4.8 HAZARDS AND HAZARDOUS MATERIALS

1. INTRODUCTION

This section assesses the effects of the proposed CCAP Update on issues related to hazards and hazardous materials. Government agencies and the public were provided an opportunity to comment in response to a Notice of Preparation (NOP) and Initial Study that provided a preliminary summary of potential impacts that could result from implementation of the proposed CCAP Update. No comments related to hazards and hazardous materials were received.

The following subsections describe the regulatory setting related to hazards and hazardous materials of the County and specifically in the lower Cache Creek area. This section examines specific hazards and hazardous materials impacts related to implementation of the CCAP Update.

2. SETTING

a. Regulatory Environment

(1) Federal and State

The activities that are currently conducted under the CCAP program (and would continue to be under the CCAP Update) require routine storage of petroleum, lubricants, and other hazardous materials in drums or above ground storage tanks for fueling and maintenance activities. Hazardous materials can pose a threat to human health and the environment if not properly managed. The routine management and storage of hazardous materials in California are regulated by the California Environmental Protection Agency under the Unified program.[1] Yolo County Department of Environmental Health has been granted responsibilities for the implementation and enforcement of hazardous material regulations under the Unified program as a Certified Unified program Agency. Under the Unified program, operators handling threshold quantities of hazardous materials are required to prepare and implement a Hazardous Materials Business Plan and/or a Spill Prevention, Countermeasure, and Control Plan depending on the type and quantity of hazardous materials stored. These plans must include measures for safe storage, transportation, use, and handling of hazardous materials, as well as contingency measures that describe the facility's response procedures in the event of a hazardous materials release.

(2) Local

CCAP Plans and Regulations. In addition to the hazardous material regulations required under the Unified program, the CCAP program includes specific requirements in the Mining and Reclamation ordinances that include measures to protect human health and the environment from hazardous materials releases. These ordinances are presented below (some of these ordinances would be modified by the CCAP Update, but the existing approved versions of the ordinances are presented here):

In-Channel Ordinance

Section 10-3.408. Hazards and Hazardous Materials. (changed to 10-3.407 under CCAP Update)

(a) All heavy equipment used for channel improvement projects shall be kept in good working order to reduce emissions and preclude the leakage

[1] California Health and Safety Code, Chapter 6.11, Sections 25404-25404.8.

of oils, fuels, and other substances that may adversely affect property, the environment, or human health and safety. Fueling and maintenance activities shall not occur within one-hundred (100) feet of the active channel. All procedures for handling, storage, and disposal of hazardous materials shall be described in a Storm Water Pollution Prevention Plan if required for the projects. Any long-term project (e.g., extensive erosion control, gravel removal) shall have a chemical spill prevention and emergency plan filed and approved by the appropriate local agency. The plan must include training of the equipment operator and workers in spill reporting and how to minimize environmental damage.

(b) Firms or individuals performing work within the channel shall immediately notify the Director and/or the Yolo County Office of Emergency Services of any events such as fires, explosions, spills, land or slope failures, or other conditions at the site which could pose a risk to property, the environment, or human health and safety outside the permitted area. Upon request by any County agen.cy, the firm or individual shall provide a written report of any such event, within thirty (30) days, which shall include, but not be limited to, a description of the facts of the event, the corrective measures used, and the steps taken to prevent a recurrence of the incident. This condition does not supersede nor replace any requirement of any other government agency for reporting incidents.

(c) A copy of the approved Business Emergency Response Plans and the approved Spill Prevention Control and Countermeasure Plans, if required, shall be filed with the Yolo County Health Department, prior to the commencement of work within the channel.

(d) Wastewater from in-channel projects shall not be directly discharged to Cache Creek. Measures such as berms, silt fences, sediment ponds, hay bales, and/or revegetation shall be used to control erosion. Agricultural tailwater shall be diverted to catchment basins prior to release to the creek.

(e) Sediment fines generated by aggregate processing of in-channel sand and gravel shall be used for agricultural soil enhancement or -stream revegetation projects. In-channel sediment fines shall not be used as backfill material in off-channel habitat restoration, due to potential high mercury content.

(f) All internal combustion engine driven equipment and vehicles shall be kept tuned according to the manufacturers specifications and properly maintained to minimize the leakage of oils and .fuels. No vehicles or equipment shall be left idling for a period of longer than ten (10) minutes.

Mining Ordinance

Section10-4.403. Accident reporting.

The operator shall immediately notify the Director of any· events such as fires explosions, spills, land or slope failures, or other conditions at the site which could pose a hazard to life or property. Action shall be immediately undertaken to alleviate the hazard. Upon request by any

County agency, the operator shall provide a written report of any such event, within thirty (30) days, which shall include, but not be limited to, a description of the facts of the event, the corrective measures used, and the steps taken to prevent a recurrence of the incident. This condition does not supersede nor replace any requirement of any other governmental entity for reporting incidents.

A copy of the operators' approved Business Emergency Response Plans and the approved Spill Prevention Control and Countermeasure Plans shall be submitted to the Yolo County Health Department, prior to the commencement of mining.

Section 10-4.415: Equipment maintenance

Maintain all internal combustion engine driven equipment and vehicles to minimize the leakage of oils and fuels.

Fueling and maintenance activities of heavy equipment, except drag lines and floating suction dredges, are prohibited within 100 feet of open bodies of water during mining and reclamation.

All Storm Water Pollution Prevention Plans shall include provisions for releases of fuels during fueling activities for drag lines and floating suction dredges.

Section 10-4.417: Groundwater monitoring programs [excerpt]

Water quality in the vicinity of each active wet pit mining location shall be evaluated prior to and during mining and reclamation activities by analyzing samples from an upgradient monitoring well, a downgradient monitoring well, and the wet pit surface water.

Water quality analyses include the following: general minerals, inorganics, nitrates, total petroleum hydrocarbons as diesel and motor oil, benzene, toluene, ethylbenzene, total xylenes, pesticides, and coliform with E. coli confirmation.

The water quality sampling frequency ranges between one and two times a year during mining and reclamation activities, and is every other year for a 10-year period after completion of reclamation.

If analyte concentrations exceed the U.S. Environmental Protection Agency Maximum Contaminant Levels at any time during the monitoring period, a qualified professional shall prepare a report that evaluates the source of contamination and specifies remedial actions to be implemented by the operator for corrective action. The evaluation report shall be submitted to the Yolo County Community Development Agency, Yolo County Department of Environmental Health, the Central Valley Regional Water Quality Control Board, and the U.S. Environmental Protection Agency.

3. IMPACTS AND MITIGATION MEASURES

a. Significance Criteria

The following significance criteria are based on the changes to CEQA, including Appendix G, that were adopted by the California Natural Resources Agency on December 28, 2018.[2] The following criteria are for the topics of hazards and hazardous materials. The wording of the criteria have changed slightly relative to the previously adopted CEQA criteria that were identified in the NOP/Initial Study released in May 2017. However, all the criteria considered on the 2017 NOP/Initial Study are substantively covered by the revised criteria below (i.e., the wording may have changed, but the content of the criteria is the same), with the exception of an old criterion about hazards associated with airports – that criterion was eliminated from Hazards under the revisions to Appendix G.. New criteria for wildfire impacts are also addressed below.

The proposed Project would result in a significant impact related to hazards and hazardous materials if it would:

a) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

b) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

c) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

e) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

f) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

WILDFIRE -- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

g) Substantially impair an adopted emergency response plan or emergency evacuation plan?

h) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

i) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

[2] http://resources.ca.gov/cega/ accessed January 9, 2019.

j) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Based on review of CAL FIRE mapping,[3] the CCAP Plan area is not located in or near State responsibility areas or lands classified as very high fire hazard severity zones. Therefore, these criteria ("g" through "j") do not apply to the Project and are not discussed further.

b. Impacts Found Less than Significant in Initial Study

In the Initial Study, the conclusion was reached that implementation of the proposed CCAP Update would not result in significant impact for several of the significance criteria. These are summarized below.

Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The Initial Study found that based on the requirements of existing hazardous material regulations and enforcement of these regulations under the County's Unified program, the routine transport, use, or disposal of hazardous materials within the CCAP plan area would have a less-than-significant impact on the public or the environment. In addition to the hazardous material regulations required under the Unified program, the Initial Study found that the CCAP program includes specific requirements in the Mining and Reclamation ordinances that adequately address upset and accident conditions involving the release of hazardous materials. Therefore, these potential impacts were found to be less than significant.

Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Initial Study found that the types of activities conducted under the CCAP and CCAP Update do not require the storage or use any acutely hazardous materials. Therefore, the proposed Project would have a less-than-significant impact to existing or proposed school facilities from the emission or handling of hazardous or acutely hazardous materials.

Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment

The provisions of Government Code Section 65962.5 are commonly referred to as the "Cortese List." The provisions require the Department of Toxic Substance Control, the State Water Resources Control Board, the California Department of Public Health, and the California Department of Resources Recycling and Recovery to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, leaking underground tank sites, and/or hazardous materials releases to the Secretary of California Environmental Protection Agency. Based on a review of the lists compiled pursuant to Section 65962.5, there are currently two hazardous materials release sites within the CCAP boundary, as follows: 1) the Madison wastewater treatment facility, located at Highway 16 and County Road 89; and 2) the former Wyatt property located at the corner of Woodland Avenue and Yolo Avenue in Esparto. Neither of these sites is within the CCRMP (in-channel) boundary or within or near a future proposed off-channel mining (SGRO) location.

[3] CAL FIRE, 2007. *Draft Fire Hazard Severity Zones in LRA*. November.

Development under the CCAP Update would not be expected to create a hazard to the public or environment and the potential impact would be less than significant.

For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

There are no private airstrips within the CCAP boundary. Therefore, future mining activities at the Project Site would have no impact related to the safety of private airstrip operations.

Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The Yolo County Office of Emergency Services (OES) is responsible for coordinating emergency response and evacuation in the event of a major disaster within Yolo County. The OES has identified general evacuation routes throughout the County, such as Interstate 5 and State Route 16 near the CCAP plan area. Implementation of CCAP activities would not be expected to interfere with emergency response or evacuation plans because the proposed implementation would not restrict access to Interstate 5 or State Route 16. Therefore, the proposed Project would have no impact on emergency response or evacuation plans.

Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

The Initial Study found that no very high fire hazard severity zones were identified by CAL FIRE within or adjacent to the CCAP area; therefore, the proposed Project would have a less-than-significant impact related to wildland fires.

c. Approach

The proposed CCAP Update is comprised of a series of specific text changes to eight policy and regulatory County plans and ordinances that govern the County's activities along Lower Cache Creek. The proposed text changes that have the potential to result in impacts related to geology and soils are identified in Table 4.8-1, located at the end of this section. Each proposed change is discussed in the impact analysis below.

d. Impacts Analysis

Impact HAZ-1: Implementation of the CCAP Update could result in locating a new mining facility within an airport land use plan area and could result in a safety hazard. (LTS)

Development near public-use airports can pose a potential hazard to people and property on the ground, as well as create obstructions and other hazards to flight. The Sacramento Area Council of Governments (SACOG) has adopted Comprehensive Land Use Plans for areas surrounding public-use airports within the counties of Yolo, Sacramento, Yuba, and Sutter. The closest public-use airports to the CCAP plan area are the Watts-Woodland Airport and Yolo County Airport.

The Yolo County Airport is located approximately 6 miles (over 30,000 feet) south of the CCAP area. The SACOG has adopted Federal Aviation Administration (FAA) height restriction policies to protect navigable airspace around Yolo County Airport. The height restriction policies apply to any construction more than 200 feet above ground level or construction within 20,000 feet of the closest airport runway. Proposed Project activities associated with the CCAP Update (both in-channel and off-channel) would not include construction of structures taller than 200 feet and the CCAP area is located more than 20,000 feet from the nearest Yolo County Airport runway.

Since the proposed Project would not exceed FAA height restriction policies and is located at considerable distance from the Yolo County Airport, the proposed Project would have no impact on airport safety operations for Yolo County Airport. The Watts-Woodland Airport is located within the CCAP Area and is discussed below.

Proposed Revisions to In-Channel Plans and Regulations

The Watts-Woodland Airport is a privately-owned airport for public use with a 3,600-foot long runway located within the CCAP area. According to the height restriction policies designed to protect navigable airspace around the Watts-Woodland Airport, the CCRMP area is within the horizontal distance (for the "Horizontal Surface", "Conical Surface", and Approach Surface") where height restrictions for tall structures could be applicable. The end of the closest runway is approximately 3,000 feet from the boundary of the proposed Channel Form Template boundary. At this distance, structures taller than 150 feet could be restricted (based on the provisions in the Watts-Woodland Airport Land Use Plan[4]). As the CCAP and CCAP Update would include no structures or use any equipment over 150 feet in height, there would be no safety issue and the potential impact is less than significant.

Proposed Revisions to Off-Channel Plans and Regulations

One of the proposed future mining sites (the easternmost "Future Proposed Mining" area on Figure 3-4) is located about 400 feet northeast of the airport runway and is located within the airport approach/departure zone (none of the other proposed Future Proposed Mining areas would have any conflicts with the Watts-Woodland Airport Comprehensive Land Use Plan). According to the height restriction policies designed to protect navigable airspace around the Watts-Woodland Airport, the FAA would require notification of any proposed construction above an imaginary surface extending outward 20 feet and upward one foot for a horizontal distance of 5,000 feet from the approach/departure runway centerline.

The end of the closest runway is approximately 400 feet from the boundary of the nearest "Future Proposed Mining Area" (Figure 3-4) and therefore structures at this site could be subject to height restrictions, depending on their location within the site boundaries. Since any new construction would be required to comply with FAA height and location restrictions under existing regulations, this is not a significant impact under CEQA. However, the Watts-Woodland Airport Comprehensive Land Use Plan identifies certain types of land uses that have been recognized as hazards to air navigation. These include land uses that attract large concentrations of birds within approach and departure zones. It is possible that a future reclaimed wet pit or in-channel habitat restoration project located within the airport's approach/departure zone could attract birds and result in a potentially significant impact on airport safety operations for the Watts-Woodland Airport. Therefore, potential aviation hazards associated with the CCAP Update could be significant.

Each proposed new mining project would be required to undergo project-specific CEQA review (i.e., an EIR would be prepared). During preparation of the project-level EIR, an evaluation of the proposed project design and compliance with airport land use restrictions would be conducted and any conflicts identified and mitigated. Implementation of this existing requirement would ensure that potential impacts to aviation hazards are less than significant.

[4] Watts-Woodland Airport Land Use Plan, 1988 (amended 1993), accessed at: https://www.yolocounty.org/home/showdocument?id=23769

Table 4.8-1: Proposed CCAP Updates Related to Hazards and Hazardous Materials

Hazards and Hazardous Materials	
	CCAP DOCUMENT CHANGE
Increase in Potential Off-Channel Mining Area	
OCMP (page 15)	**Planning Area for OCMP and CCRMP~~The Cache Creek Resources Management Plan~~** The planning area for the OCMP is defined as the area contained within the Mineral Resource Zones (28,130 acres), minus the planning~~in-channel~~ area regulated under the CCRMP (2,266 acres), or a total of 25,864 acres (see Figure 4). Within the OCMP planning area, 1,900 acres are currently approved for excavation which is a subset of the 2,464-acre total for all approved mine sites (area zoned Sand and Gravel Overlay or SGO), 1,001 acres are zoned currently to allow for future mining (Sand and Gravel Reserve Overlay or SGRO), and another 1,188 acres are proposed to be rezoned for future mining, as described below. The planning area for the CCRMP is equal to the active in-channel area of the creek system, as defined by the delineated~~present~~ channel bank line or the 100-year flood elevation~~, described in the Westside Tributaries Study prepared by the U.S. Army Corps of Engineers,~~ whichever is wider ~~(see Figure 3)~~ modified as described in the CCRMP . The in-channel area encompasses 5,109~~around 4,956~~ acres, including 2,266~~1,600~~ acres within the CCRMP~~present channel~~ boundary, plus several thousand acres located in the floodplain north of the City of Woodland (see Figure 3). ~~Subtracting this acreage from the 28,130 acres included in the State MRZs, leaves a total of approximately 23,174 acres within the planning area of the Off-Channel Mining Plan. As described in the following section, however, only 2,887 acres of the plan area are proposed to be rezoned to allow for off-channel mining over the next fifty years, or about 12 percent of the OCMP planning area.~~
Regulations Relative to Hazards and Hazardous Materials	
In-Channel ~~Maintenance Mining~~ Ordinance	**Sec. 10-3.40~~8~~8. Hazards and Hazardous Materials.** (a) All heavy equipment used for channel improvement projects shall be kept in good working order to reduce emissions and preclude the leakage of oils, fuels, and other substances that may adversely affect property, the environment, or human health and safety. Fueling and maintenance activities shall not occur within one-hundred (100) feet of the Channel Form Template boundary or active channel, whichever is wider. All procedures for handling, storage, and disposal of hazardous materials shall be described in a Storm Water Pollution Prevention Plan if required for the projects. Any long-term project (e.g., extensive erosion control, gravel removal) shall have a chemical spill prevention and emergency plan filed and approved by the appropriate local agency. The plan must include training of the equipment operator and workers in spill reporting and how to minimize environmental damage. (b) Firms or individuals performing work within the channel shall immediately notify the Director and/or the Yolo County Office of Emergency Services of any events such as fires, explosions, spills, land or slope failures, or other conditions at the site which could pose a risk to property, the environment, or human health and safety outside the permitted area. Upon request by any County agency, the firm or individual shall provide a written report of any such event, within thirty (30) days, which shall include, but not be limited to, a description of the facts of the event, the corrective measures used, and the steps taken to prevent a recurrence of the incident. This condition does not supersede nor replace any requirement of any other government agency for reporting incidents. (c) A Hazardous Materials~~copy of the approved Business Emergency Response~~ Plan~~s~~ and the ~~approved~~ Spill Prevention ~~Control and~~ Countermeasure Contingency Plan~~s~~, if required, shall be filed with the Yolo County Environmental Health ~~Department~~Division, prior to the commencement of work within the channel.

	(d) Wastewater from in-channel projects shall not be directly discharged to Cache Creek. Measures such as berms, silt fences, sediment ponds, hay bales, and/or revegetation shall be used to control erosion. Agricultural tailwater shall be diverted to catchment basins prior to release to the creek. (e) Sediment fines generated by ~~aggregate~~ processing of in-channel sand and gravel shall not be used for agricultural soil enhancement or creek~~stream~~ revegetation projects. In-channel sediment fines shall only~~not~~ be used as backfill material in off-channel habitat restoration if it can be demonstrated that sediment quality is acceptable based on applicable regulations and standards.~~, due to potential high mercury content.~~ (f) All internal combustion engine driven equipment and vehicles shall be kept tuned according to the manufacturer's specifications and properly maintained to minimize the leakage of oils and fuels. No vehicles or equipment shall be left idling for a period of longer than ten (10) minutes. (g) For bank repair projects using fill, appropriate leaching tests on fill materials shall be conducted to determine if it contains leachable constituents at concentrations of potential concern. If potential fill material is found to contain constituents at levels exceeding applicable thresholds, that fill materials shall not be used.
Off-Channel Surface Mining Ordinance	**Sec. 10-4.403. Accident reporting.** The operator shall immediately notify the Director of any events such as fires, explosions, spills, land or slope failures, or other conditions at the site which could pose a hazard to life or property. Action shall be immediately undertaken to alleviate the hazard. ~~Upon request by any County agency, t~~The operator shall provide a written report of any such event, within thirty (30) days, which shall include, but not be limited to, a description of the facts of the event, the corrective measures used, and the steps taken to prevent a recurrence of the incident. Failure to provide this report shall initiate violation proceedings pursuant to Article 11. This condition does not supersede nor replace any requirement of any other governmental entity for reporting incidents. ~~A copy of the operators' approved Business Emergency Response Plans and the approved Spill Prevention Control and Countermeasure Plans shall be submitted to the Yolo County Health Department, prior to the commencement of mining~~.
	Sec. 10-4.415. Equipment maintenance. All internal combustion engine driven equipment and vehicles shall be kept tuned according to the manufacturer's specifications and properly maintained to minimize the leakage of oils and fuel. No vehicles or equipment shall be left idling for a period of longer than is required by law, recommended by the Air District, or ten (10) minutes, whichever is shorter. Fueling and maintenance activities of heavy equipment (except draglines and floating suction dredges) are prohibited within one-hundred (100) feet of open bodies of water during mining and reclamation. All Storm Water Pollution Prevention Plans shall include provisions for releases of fuels during fueling activities for draglines and floating suction dredges.
	Sec. 10-4.417. Groundwater monitoring programs. All surface mining operations that propose off-channel excavations extending below the groundwater level shall develop and maintain a groundwater monitoring program consisting of two components: water level measurements and water quality testing. A groundwater level monitoring program shall be initiated at least six months prior to the removal of overburden. At a minimum, the groundwater level monitoring program shall consist of three monitoring wells, with at least one well upgradient of the wet pit and one well downgradient of the wet pit. Monitoring programs for proposed mining areas exceeding one-hundred (100) acres (total proposed mining area over the life of the project) shall include one additional well for each one-hundred (100) acres of wet pit mining. Therefore, wet

	pit mining areas of 1 to 99 acres would require 3 wells, 100 to 199 acres would require 4 wells, 200 to 299 acres would require 5 wells, and so on. These wells shall be distributed through the vicinity of the wet pit mining area and used for groundwater level measurements. Groundwater levels shall be collected from the monitoring wells on a quarterly basis for six (6) months prior to mining and for the duration of the mining period. All wellheads shall be surveyed with horizontal and vertical control to allow calculation of groundwater elevations and development of groundwater contour maps. Groundwater levels shall be measured with an accuracy of plus or minus 0.01 foot, at minimum. Water quality in the vicinity of each active wet pit mining location shall be evaluated by analyzing samples from selected monitoring wells (one upgradient and one downgradient) and wet pit surface water sampling locations. Since mining may be conducted in phases over a relatively long period of time, pit boundaries may change with time. Selection, and installation if necessary, of downgradient monitoring wells, which would be critical to adequately characterize the groundwater quality in the vicinity of the wet pits, shall be submitted by the operator for review and approval by the County. The selected monitoring wells shall be installed and sampled at least six (6) months prior to the removal of overburden. The downgradient wells shall be located as near to the active wet pit mining areas as is practical. The upgradient wells shall be located an adequate distance from the proposed mining area to ensure that the effect of the wet pit on water quality in the well would be negligible. The water samples from the wet pit shall be collected in a manner so as to ensure that they are representative of water quality within the wet pit. The minimum sampling schedule and required analyses are described below. (a) Groundwater level and pit water surface level measurements shall be performed quarterly in all wells for the duration of mining and reclamation. (b) For monitoring the groundwater quality of proposed wet pit mining, sample collection and analysis of physical, chemical, and biological constituents shall be conducted according to the following specifications: (1) Prior to the removal of overburden - One upgradient and one downgradient well shall be sampled at least six (6) months prior to the removal of overburden and again at the start of excavation. The samples shall, at minimum, be analyzed for general minerals; inorganics; nitrates; total petroleum hydrocarbons (TPH) as diesel and motor oil, benzene, toluene, ethylbenzene, and xylenes (BTEX); pesticides (EPA 8140 and 8150); and coliform (with E. coli confirmation). (2) During wet pit mining and active reclamation - The wet pit shall be sampled semi-annually for the duration of mining and active reclamation. The samples shall, at minimum, be analyzed for general minerals; inorganics; nitrates; TPH as diesel and motor oil, BTEX; pesticides (EPA 8140 and 8150); and coliform (with E. coli confirmation). One upgradient and one downgradient well shall be analyzed, at minimum, for general minerals; inorganics; nitrates; TPH as diesel and motor oil, BTEX; pesticides (EPA 8140 and 8150); and coliform (with E. coli confirmation). The wells shall be sampled according to the following schedule: semi-annually for the first two years, and annually every year thereafter. (3) After active reclamation - One year after all heavy equipment work has been completed in the vicinity of the pit, the TPH and BTEX analyses may be discontinued. The wet pit and one upgradient and one downgradient well shall be sampled and analyzed for pH; temperature; nutrients (phosphorous and nitrogen); total dissolved solids; total coliform (with E. coli confirmation); and biological oxygen demand. This monitoring shall be conducted every two (2) years for a ten (10) year period after completion of reclamation. A report to the Agency and Department of Environmental Health shall be submitted within thirty (30) days of the required groundwater testing. Additional tests and analysis shall be required only if a new condition is

	recognized that may threaten water quality or if the results of previous tests fall outside allowable ranges. If at any time during the monitoring period, testing results indicate that sampling parameters exceed Maximum Contaminant Levels (MCLs), as reported in the California Code of Regulations, or established background levels, a qualified professional shall evaluate potential sources of the contaminants. The evaluation shall determine the source and process of migration (surface or subsurface) of the contaminants. A report shall be submitted to the regulatory agencies (the Agency, Yolo County Department of Environmental Health, the Central Valley Regional Water Quality Control Board, and the U.S. Environmental Protection Agency) which identified the source of the detected contaminants and specifies remedial actions to be implemented by the operator for corrective action. If it is determined that the source of water quality degradation is off-site, and the County and the RWQCB are in agreement with this conclusion, the operator shall not be responsible for corrective action. If corrective action is ineffective or infeasible, the responsible party must provide reparation to affected well owners, either by treatment of water at the wellhead or by procurement of an alternate water supply. If, at the completion of the mining and reclamation period, water quality has not been impacted, all monitoring wells shall be destroyed in accordance with the California Department of Water Resources Well Standards. If the County, landowner, or other agency wishes to maintain the wells for future water resources evaluation, selected wells may be preserved for this use. Monitoring wells may remain useful for post-mining land uses. The County may retain appropriate staff or a contract consultant to provide third party critical review of all hydrologic reports related to monitoring.