CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION R5-2019-0064
TO
APPROVE THE FINAL INITIAL STUDY AND
MITIGATION MONITORING AND REPORTING PLAN
AND
ADOPT THE MITIGATED NEGATIVE DECLARATION
FOR
THE REED MINE AND UPPER DAVIS CREEK REMEDIATION PROJECT
YOLO COUNTY

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds:

1. Homestake Mining Company of California (Homestake) owns and controls the Reed Mine and Upper Davis Creek area (Reed Mine or Site) upstream from the Davis Creek Reservoir in Yolo County. Homestake's property includes several legacy mercury mines with associated underground workings, mining waste piles, and the former Reed Mine processing area. The Site covers approximately 370 acres in Sections 23, 24, 25, and 26, Township 12 N, Range 5 W, Mount Diablo Base and Meridian, and consists of Assessor's Parcel Numbers 018-330-20 and 018-340-21

2. The following documents are attached to this Resolution and hereby incorporated into and made a part of this Resolution by reference:

    - Attachment A – Final Initial Study and Mitigated Negative Declaration
    - Attachment B – Final Mitigation Monitoring and Reporting Plan

3. Homestake proposed the Reed Mine and Upper Davis Creek Remediation Project (Project) on lands owned by Homestake. The goal of the Project is to clean up and abate the Reed Mine mercury mining wastes to minimize further erosion and impact to surface waters along the Upper Davis Creek and its tributaries and to comply with the Cleanup and Abatement Order R5-2017-0710 (Order). The Project would meet these goals by removing mine waste (waste rock and tailings) located close to the surface water channels along the Upper Davis Creek and its tributaries. Additionally, the Project will protect human health and the environment by removing process residuals that contain elevated levels of mercury.

4. The Project will be conducted according to the Reed Mine and Upper Davis Creek *Remediation Design with Construction Drawings and Specifications* (Remediation Design) pursuant to Water Code section 13398.3. The Order required the Remediation Design to be submitted 29 March 2019. Homestake requested an extension to 2 September 2019 in order to explore optional locations for the on-site repository, incorporate LIDAR aerial topography to provide more accurate

remediation designs, and collect additional mine drainage chemistry data to help with the design of the passive treatment system at the lower Reed adit. The extension request was granted in the 20 March 2019 letter from the Central Valley Water Board.

REMEDIATION PROJECT

5. Homestake submitted the *Final Alternatives Analysis Report for Reed Mine and Upper Davis Creek* (Alternatives Analysis Report) in April 2018. In the 21 May 2018 letter, staff concurred with the proposed remediation alternatives which include but may not be limited to:

   - Excavate *Group A* mining waste and *calcine tailings* from the Former Reed Mine Processing Area and the East Bank Davis Creek Furnace Area and isolate waste in either a properly designed and approved on-site repository or transport and dispose at a permitted off-site facility.
   - Excavate and remove *Group B* mining waste from several areas and either consolidate and cover it in an on-site repository or transfer to the permitted McLaughlin Mine Pit Group B waste repository nearby.
   - Use best management practices to stabilize *Group C* mining waste and prevent erosion.
   - Develop and implement semi-passive treatment for mine drainage based on the results of flow monitoring and bench tests that are yet to be completed.

6. The Project includes the following tasks: improve existing access roads and create new access roads where needed; remove mine waste (waste rock, ore, bricks, or tailings) from five locations; remove processing equipment and metal from one location; stabilize a gully in waste rock at one location; install semi-passive treatment system at one location; create an on-site repository for waste rock; install erosion control including revegetation of disturbed areas; stabilize the Upper Davis Creek banks in disturbed areas; and monitor all locations for five years. Most of the mine waste would be moved to the on-site repository; however, some mine debris, tailings, bricks, and processing equipment would be containerized and shipped to an off-site permitted landfill for hazardous and mercury containing waste (such as US Ecology near Beatty, Nevada).

CALIFORNIA ENVIRONMENTAL QUALITY ACT

1. The Central Valley Water Board has assumed the role of lead agency in accordance with California Code of Regulations, title 14, section 15050, for the purposes of satisfying the requirements of the California Environmental Quality Act (CEQA)(Pub. Resources Code, § 21000 et seq.).

2. The Central Valley Water Board has reviewed the Initial Study and Mitigated Negative Declaration prepared in accordance with Section 15063 of Title 14 of the California Code of Regulations in order to evaluate potential significant environmental impacts that may occur as a result of the proposed remediation work.

3. Copies of the Draft Initial Study and Mitigated Negative Declaration were submitted to the State Clearinghouse and Planning Unit (submission SCH# 2019039008) and transmitted to or made available to all agencies and persons known to be interested in these matters. The Central Valley Water Board responded to and addressed all public comments on the proposed project in the Final Initial Study and Mitigation Monitoring and Reporting Plan (Attachment A). Mitigation measures and permitting requirements were added or revised to address the submitted comments. The revised mitigation measures are equivalent to or more effective in mitigating or avoiding potential significant effects. None of the comments identified new significant impacts or showed how impacts previously thought to be insignificant and should instead be considered significant. Recirculation of the Initial Study and Mitigated Negative Declaration is not required pursuant to California Code of Regulations, title 14, section 15074.1, subdivision (c).

4. The Central Valley Water Board considered all testimony and evidence at a hearing held on 2 August 2019 in Rancho Cordova, California, and good cause was found to approve the Final Initial Study and Mitigation Monitoring and Reporting Plan and adopt the Mitigated Negative Declaration.

5. The Project will incorporate all mitigation measures described in the Final Initial Study. The Mitigation Monitoring and Reporting Plan contains monitoring and reporting provisions that will confirm that the project will not create significant effects to the environment and that all of the mitigation measures will be fully implemented. The monitoring and reporting provisions of the Project will therefore satisfy the requirements of Public Resources Code section 21081.6(a)(1).

THEREFORE, BE IT RESOLVED, pursuant to Section 21080, et seq. of the California Public Resources Code, and Water Code section 13398.7, that the Central Valley Water Board, after considering the entire record, including written and oral testimony at the hearing:

1. Approves the Final Initial Study and adopts the Mitigated Negative Declaration enclosed in Attachment A.
2. Approves the Mitigation Monitoring and Reporting Plan for the Reed Mine and Upper Davis Creek Project enclosed in Attachment B.
3. Finds the record before the Central Valley Water Board contains no substantial evidence that a fair argument has been made that the project may have a significant effect on the environment.

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of the Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region on 2 August 2019.

PATRICK PULUPA, Executive Officer

NJV/BSS

INFORMATION SHEET

RESOLUTION R5-2019-0064
TO APPROVE THE FINAL INITIAL STUDY
AND MITIGATION MONITORING AND REPORTING PLAN
AND ADOPT THE MITIGATED NEGATIVE DECLARATION FOR
THE REED MINE AND UPPER DAVIS CREEK REMEDIATION PROJECT, YOLO COUNTY

Homestake Mining Company of California (Homestake) owns and controls the Reed Mine and Upper Davis Creek area (Site) upstream from the Davis Creek Reservoir in Yolo County. The Site includes several legacy mercury mines with associated underground workings, mining waste piles, and the former Reed Mine processing area. Homestake proposed the Reed Mine and Upper Davis Creek Remediation Project (Project). The goal of the Project is to clean up and abate the Reed Mine mercury mining wastes to minimize further erosion and impact to surface waters along the Upper Davis Creek and its tributaries and to comply with the Cleanup and Abatement Order R5-2017-0710 (Order). The Project would meet these goals by removing mine waste (waste rock and tailings) located close to the surface water channels along the Upper Davis Creek and its tributaries. Additionally, the Project will protect human health and the environment by removing process residuals that contain elevated levels of mercury.

The Central Valley Water Board has assumed the role of lead agency for the purposes of satisfying the requirements of the California the California Environmental Quality Act (CEQA)(Pub. Resources Code, § 21000 et seq.). Copies of the Draft Initial Study and Mitigated Negative Declaration were transmitted to or made available to all agencies and persons known to be interested in these matters. Additional mitigation measures and permitting requirements were added to address the submitted comments. All public comments on the proposed project were addressed. None of the comments identified new significant impacts or showed how impacts previously thought to be insignificant and should instead be considered significant. The resolution approves the Final Initial Study and Mitigation Monitoring Plan and adopts the Mitigated Negative Declaration.

NJV

ATTACHMENT A

FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Reed Mine and Upper Davis Creek Remediation Project

Final Initial Study/Mitigated Negative Declaration

SCH# 2019039008

April 2019

Prepared for

Central Valley Regional Water Quality Control Board

11020 Sun Center Drive, Suite 200

Rancho Cordova, CA 95670

(916) 464-3291

by Burleson Consulting Inc. on behalf of

Homestake Mining Company, Inc.

26775 Morgan Valley Road

Lower Lake, California 95457

Project Title: Reed Mine and Upper Davis Creek Remediation Project, Yolo County

Project Location: Remediation actions would be conducted at the Reed Mine Site, an inactive mercury mine located along the canyon of Upper Davis Creek in Yolo County, California, about 13.4 miles southeast of Lower Lake in Lake County, California (Figure 1). The Reed Mine is situated in Sections 23, 24, 25, and 26; Township 12N, Range 5W, Mount Diablo Baseline and Meridian at an elevation of about 1600 feet above mean sea level, along Yolo County Road 40 (aka Rayhouse Road and Reiff Road). The Reed Mine Site consists of approximately 370 acres in a rural area within private property on APNs 018 340 21, 018 340 29, and 018 330 20, surrounded by Bureau of Land Management (BLM) property. The Reed Mine consists of the Andalusia Mine, Fusiyama Mine, and Reed Mine, associated underground workings (including 13 adits), historical waste rock and tailings piles, and the former Reed Mine processing area (Figure 2). Upper Davis Creek flows into the 267.5-acre Davis Creek Reservoir (DCR) located 0.5 mile downstream below the Reed Mine Site (Figure 1).

Summary Description of Project: Homestake Mining Company (Homestake) has proposed the Reed Mine and Upper Davis Creek Remediation Project (Project) on lands owned by Homestake. The Project objective is to clean up and abate the legacy Reed Mine mercury mine wastes to minimize further erosion and impact to surface waters along the Upper Davis Creek and its tributaries. The Project would meet these goals by removing mine waste (waste rock and tailings) located near surface water along Upper Davis Creek and tributaries and consolidating it in an on-site repository. Mine waste located further away from surface water is proposed to be stabilized in place. Mine drainage seep is proposed to be treated by semi-passive treatment. Additionally, the Project would protect human health and the environment by removing process residuals that contain elevated levels of mercury and disposing them at a permitted off-site repository.

The Project would be conducted according to the Reed Mine and Upper Davis Creek Remediation Work Plan (Remediation Plan) prepared by Homestake. The Remediation Plan includes the following tasks: improve existing access roads and create new access roads where needed; remove mine waste (waste rock, ore, bricks, or tailings) from five locations; remove processing equipment and metal from one location; stabilize a gully in waste rock at one location; install a semi-passive treatment system at one location; create an on-site repository for waste rock; install erosion control including revegetation of disturbed areas; stabilize the Upper Davis Creek banks in disturbed areas; and monitor all locations. Most of the mine waste would be moved to the on-site repository; however, some mine debris, tailings, bricks, and processing equipment would be containerized and shipped to an off-site permitted landfill for hazardous and mercury-containing waste. The six remediation areas and proposed remediation are described below and shown on Figure 2 in the Draft IS/MND.

Remediation Area 1 (Fusiyama Adit Waste Rock): Approximately 575 cubic yards (cy) waste rock is located on a very steep slope, which extends to and is eroded by an

adjacent tributary of Upper Davis Creek. The waste rock would be excavated and transported to the on-site repository. Erosion controls would be installed at the disturbed area. Waste rock would be removed to the extent necessary to prevent direct contact between waste rock and surface water in the adjacent stream. If there is any remaining waste rock, this would be stabilized in place to prevent continued sheet wash and gully erosion and to protect the exposed toe of the slope in the stream from erosion.
Remediation Area 2 (Reed North Waste Rock): An erosional feature within a gully cut through about 840 cy of waste rock. The gully would be stabilized and revegetated to minimize future erosion of waste rock.

Remediation Area 3 (Old Lower Reed Adit Drainage and Waste Rock): Mine drainage flows through about 1,400 cy of waste rock that extends to a tributary of Upper Davis Creek. The waste rock at the bank of the tributary to Upper Davis Creek and extending across the county road would be excavated and transported to the on-site repository. Erosion controls would be installed at the disturbed area. The excavated bank would be stabilized to promote vegetation and minimize erosion.

A semi-passive treatment system would be installed below the Old Lower Reed Adit (OLRA) to direct and infiltrate mine drainage into site soils to reduce the metal loading to Upper Davis Creek. The proposed treatment system would consist of an aeration cascade into a settling/filtration basin.

Remediation Area 4 (East Bank Upper Davis Creek Waste Rock): Approximately 430 cy of waste rock is located on a very steep slope on the east bank that extends to Upper Davis Creek. The waste rock would be excavated to where native materials are encountered or the creek bankfull level is reached, whichever is encountered first, and transported to the on-site repository. Erosion controls would be installed, and the Upper Davis Creek channel bank would be restored and stabilized at the disturbed area.

Remediation Area 5 (West Bank Upper Davis Creek Furnace Area): Approximately 730 cy of tailings, bricks, and sandstone blocks cover the west bank of Upper Davis Creek. The calcine tailings and furnace debris would be excavated from the west bank above the bankfull elevation of Upper Davis Creek, containerized, and transported to an off-site permitted landfill. Erosion controls would be installed, and the Upper Davis Creek channel and bank would be restored and stabilized.

Remediation Area 6 (Former Reed Mine Processing Area): Mine debris remains on site, which consists of 0.5 cy of powdery residue from the rotary furnaces,10 cy of soot and bricks, 60 cy of soot and slag lining, and 2 cy of friable material within condenser channels. This material would be collected and placed into containers and hauled to an off-site permitted landfill. Metal processing equipment would be demolished and crushed and transported to an off-site permitted landfill for disposal or recycling. A small ore pile at the south end of the rotary furnace and a small quantity at the former grizzly location on adjacent slopes below the processing equipment (total 50 cy) would be excavated and transported to the on-site repository. Erosion controls at the disturbed area would be implemented.

Findings

All of the potential individual impacts identified will be mitigated to a less-than-significant level. As noted in the checklist for Air Quality, Biological Resources, Cultural Resources and Tribal Cultural Resources, Geology and Soils, Hydrology and Water Quality, Hazards and Hazardous Materials, Transportation, Utilities and Service Systems, Wildfire, and Mandatory Findings of Significance, the project could have potential impacts to nesting birds, rare plants, bats, sensitive habitats, and unidentified prehistoric, historic, or paleontological materials that might be encountered. Foothill yellow-legged frog could be present in the project area, could be impacted during construction and an incidental take permit will be obtained prior to construction as part of mitigation measure Bio-4. Accelerated erosion could occur during project construction; however, implementation of the SWPPP would address erosion prevention and control and implementation of the project would reduce erosion from slope stabilization and revegetation. The goal of the Project is to mitigate adverse impacts caused by the Reed Mine mining wastes in the Upper Davis Creek drainage and reduce the threat of further erosion that has the potential to impact surface waters and the environment. The project goal is to improve habitat and water quality for the area. Mitigation measures have been incorporated into the project that effectively reduces impacts to sensitive resources to less-than-significant levels.

As discussed in the Air Quality checklist, project construction and operation will result in air quality emission rates that are less than significant. The project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) because the project will comply with the Yolo-Solano Air Quality Management District regulations. As indicated in the Greenhouse Gas Emissions checklist, the project will not conflict with any federal, state, or local standard, adopted for the purpose of reducing the emissions of greenhouse gases, and the project will comply with Yolo County's General Plan and Climate Action Plan. This impact will be less than significant.

No environmental effects caused by this project during construction or operation will result in substantial ("significant") adverse effects on human beings, whether directly or indirectly. The proposed project's impacts on the environment included impacts identified as having "no impact," "less-than-significant impact," and "less-than-significant with mitigation incorporated." As noted in the checklist for Hazards and Hazardous Materials, mitigation measures were included for project related impacts to construction workers and recreational visitors for potential exposure to mine waste and mining features that reduced the impacts to less-than-significant levels. All workers would be trained on the procedures in the health and safety plan and fire safety. No utilities or services would be disrupted in the area as a consequence of the project. As Site Transportation Plan would be prepared during pre-mobilization activities that would cover both on- and off-site transport and staging of mining-related material and other

material generated during site removal and restoration activities. The Site Transportation Plan would identify procedures to minimize the environmental and health and safety risks associated with materials transportation associated with the Project.

Determination

The Central Valley Regional Water Quality Control Board has preliminarily determined that the project described herein would not have a significant effect on the environment as mitigated and the Water Quality Control Board intends to adopt a resolution approving the final initial study and adopting the mitigated negative declaration at its 1-2 August 2019 Board Meeting at the offices of the Central Valley Water Quality Control Board, 11020 Sun Center Drive, Rancho Cordova, CA 95457. The proposed mitigated negative declaration is contained herein and is available for inspection on our website at: Proposed Mitigated Negative Declaration or

www.waterboards.ca.gov/centralvalley/board_decisions/tentative_orders

along with copies of all documents which related to the above described project. Persons wishing to comment on this matter must submit their testimony, evidence, and/or comments in writing to the attention of Natasha Vidic at the Central Valley Water Board no later than **5:00 p.m. on 17 June 2019.** Written materials received after **5 p.m. on 17 June 2019** will not be accepted and will not be incorporated into the administrative record if doing so would prejudice any party.

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PATRICK PULUPA, Executive Officer

WRITTEN COMMENT PERIOD –March 4, 2019 to April 3, 2019

Written comments for the draft Reed Mine and Upper Davis Creek Remediation Project IS/MND were received from March 4, 2019 through April 3, 2019. Written comments were received from California Department of Fish and Wildlife.

Board Staff is diligently working to revise the rest of this document (pages 5 - 30) to be consistent with Web Content Accessibility Guidelines 2.0 published by the Web Accessibility Initiative of the World Web Consortium. Any request for missing pages should be made to Natasha Vidic at Natasha.Vidic@waterboards.ca.gov or at 916 464 4614.

ATTACHMENT B

FINAL MITIGATION MONITORING AND REPORTING PLAN

Reed Mine and Upper Davis Creek Remediation Project

Final Mitigation Monitoring and Reporting Plan

SCH# 2019039008

April 2019

Prepared for
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670
(916) 464-3291

by Burleson Consulting Inc. on behalf of
Homestake Mining Company, Inc.
26775 Morgan Valley Road
Lower Lake, California 95457

Final Mitigation Monitoring Plan

1.1 Introduction

This Mitigation Monitoring and Reporting Program (MMRP) summarizes identified mitigation measures, implementation schedule, and responsible parties for the Reed Mine and Upper Davis Creek Remediation Project. Homestake will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as a condition of project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 15074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

1.2 Mitigation Implementation

Mitigation measures for potential impacts associated with air quality, biological resources, cultural resources and tribal cultural resources, geology and soils, hazards and hazardous materials, and hydrology and water quality, and transportation, will be implemented as part of the proposed project description.

The Central Valley Regional Water Quality Control Board plans to consider a resolution adopting the final IS/MND and approving the MMRP (see MMRP Table 1) at its 1 1-2 August 2019 meeting. A Resolution, Notice of Public Hearing, and the Final Initial Study with Mitigated Negative Declaration will be distributed to interested parties and posted on the Central Valley web page to allow for public comment before the hearing.

Homestake will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the proposed Project. While Homestake has ultimate responsibility for ensuring implementation, others may be assigned the responsibility of actually implementing the mitigation. Homestake will retain the primary responsibility for ensuring that the proposed Project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

Homestake will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during project construction. The designated personnel will be responsible for submitting documentation and reports to Homestake on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. Homestake will ensure that the designated personnel have authority to require implementation of mitigation requirements and will be capable of terminating project construction activities found to be inconsistent with mitigation objectives or project approval conditions.

Homestake and its appointed contractor will also be responsible for ensuring that its construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of Project construction. In addition to the prescribed mitigation measures, Table 1 lists each identified environmental resource

being affected, the corresponding monitoring and reporting requirement, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.

1.3 Mitigation Monitoring and Enforcement

Homestake shall be responsible for demonstrating compliance with the monitoring in this MMRP and for other agency permit conditions, to the appropriate regulatory agency. Homestake shall also be responsible for ensuring that its construction personnel understand their responsibilities for adhering to the performance requirements of this MMRP and other contractual requirements related to the implementation of mitigation as part of project construction.

In addition to the prescribed mitigation measures, Table 1 lists the corresponding implementation and monitoring requirements, scheduling, agencies with oversight, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.

_____ _____

Signature of Project Sponsor Date

Vaughn Frei, Closure Manager
Homestake Mining Company, Inc.

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Air Quality					
Air-1: The following basic control measures shall be implemented during construction: ▪ All exposed surfaces (e.g., exposed soil piles and graded areas) shall be watered two times per day or as needed to prevent windblown dust. ▪ All haul trucks transporting soil, sand, or other loose material to the site shall be covered. ▪ All inactive storage piles shall be covered if necessary to prevent fugitive dust emissions. ▪ All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. Unpaved roads will be watered to prevent fugitive dust emissions as needed. ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure CCR Title 13, § 2485). Construction workers shall be informed of idling restrictions at the pre-construction kick-off meeting and monitored by the site inspector throughout the project. ▪ All construction equipment shall be properly maintained in accordance with manufacturer's specifications. ▪ Vegetative groundcover shall be planted in disturbed areas as soon as possible. ▪ Pavement adjacent to access points shall be swept of visible soil material, as needed, to prevent transport from the construction site.	Abide by during Construction	Homestake All site visitors and workers	Yolo-Solano Air Quality Management District		
Air-2: Yolo-Solano AQMD shall be consulted and a permit obtained prior to commencing demolition or renovation	Prior to construction	Homestake	Yolo-Solano AQMD		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
work of asbestos-containing material, as required by District Rule 9.9.					
Biological Resources					
Bio-1: Before construction activities, all on-site construction personnel shall receive instruction and sensitivity training regarding the presence of special-status species and crews shall be informed to stop work if any special-status species are encountered. A qualified biologist shall administer biological sensitivity training, be present during all vegetation clearing and ground disturbing activities, and have the authority to stop work if special-status species are encountered during Project activities.	Prior to construction	Homestake Qualified biologist to perform training All on-site personnel to receive instruction	Homestake		
Bio-2: A work zone shall be identified on construction drawings, and/or shall be demarcated in the field to limit construction equipment and personnel to the minimum area necessary to perform the proposed work.	Set up prior to construction and remaining throughout duration of construction	Homestake and Contractors	Homestake		
Bio-3: Conduct preconstruction surveys for species. Surveys shall be conducted by a qualified biologist. **Rare plants:** Preconstruction surveys shall be performed during the blooming season for rare plants and 14 days in advance of vegetation removal for wildlife by a qualified biologist. Multiple site visits shall be spaced throughout the growing season to accurately determine which plants exist onsite consistent with California Department of Fish and Wildlife Survey and Monitoring Protocols and Guidelines. Surveys shall be conducted in advance of any onsite project-related activities including staging, site layout, vegetation removal, and ground disturbance.	April to June bloom period for rare plants 14 days prior to vegetation removal and within 48 hours prior to any ground disturbance for foothill yellow-legged frog and western pond turtle	Homestake Qualified biologist shall perform surveys and monitoring All work crews are responsible for notifying biologist on work schedules	California Department of Fish and Wildlife (CDFW) US Fish and Wildlife Service (USFWS)	See biological resources survey report for details about species on site, bloom periods for plants, probably locations and habitats	

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
In the event that a special-status plant is found, construction alignments shall be moved if deemed necessary in consultation with CDFW to avoid the special-status plant. The qualified biologist shall have the authority to stop work if there would be impacts to sensitive resources or protected special-status species. **Foothill yellow-legged frog and Western pond turtle:** A preconstruction clearance survey for foothill yellow-legged frog and western pond turtle shall be conducted within 48 hours prior to any ground disturbance within Davis Creek. If either of these species are found within the construction work area, the biologist will contact CDFW (for foothill yellow-legged frog and/or western pond turtle) and follow their recommended procedures. **Nesting birds and roosting bats:** See Bio-7 A qualified biologist (biological monitor) shall be present onsite as needed to inspect construction-related activities to ensure that neither unnecessary ground disturbance nor any take of special-status species occurs	Monitor onsite during ground disturbance and for nesting birds				
Bio-4: Bats roosting in the rotary furnace at Remediation Area 6 shall be excluded from the furnace prior to its removal. Bat exclusion will be conducted during seasonal periods of bat activity after breeding season (from August 31 through October 15, a period prior to hibernation when young are self-sufficiently volant, and from March 1 to April 15, to avoid hibernating bats and prior to formation of maternity colonies).The bats will be excluded by a qualified bat biologist using one-way gates at each end of the furnace. Exclusion activities shall include monitoring and a post-exclusion survey performed by a qualified bat biologist. If the post-exclusion survey is negative, the furnace will be blocked or sealed for approximately 7 to 10 days after the installation of the one-way gates. Caulking, flashing, screening or heavy-duty mesh may be used to	March 1- April 15 or August 31 – October 15	Homestake Qualified biologist to conduct exclusion	CDFW		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
seal the openings. Once the bats have been excluded, the furnace would be sealed and removed. No disturbance of the furnace site would occur during the bat breeding season (West 2018).					
Bio-5: In the event any live and healthy mature tree must be removed, replacement trees shall be replaced with similar native tree species identified in the revegetation plan prepared for the remediation plan. Healthy trees over 4-inches in diameter that are removed shall be replaced at a 1":1 ratio, that is, one inch of impact to be replaced with 1 native tree of a similar species.	Track and keep a log of all trees removed and size. No net loss of trees	Homestake and Contractor	Homestake		
Bio-6: All trees to be removed shall be inspected by a qualified biologist for bird nests or roosting bats. If construction activities occur during the bird nesting season (estimated to be January through August), pre-construction surveys for the presence of special-status bird species or any nesting bird species within 500 feet of proposed construction areas shall be conducted by a qualified biologist. This survey shall be conducted within 14 days prior to the initiation of construction activities during the breeding season (raptors – February through August). During this survey, the biologist shall inspect all trees and grassland immediately adjacent to the impact area for nests. Nesting bird surveys shall be performed within 500 feet, or as stipulated in the CDFW permit, of the proposed construction areas. If active nests are found, a minimum 150 foot no-disturbance buffer shall be created around active nests and a minimum of 300 foot no-disturbance buffer shall be created around active nests of raptors. These buffers shall remain until a qualified biologist has determined that all young have fledged. If birds are showing signs of agitation within the established buffer(s), the buffer(s) may be expanded to prevent birds from abandoning their nest. Buffer zones may be modified in coordination with CDFW based on existing conditions at the Project Site. To more effectively identify active nests and to	14 days prior to the initiation of construction activities during the breeding season (Feb through August) – within 300 feet of construction site	Homestake and Qualified biologist All work crews are responsible for notifying biologist on work schedules	CDFW USFWS		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
facilitate project scheduling, initial nesting surveys may begin as early as February when the foliage on the trees are at a minimum and the nest building activity is high. Additionally, bats can occupy trees year-round and are particularly susceptible to disturbance during the maternity season and during hibernation. A qualified bat biologist shall conduct a habitat assessment for potentially suitable bat habitat within six months of Project activities. If the habitat assessment reveals suitable bat habitat then tree trimming and/or tree removal should be only conducted during seasonal periods of bat activity (from August 31 through October 15, a period prior to hibernation when young are self-sufficiently volant, and from March 1 to April 15, to avoid hibernating bats and prior to formation of maternity colonies) under supervision of a qualified biologist. Trees should be trimmed and/or removed in a two-phased removal system conducted over two consecutive days. The first day (in the afternoon), limbs and branches should be removed by a tree cutter using chainsaws only. Limbs with cavities, crevices or deep bark fissures should be avoided, and only branches or limbs without those features should be removed. On the second day, the entire tree should be removed. Project proponents should consult with a qualified bat biologist to determine suitable buffers around roost and/or hibernaculum sites. Buffers may vary depending on species and Project activity being performed.					
Bio-7: If vegetation shall be removed by the proposed Project and all necessary approvals have been obtained, substrate (e.g., trees and shrubs) removal shall take place between September 1 and January 31 and trees that contain bird nests shall be avoided to the extent possible. Additionally, vegetation containing suitable bat roosting habitat shall be removed between September 1 and October 15 to also avoid the nesting bird season. If removal	September 1 and January 31 Suitable bat roosting habitat September 1 – October 15	Homestake and Qualified biologist Contractor abide by biologist	USFWS CDFW		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
action is needed on a tree with an active or inactive nest, consultation with CDFW shall be initiated.					
Bio-8: The following measures are recommended for incorporation into a proposed Project to avoid and minimize effects to valley elderberry longhorn beetle (VELB) and/or its habitat. However, agencies/applicants should coordinate with the U.S. Fish and Wildlife Service (USFWS) to determine if additional measures may be needed. **Fencing.** All areas to be avoided during construction activities shall be fenced and/or flagged as close to construction limits as feasible. **Avoidance area.** Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 20 feet from the drip-line, depending on the type of activity. **Worker education.** A qualified biologist shall provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance. **Construction monitoring.** A qualified biologist shall monitor the work area at Project-appropriate intervals to assure that all mitigation measures are implemented. The amount and duration of monitoring would depend on the Project specifics and should be discussed with the USFWS biologist. **Timing.** As much as feasible, all activities that could occur within 165 feet of an elderberry shrub, would be conducted outside of the flight season of the VELB (March - July).	Prior to and during construction Activities that could occur within 165 feet of an elderberry shrub would be conducted August-February	Homestake and Qualified biologist, all workers	USFWS	See biological resources report for location of elderberry bushes/trees	

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Trimming. Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming shall occur between November and February and shall avoid the removal of any branches or stems that are ≥ 1 inch in diameter. Measures to address regular and/or large scale maintenance (trimming) should be established in consultation with the USFWS. **Chemical Usage.** Herbicides shall not be used within the drip-line of the shrub. Insecticides shall not be used within 100 feet of an elderberry shrub. All chemicals shall be applied using a backpack sprayer or similar direct application method. **Mowing.** Mechanical weed removal within the drip-line of the shrub shall be limited to the season when adults are not active (August - February) and shall avoid damaging the elderberry. **Erosion Control and Re-vegetation.** Erosion control shall be implemented and the affected area shall be revegetated with appropriate native plants. All mitigation measures provided above have been developed by the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017).					
Bio-9: No pesticides or herbicides shall be used within 250 feet of riparian or wetland areas, including the area described as a potential wetland at the Reed Mine.	During construction	Homestake and all workers	CDFW		
Bio-10: All sensitive areas and areas with potential populations of rare plants shall be clearly marked and flagged prior to construction to avoid disturbance to these areas. These areas include the riparian area and potential wetland at the Reed Mine. Major construction should be	Prior to construction and ground disturbance	Homestake and Qualified biologist	Yolo County for grading permit State Water Board for SWPPP		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
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performed in the dry season (approximately April 15 through October 15) if possible to reduce the likelihood of erosion in sensitive areas. All work in riparian areas and near streambeds shall comply with the grading plan, Storm Water Pollution Prevention Plan (SWPPP), and best management practices (BMP) to avoid impacts from erosion		All work crews are responsible for notifying biologist on work schedules			
Bio-11: An Incidental Take Permit (ITP) shall be obtained for this project if take of a CESA-listed species is necessary, although the project endeavors to avoid take of foothill yellow-legged frog and any other CESA-listed species. A qualified biologist will implement all measures specified in the ITP to protect CESA species.	Prior to construction	Homestake and Qualified biologist	CDFW		
Cultural Resources					
Cul-1: Homestake shall seek to avoid cultural resources as the preferred mitigation measure. If avoidance of cultural resources during ground disturbing activities is infeasible, the lead agency shall retain a qualified archaeologist to evaluate the four documented cultural resources encountered according to State *California Environmental Quality Act (CEQA) Guidelines* to determine whether they are "significant" or "likely significant" based on the criteria listed in the Public Resources Code section 5024.1 (*see* California Code of Regulations (CCR) Title 14, § 4852.) or their potential eligibility to be listed on the California Register of Historical Resources (CRHR). The evaluations should consider the resources both as individual entities and as contributing elements to a broader Reed Mine Historic District. In the case of a prehistoric archaeological site, evaluation may be completed by examining existing records and reports, detailed recording and/or through excavation to determine the data potential of the site. Historical resource mitigation measures may include further study to evaluate the site, detailed recording, and/or excavation. Resources	Prior to Construction	Homestake	Central Valley Regional Water Quality Control Board		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
determined not to be historically significant by the Project lead agency would require no further management. If cultural resources are considered historically significant per CEQA or eligible for the CRHR, a data recovery program shall be implemented to reduce impacts to less-than-significant levels as required by State *CEQA Guidelines*. Data recovery could include excavation and detailed analysis and/or further research, depending on the nature and type of the resource. Excavated materials would be curated at an appropriate facility, to be identified by the lead agency.					
Cul-2: Cultural and paleontological resource monitoring shall be conducted by a qualified archaeologist familiar with the types of prehistoric and historical resources that may be encountered within the Project Area. Monitoring shall occur in all areas of ground disturbing activity that occur within 30 meters of a cultural resource eligible or potentially eligible for the CRHR. A Native American monitor shall be required at culturally or traditionally sensitive locations, if identified.	During construction	Homestake	Central Valley Regional Water Quality Control Board		
Cul-3: If any paleontological or cultural resources, such as buildings, structures, or objects over 50 years old (excluding buildings that have been previously evaluated as ineligible for the National or California Register), including human remains, are encountered during any Project development activities, work shall be suspended and other applicable agencies would be immediately notified. Destruction of potentially significant cultural resources without mitigation constitutes a significant impact per §15064.5(b) of State CEQA Guidelines. The procedures and provisions in Mitigation Measure Cul-1, however, reduces impacts to unanticipated archaeological discoveries to *less-than-significant* levels. At that time, Homestake shall coordinate any necessary investigations of the site with appropriate specialists, as needed.	During Construction	Homestake	Central Valley Regional Water Quality Control Board		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Cul-4: When Native American archaeological, ethnographic, or spiritual resources are involved, all identification and treatment shall be conducted by qualified archaeologists who meet Federal standards in consultation with Native American representatives. Consultation will be conducted with Native American representatives who are approved by the local Native American community as keepers of their cultural traditions. Procedures will be consistent with 36 C.F.R. § 61 and PRC 21080.3.1 In the event that no such Native American is available, persons who represent tribal governments and/or organizations in the locale in which resources could be affected shall be consulted.	Prior to and during construction if Native American tribal properties are identified	Central Valley Regional Water Quality Control Board	Central Valley Regional Water Quality Control Board		
Cul-5: Pursuant to Public Resources Code section 5097.98 and Health and Safety Code section 7050.5, if human remains or bones of unknown origin are found during construction, all work shall stop in the vicinity of the find and the Yolo County Coroner would be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) who would notify the person believed to be the most likely descendant. The most likely descendant would work with the contractor to develop a program for re-interment of the human remains and any associated artifacts. No additional work shall take place within the immediate vicinity of the find until the identified appropriate actions have been implemented. If the Coroner determines that the remains are not related to a crime scene, then a qualified archaeologist who meets Federal standards (36 C.F.R. § 61) shall be retained to assess the find and make further recommendations.	During construction	Homestake and Yolo County Coroner	Central Valley Regional Water Quality Control Board and NAHC		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Geology					
Geo-1: Homestake shall obtain a grading permit (if not exempt), encroachment permit for road work, transportation permit, and prepare a construction and demolition debris diversion plan (to be determined) from Yolo County, as required	Prior to construction activity	Homestake	Yolo County		
Hazardous Materials					
Haz-1: All workers and visitors to the site shall be provided a copy of the Occupational Safety and Health Administration (OSHA) compliant Health and Safety Plan (HSP), and trained on proper procedures for working at the mining sites (including obtaining Hazardous Waste Operations and Emergency Response [HAZWOPER] certification), around the mining features, contaminated soils, adits, and directions to the nearest hospital, and emergency contact information. A Site Transportation Plan (see Mitigation TR-1) shall be prepared with procedures for scheduling and coordinating truck traffic on all the access and haul roads at the site.	Prior to any onsite activity	Homestake All field worker supervisors	Homestake OSHA	See HSP for site	
Haz-2: If an accidental release or spill occurs during construction and maintenance of the Project, the release shall be cleaned up immediately and reported in accordance with applicable federal, state, and local requirements.	During construction	Homestake and Contractors	Homestake		
Haz-3: All excavated areas, the onsite repository, former processing area, and the banks of Upper Davis Creek shall be revegetated in accordance with the Revegetation Plan, to reduce the risk of exposure to metals-contaminated tailings.	After construction	Homestake Contractor will implement	RWQCB	See Revegetation Plan	

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Haz-4: Fire safety and fire danger discussion shall be included in the HSP and fire and safety watch practices during periods of high fire danger, and during truck traffic activities and welding.	Before and during construction	Homestake and Contractors	Homestake		
Haz-5: If required, submit a Hazardous Material Business Plan (HMBP) to Lake County Environmental Health Division (the appropriate Certified Unified Program Agency [CUPA]). An HMBP shall be prepared if hazardous chemicals shall be used for the pilot plant system or for long-term treatment are equal to or greater than 55 gallons of a liquid, 500 pounds (lbs) of a solid, or 200 cubic feet of compressed gas, or extremely hazardous substances above the threshold planning quantity (Appendix A to 40 C.F.R. § 355) that would include an inventory of hazardous materials, a site map, an emergency plan, and implementing a training program for employees. All chemicals shall be transported to the site in accordance with Department of Transportation regulations.	Before chemicals are stored on site	Homestake for preparation	Lake County Environmental Health Division (CUPA for this address)	If chemicals needed for OLRA treatment	
Hydrology and Water Quality					
Hyd-1: Homestake shall obtain a USACE Clean Water Act (CWA) Section 404 permit, CWA Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board (RWQCB), and CDFG Section 1600 Streambed Alteration Agreement from CDFW prior to beginning work at remediation areas that affect jurisdictional wetlands and Davis Creek.	Prior to construction (Spring 2020)	Homestake for preparation	USACE RWQCB CFDW		
Hyd-2: Develop an operations, maintenance, and monitoring plan (OMMP), as a component of the Remediation Plan to measure the long-term sustainability and effectiveness of the Project treatment systems. The OMMP shall include schedules and maintenance activities, monitoring success of vegetation growth, and monitoring mercury and other metals in Upper Davis Creek.	Prior to installing treatment system	Homestake for preparation	RWQCB		

Table 1. Reed Mine and Upper Davis Creek Remediation Project Mitigation and Monitoring Summary					
Mitigation Measure	**Date Due/ Timeframe**	**Responsibility**	**Agency with Oversight**	**Notes**	**Completion Dates**
Hyd-3: Prepare and Implement a SWPPP and Implement BMPs. Prior to construction and issuance of grading permits, Homestake shall obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity from the State Water Resources Control Board. The SWPPP shall ensure the reduction of pollutants in storm water discharged from the site during construction. The SWPPP shall identify BMPs to control erosion, sediment discharge, and protect environmental sensitive areas and water quality.	Prior to construction (Spring 2020)	Homestake for preparation All workers for abiding by plan	State Water Resources Control Board		
Transportation and Traffic					
TR-1: A Site Transportation Plan shall be prepared during pre-mobilization and would cover both on- and off-site transport of mining-related material and other material generated during site remediation and restoration activities. The transportation plan would identify procedures to minimize the environmental and health and safety risks associated with materials transportation, and provide location of the command post and staging areas. The plan would include procedures for scheduling and coordinating truck traffic on access and haul roads at the site.	Prior to construction (Spring 2020)	Homestake Contractor and all workers	Homestake	See Remediation Plan	