the Site identified at this time.

VII. ENFORCEMENT

The Mill Area parcels are currently owned by Jon & Carolyn Crowley Trust. Please see the attached Confidential Enforcement Addendum (Attachment 3) for a discussion regarding potentially responsible parties and enforcement. If the removal action is conducted by the potentially responsible party(ies), an enforcement cost recovery action may recover oversight costs and currently incurred site assessment costs. If EPA conducts the removal action, an enforcement cost recovery action may recover the extramural response costs plus the intramural costs.

Intramural Costs

Estimated EPA costs for this Removal Action

U.S. EPA Direct Costs ²	\$100,000
U.S. EPA Indirect Costs (50.65% of Spending: \$1,530,000 + \$100,000)	\$774,945
TOTAL	\$874,945

The total U.S. EPA extramural and intramural costs for this removal action, based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,404,945.

Of this, an estimated spending of \$1,530,000 comes from the regional removal allowance.

IX. RECOMMENDATION

This decision document recommends the removal action described in this memorandum for the Argonaut Mine Site, in Amador County, California, in accordance with the standards laid out in 42 U.S.C. § 9604 (c)(1)(A) and 40 C.F.R. Section 300.415(b)(5). Because conditions at the Argonaut Mine Site meet the criteria for a removal action, we recommend that you approve selection of the removal action proposed in this memorandum.

The total project ceiling is \$1,530,000. This amount will be funded from the Regional removal allowance. Please indicate your decision by signing below.

Approve: _____
Enrique Manzanilla, Director
Superfund Division
Date

Disapprove: _____
Enrique Manzanilla, Director
Superfund Division
Date

² Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual costs from this estimate will affect the United States' right to cost recovery.

Figures

Figure 1A – Removal Area - Surface Sample Results, February/July 2020

Figure 1B – Removal Area - Subsurface Sample Results, February 2020

Figure 2 – Site Location Map

Figure 3 – Site Layout

Figure 4 – Headframe Area Fencing

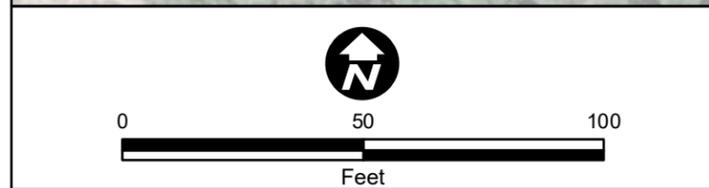
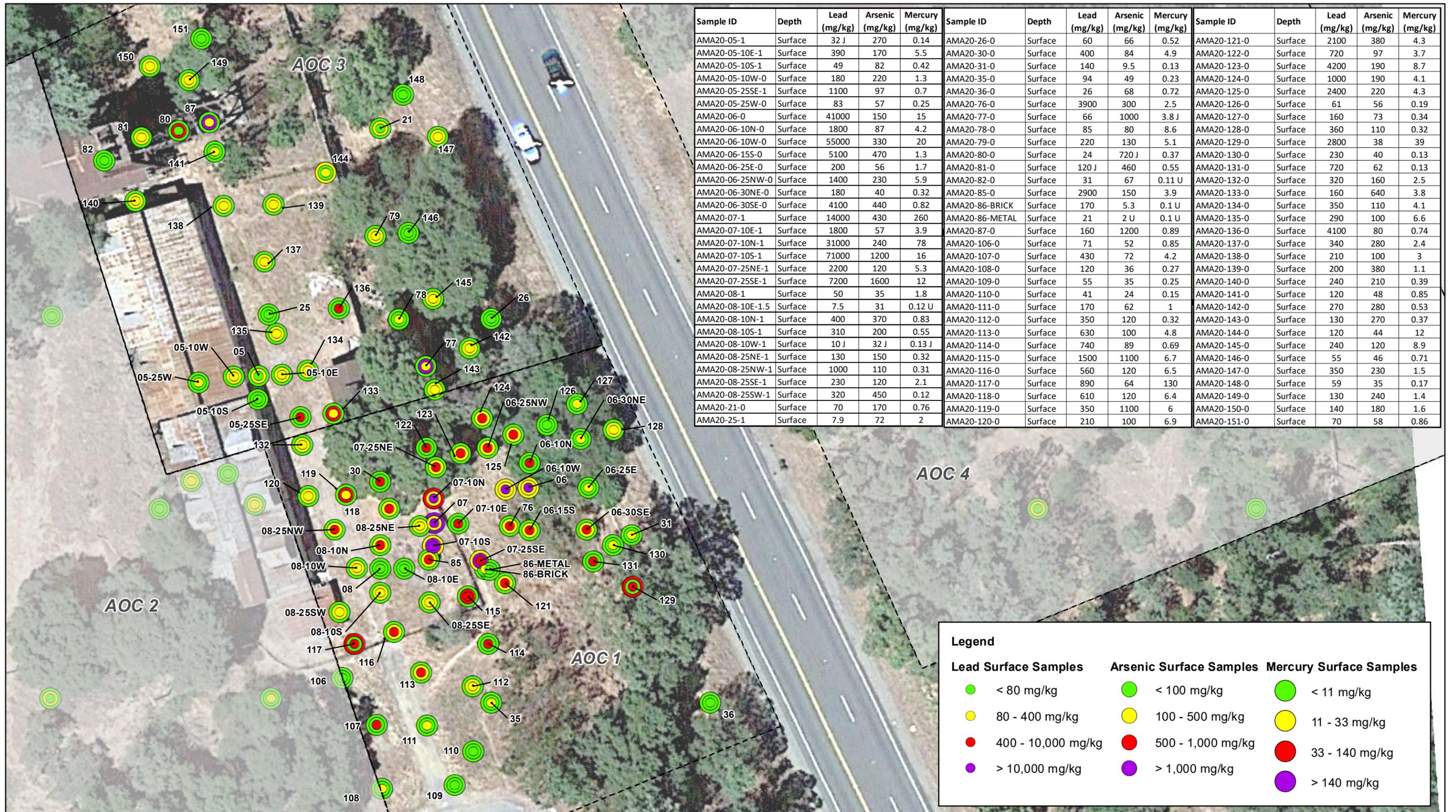
Attachments

Attachment 1 – Argonaut Headframe Area Pollution Report (Polrep) 1

Attachment 2 – Index to the Administrative Record

Attachment 3 – Enforcement Confidential Addendum

bcc: L. Williams, ORC-3-2
C. Whitenack, SFD-7-5
P. Bowlin, SFD-9-1
M. Rogow, SFD-9-1
J. Hillenbrand, SFD-7-2
B. Lee, SFD-9-3
M. Matthews, SFD-9-3
K. Castro, SFD-2
K. Lawrence, SFD-9-3
P. Guria, SFD-9-2
L. Keller, SFD-9-1
K. Manheimer, SFD-9



PREPARED BY:
 Region 9, START
 Weston Solutions
 Concord, CA 94520
AUGUST 2020

PREPARED FOR:
 EPA Region 9
 Emergency
 Response
 Section

FIGURE 1A
REMOVAL AREA - SURFACE SAMPLE RESULTS, FEBRUARY/JULY 2020
 Argonaut Mine Headframe Area Assessment
 Jackson, Amador County, California



Legend

Building Footprint

Lead Subsurface Samples

- < 80 mg/kg
- 80 - 400 mg/kg
- 400 - 10,000 mg/kg

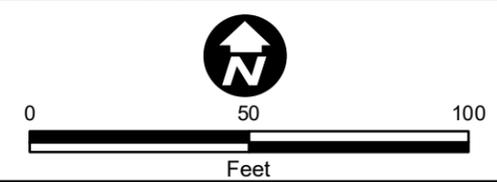
Arsenic Subsurface Samples

- < 100 mg/kg
- 100 - 500 mg/kg
- 500 - 1,000 mg/kg

Mercury Subsurface Samples

- < 11 mg/kg
- 11 - 33 mg/kg

Sample ID	Depth	Lead (mg/kg)	Arsenic (mg/kg)	Mercury (mg/kg)
AMA20-05-4	Subsurface	3.6	2.1 U	0.11 U
AMA20-05-10E-2.5	Subsurface	17	16	0.17
AMA20-05-10S-4	Subsurface	7.5 J	2.4 U	0.12 U
AMA20-05-25SE-3	Subsurface	180	9.6	0.12 U
AMA20-06-10N-2	Subsurface	340	15	6.7
AMA20-06-10W-2	Subsurface	4,700	33	10
AMA20-06-15S-2	Subsurface	4,800	360	1.3
AMA20-06-25E-1	Subsurface	25	120	1.5
AMA20-06-25NW-2	Subsurface	740	240	2.8 J
AMA20-06-30NE-2	Subsurface	34	50	0.16
AMA20-06-30SE-2	Subsurface	420	59	0.12 U
AMA20-07-4	Subsurface	120	47	2.9
AMA20-07-10E-2	Subsurface	31	53	0.98
AMA20-07-10N-2	Subsurface	470	37	6.2
AMA20-07-10S-4	Subsurface	20	28	0.12 U
AMA20-07-25NE-2	Subsurface	180	37	0.6
AMA20-07-25E-2	Subsurface	2,000	170	0.12 U
AMA20-08-3	Subsurface	8	51	0.35
AMA20-08-10E-4	Subsurface	9	79 J	0.19
AMA20-08-10N-3	Subsurface	10	76	0.12 U
AMA20-08-10S-3	Subsurface	9	79	0.13
AMA20-08-10W-2	Subsurface	18	130	0.27
AMA20-08-25NE-4	Subsurface	13	50	0.12 U
AMA20-08-25NW-4	Subsurface	6	7	0.12 U
AMA20-08-25E-3	Subsurface	12	28	0.12 U
AMA20-08-25SW-3	Subsurface	9	73	0.34
AMA20-21-1.5	Subsurface	42	64	0.33
AMA20-25-4	Subsurface	1.9	2.3 U	0.11 U
AMA20-25-6	Subsurface	2.2	2.2 U	0.11 U
AMA20-26-2	Subsurface	6.3	6.3	0.12 UJ
AMA20-30-10	Subsurface	16	170	1.5
AMA20-30-12	Subsurface	5	11	0.12 U
AMA20-30-14.5	Subsurface	5	3	0.12
AMA20-30-4	Subsurface	9	64	0.22
AMA20-30-6	Subsurface	8	130	0.32
AMA20-30-8	Subsurface	17	100	0.58
AMA20-31-2	Subsurface	9	45	0.12 U
AMA20-35-11	Subsurface	5	2.2 U	0.11 U
AMA20-35-13	Subsurface	5	33	0.12 U
AMA20-35-2	Subsurface	90	56	0.24
AMA20-35-4	Subsurface	22	42	0.15
AMA20-35-7	Subsurface	11	59	0.17
AMA20-36-1.5	Subsurface	11	56	0.36
AMA20-76-2	Subsurface	9,200	540	2.7
AMA20-78-2	Subsurface	40	130	2.5
AMA20-81-1.5	Subsurface	50	110	0.23
AMA20-87-1	Subsurface	87	310	1.1



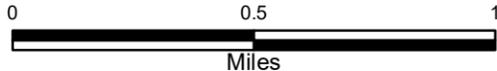
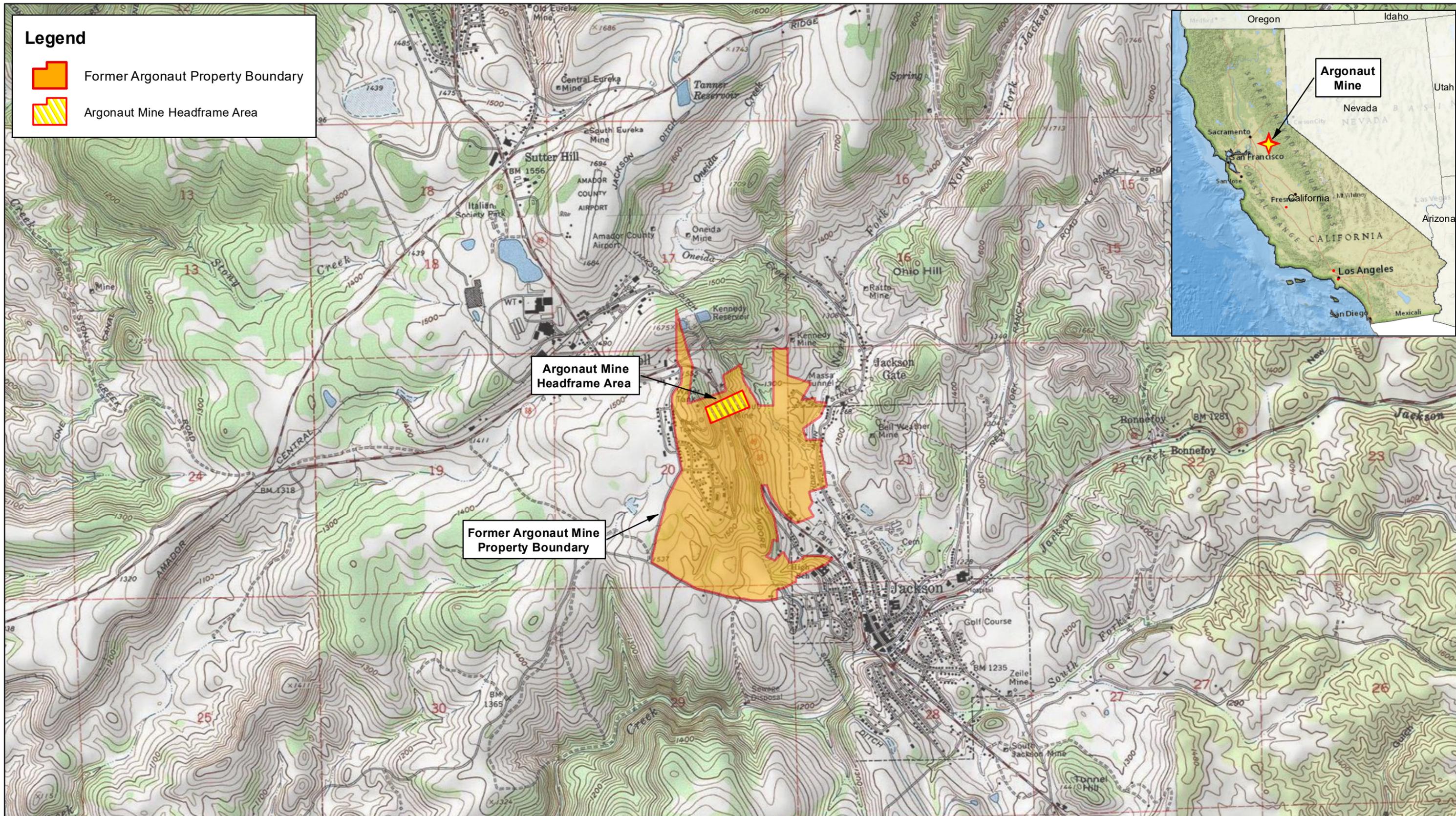
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 Weston Solutions
 Concord, CA 94520
AUGUST 2020



PREPARED FOR:
 EPA Region 9
 Emergency Response Section



FIGURE 1B
REMOVAL AREA - SUBSURFACE SAMPLE RESULTS, FEBRUARY 2020
 Argonaut Mine Headframe Area Assessment
 Jackson, Amador County, California



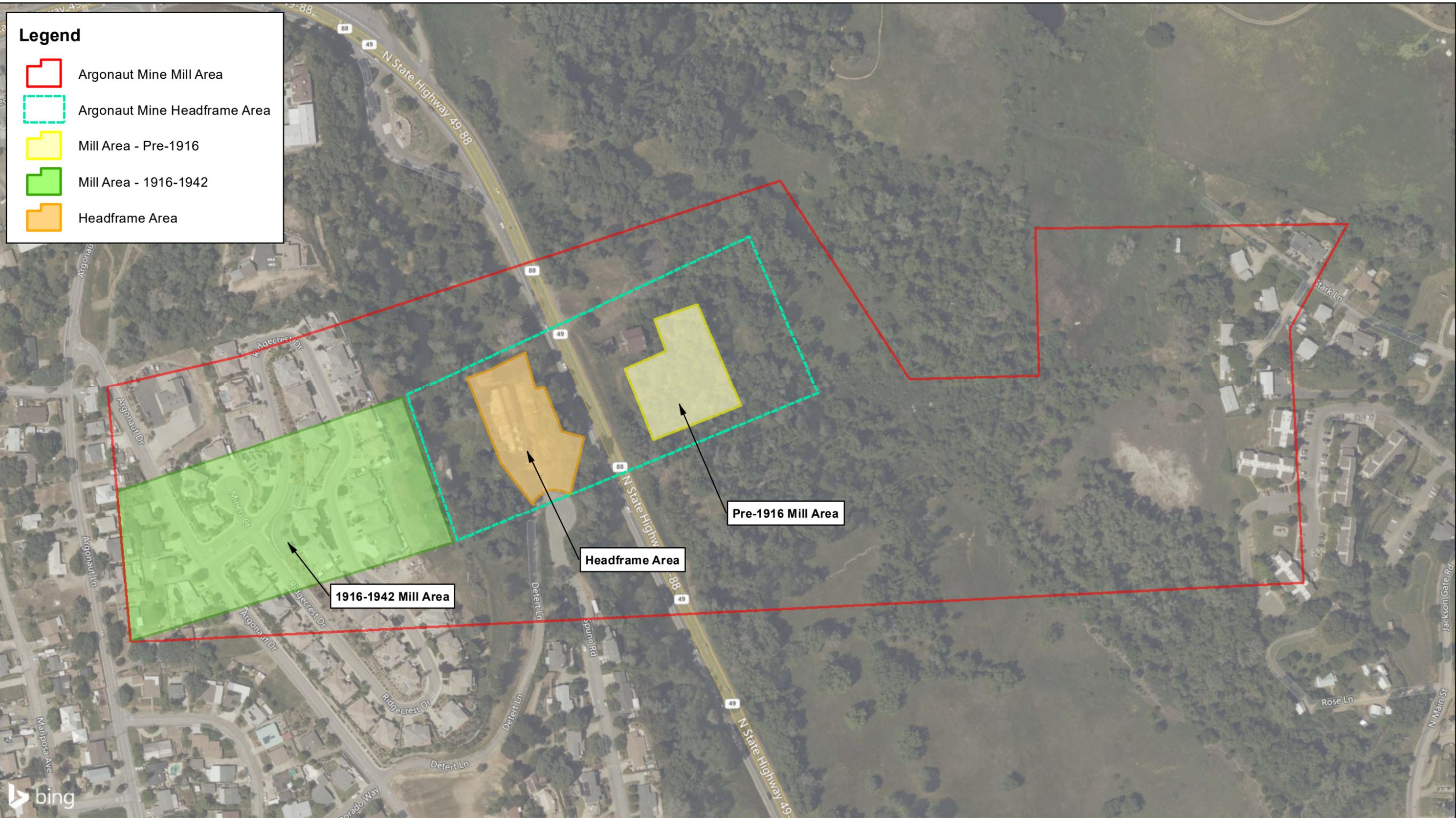
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 Concord, CA 94520
AUGUST 2020



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FIGURE 2
SITE LOCATION MAP
 Argonaut Mine Headframe Area Assessment
 Jackson, Amador County, California



Legend

-  Argonaut Mine Mill Area
-  Argonaut Mine Headframe Area
-  Mill Area - Pre-1916
-  Mill Area - 1916-1942
-  Headframe Area

1916-1942 Mill Area

Headframe Area

Pre-1916 Mill Area



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 Concord, CA 94520
AUGUST 2020



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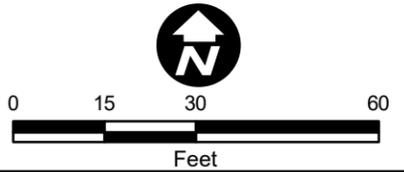


FIGURE 3
SITE LAYOUT
 Argonaut Mine Headframe Area Assessment
 Jackson, Amador County, California



Legend

- New Fenceline
- Caltrans Fenceline
- Existing Fencing
- Right of Way



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FIGURE 4
HEADFRAME REMOVAL AREA FENCING
 Argonaut Mine Headframe Area Assessment
 Jackson, Amador County, California

U.S. ENVIRONMENTAL PROTECTION AGENCY
 POLLUTION/SITUATION REPORT
 Argonaut Mine Site Headframe Area Removal Action - Removal Polrep
 Initial Removal Polrep



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 Region IX**

Subject: POLREP #1
 Initial Polrep, Installation of fence
 Argonaut Mine Site Headframe Area Removal Action

Jackson, CA
Latitude: 38.3626021 Longitude: -120.7860035

To: Peter Guria, EPA Region 9
 Lynn Keller, EPA Region 9
 Michelle Rogow, EPA Region 9
 Enrique Manzanilla, EPA Region 9

From: Michelle Rogow, OSC

Date: 6/5/2020

Reporting Period: June 1 - 4, 2020

1. Introduction

1.1 Background

Site Number: A930	Contract Number:
D.O. Number:	Action Memo Date:
Response Authority: CERCLA	Response Type: Time-Critical
Response Lead: EPA	Incident Category: Removal Action
NPL Status: NPL	Operable Unit:
Mobilization Date: 6/1/2020	Start Date: 6/2/2020
Demob Date:	Completion Date:
CERCLIS ID: CAD983650011	RCRIS ID:
ERNS No.:	State Notification:
FPN#:	Reimbursable Account #:

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

2.1.2 Response Actions to Date

June 1, 2020 – OSC mobilizes to the site.

June 2, 2020 – (EPA – 1, ERRS -1, sub – 2) – Toilets and wash stations are delivered to the site. COVID 19 protection and prevention measures are utilized throughout duration of work. Fencing subcontractor arrives and begins set up and installation. OSC coordinates with CalTrans, EPA’s Civil Investigator and START regarding location of fence and proximity to CalTrans right of way.

June 3, 2020 (EPA – 1, ERRS -1, sub – 2) – Toilets and wash stations are delivered to the site. Fencing subcontractor arrives and begins set up and installation. OSC continues to coordinate with RPM regarding signage for the removal area.

June 4, 2020 (EPA – 1, ERRS -1, sub – 2, START - 1) – Fencing subcontractor completes installation of fence. START is on site to GPS location of installed fence for mapping. Site is locked up and ERRS and OSC demobilize.

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

2.1.4 Progress Metrics

<i>Waste Stream</i>	<i>Medium</i>	<i>Quantity</i>	<i>Manifest #</i>	<i>Treatment</i>	<i>Disposal</i>

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2.2 Planning Section

No information available at this time.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

No information available at this time.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

No information available at this time.

4. Personnel On Site

No information available at this time.

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

Index to the Administrative Record

Site Inspection Report for Argonaut Mine, Jackson, Amador County, California July 2015
Removal Assessment Report
ATSDR Tox FAQs for Asbestos
ATSDR Tox FAQs for Lead
ATSDR Tox FAQs for Mercury
ATSDR Tox FAQs for Arsenic
Administrative Record Index for Action Memorandum dated December 5, 2013
Administrative Record Index for Action Memorandum dated May 15, 2014
Administrative Record Index for Action Memorandum dated February 11, 2015
Administrative Record Index for Action Memorandum dated July 2, 2015
Administrative Record Index for Action Memorandum dated May 12, 2016