PLAN OF OPERATION

BALD HILLS #2 QUARRY
(Humboldt County)
(Updated 3/4/2025)

INTRODUCTION

The purpose of this project is to continue quarrying, crushing/sorting, and stockpiling of aggregate at the Bald Hills #2 Quarry for Humboldt County Department of Public Works (HCPW) road maintenance and road repair projects. This permit application proposes extraction of a total 15,000-yd³ of aggregate over the life of the permit (15 years). Mining may consist of a single 15,000-yd³ extraction, or smaller extractions, as frequently as annually, totaling 15,000-yd³ over 15 years.

LOCATION

The Bald Hills #2 Quarry is located 19 miles southeast of Orick on Bald Hills Road (*Attachment 5). It is in Section 29, Township 9 North, Range 3 East, HB&M and can be seen on the French Camp Ridge 7.5' USGS quadrangle map. The quarry is located on Assessor Parcel #531-022-02.

PAST MINING ACTIVITIES

The surface mining permit issued in 1994 (Permit #CUP-06-93/SMP-06-93) approved the mining of aggregate from an existing rock quarry from 1994 to 2009. HCPW proposed to mine and crush 1,000-yd³ annually, and up to 2,000-yd³ every three to five years, for a total of 10,000-yd³. The estimated total volume of rock contained in the site in 1994 was 35,000-yd³. The permit was renewed in 2009 for extraction of 15,000 cubic yards over 15 years, consisting of a single extraction or smaller extractions as frequently as annually.

The site had been mined in the past and was already partially developed. A berm was constructed around the project area to contain runoff. A stockpile area was established in the southeast corner. The quarry floor was graded so that water ponds approximately in the center, where it percolates into the ground. A culvert was installed under the access road where an existing seep/pond drains across the site.

The quarry was last mined in 2002. Total volume mined since 1994 is 19,460-yd³. On-site processing has occurred at least twice since 1994.

At this time the quarry face is approximately 400 ft long x 40-50 ft high.

PROPOSED MINING ACTIVITIES

HCPW proposes quarrying and processing a maximum of 15,000-yd³ of aggregate over the life of the permit (15 years). Quarrying may consist of a single 15,000-yd³ extraction, or smaller extractions, as frequently as annually, totaling 15,000-yd³ over 15 years. Processing, sorting, and stockpiling are included in the proposed activities.

Air Quality & Natural Occurring Asbestos

In 2002 the California Air Resources Board approved an Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (Final Regulation Order Section 93105). The Bald Hills #2 Quarry is not located in a known ultramafic rock unit and does not appear to contain asbestos, serpentine, or ultramafic rock. If in the event Natural Occurring Asbestos (NOA) is discovered, the North Coast Unified Air Quality Management District will be notified immediately. Stringent dust control measures will be applied during quarrying, processing/sorting, and stockpiling operations and during activities associated with final reclamation. If NOA is discovered within the project site, any areas left exposed will be encapsulated by re-soiling during final reclamation.

The North Coast Unified Air Quality Management District is in non-attainment for Particulate Matter smaller than 10 microns in diameter (PM10) according to State of California Standards. Sources of PM10 in the project vicinity are from road and natural airborne dust, vehicle emissions, and occasionally forest fires.

Dust Suppression

The method of wetting the quarry access road and quarry floor with water (supplied from an offsite source) will be utilized to control fugitive dust. An equipment dust suppression system is utilized during crushing operations. The system includes a large water storage tank located adjacent to the equipment. Offsite water is delivered to the storage tank via the water truck. Refilling is based on demand, typically every 2-3 days. A portable gas-powered pump supplies water to strategically located misters, typically installed at the screen deck and conveyor head-pulleys. Misters may also be utilized on the cone and/or jaw, depending on the volume of dust generated by the material being processed. The on-site pond is not utilized as a water source for dust suppression.

Noise

Ambient noise levels in the quarry vicinity range from 30 to 65 dBA and result from wind, birdcalls, and vehicular traffic on Bald Hills Road. Noise contribution from quarry activities are in the low-80s dBA range, which is typical for this type of activity, with the loudest noise coming from equipment backup horns and the crusher.

Quarrying

The mining method to be used will be consistent with how HCPW has conducted quarrying activities over the past 30 years (1994 and 2009 permit periods). Extraction will be accomplished by ripping and breaking up the rock with a bulldozer. The material will then be pushed into temporary surge piles on the quarry floor for crushing. In the event localized greywacke boulders are encountered, small-scale separation with charges may be performed. Rock extraction will work into the face by ~20 ft. The alignment of the quarry face will remain about the same.

Mining and crushing will be done during daylight hours (sunrise to sunset), primarily on weekdays. The average time period from extraction to stockpiling will be about 4-6 weeks.

Aggregate Processing

A portable crusher assembly, consisting of a jaw and cone crusher, screen desk, conveyors, and a portable generator will be strategically located on the quarry floor. Aggregate from the surge stockpiles will be transported to the crusher via front-end loader. Crushed, sorted aggregate will then be transferred to permanent stockpiles. Once crushing activities are completed, the crusher assembly will be dismantled and removed from the area.

Fueling and Maintenance

Equipment will be inspected for leaks prior to starting the shift, following lunch break, and at end of shift each workday. All fueling, lubing, and equipment maintenance will be performed per a site specific Spill Prevention Control and Countermeasures Plan (SPCC Plan) developed by HCPW Natural Resource Division. The designated staging/storage area for equipment, fuels, lubricants, and solvents will be located downgrade and away from the pond/wetland area. Maintenance involving the removal/repair of hydraulic cylinders/hoses or of reservoirs containing petroleum products will be performed over impervious fabric resistant to petroleum products. A minimum of two sealed 5-gallon spill kits will be kept onsite at all times during quarrying/crushing operations. A minimum of one sealed 5-gallon spill kit will be kept onsite during off-haul activities. All activities related to fueling, lubing, and maintenance will be performed in the designated staging area only. The functional condition of fuel pumps, hose assemblies, and emergency shutoff switches will be evaluated prior to usage. Personnel tasked with fueling will remain near the emergency shutoff switch during fueling operations. Topping off of fuel tanks will not occur. Fuels and lubricants will not be stored onsite. Although not described in this text, a spill response procedure is included in the SPCC Plan. All personnel will be familiar with all aspects of the Plan prior to the startup of quarrying/processing operations.

The gasoline powered water pump used to supply water to the crushing equipment, dust suppression system is situated over a drip pan and is either securely stored or removed from the site at end of shift each workday.

Traffic Control

Traffic control will consist of placing warning signs along Bald Hills Road, several hundred feet in both directions of the quarry entrance. It will not be necessary to detour or otherwise restrict traffic. Minor traffic delays may occur as vehicles slow down when they encounter trucks entering or exiting quarry. Delays will be temporary, ending when extraction and processing activities are completed and trucks/equipment leave the area.

Annual Winterization

Following each extraction, the quarry face will be left with a slope of varying steepness, in some places greater than 1:1 (where there are hard rock outcrops). Each fall, whether the site has been quarried or not, and prior to the first rains, the quarry floor will be finish graded to facilitate stormwater runoff towards the center of the site where it will pond and eventually percolate and/or evaporate into the ground. Where disturbed, the existing containment berm around the outside of the quarry floor will be reconstructed as necessary to eliminate stormwater runoff from exiting the site and draining into the unnamed tributary to Tully Creek ~0.5 miles below the site. The rebuilt sections of the berm will be straw mulched as necessary to reduce offsite, sediment transport of fines associated with that portion of the newly constructed berm.

The head-end of the culvert draining the pond/wetland will be check for debris and blockage during quarrying activities, as part of the winter site closer, and routinely throughout the year.

There will be not structures, temporary or permanent, involved in the project. No equipment will be left onsite following completion of quarrying processing activities. On occasion, temporary storage of road maintenance or snow removal equipment may occur at the site. All equipment involved in these activities will be stored downgrade of the pond/wetland area and will be checked periodically for leaks.

Regular Monitoring and Reporting

Monitoring will consist of regular visual inspections of the quarry by HCPW personnel for slope stability, stormwater management, berm integrity, and maintenance of the drainage culvert. Humboldt County

Planning Division staff will inspect the quarry annually. Reporting will consist of annual reports to the local lead agency and CA Department of Conservation as required by the Surface Mining and Reclamation Act.

INTERIM RECLAMATION

No reclamation has been undertaken for this site, due to the small size, onsite stockpiles, and regular frequent end-haul events. Interim reclamation will occur once the permitted volume of material has been removed from the site. The term interim reclamation is use as it is the intent of the landowner to eventually utilize the site as a borrow operation relevant to forestry activities. The County's interim reclamation activities are described in detail in the Bald Hills #2 Quarry Reclamation Plan (rev-012110) submitted as a supporting document to this Plan of Operations.

FINANCIAL ASSURANCES

The current financial assurance is included as an attachment to the permit renewal packet. No other changes to these amounts are proposed as no changes to the approved Reclamation Plan are proposed.

RECLAMATION PLAN

BALD HILLS #2 QUARRY
(Humboldt County)
February 2010

Prepared by:

Humboldt County Public Works Department
Natural Resources Division
1106 Second Street
Eureka, CA 95501
(707) 445-7741

TABLE OF CONTENTS

OPERATOR

Humboldt County Department of Public Works (HCPW)
1106 Second Street
Eureka, CA 95501

OWNER/SURFACE RIGHTS

Green Diamond Resource Company
P.O. Box 68
Korbel, CA 95550-0068

GENERAL MINING OPERATION INFORMATION

Mined Mineral Commodity

Gravel

Estimated Total Production

15,000-yd^3 over 15 years. Mining may consist of a single 15,000-yd^3 extraction, or smaller extractions as frequently as annually, totaling 15,000-yd^3 over 15 years.

Total Acres to be Disturbed

2.8 acres

Total Acres to be Reclaimed

2.5 acres

Maximum Anticipated Depth of Mining

70 feet (ft)

Date of Start Up

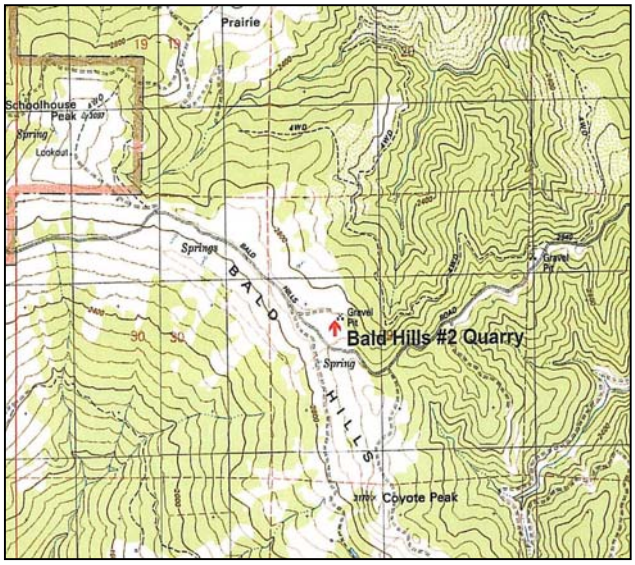
In use since before 1994

Estimated Date of Closure

2024 2040

LOCATION

The Bald Hills #2 Quarry is located 19 miles southeast of Orick on Bald Hills Road. It is in Section 29, Township 9 North, Range 3 East, H.B.&M. and can be seen on the French Camp Ridge 7.5' USGS quadrangle map. The quarry is located on Assessor Parcel #531-022-02.



SITE DESCRIPTION

The Bald Hills #2 quarry lies at an elevation of approximately 2,900 ft near the top of a north facing ridgeline in the Klamath River watershed. The site is in an area of moderately steep, rolling terrain with good drainage and a mix of open prairie and oak-fir forest.

There is a seep near the base of the hillside immediately west of the face, which has formed a ponded wetland. The pond drains via a sedge-lined ditch north, under the access road and down to a grassy swale north of the project area.

The quarry was developed from a naturally occurring rock outcrop. Operations from 1994-2008 removed 19,500-yd³ of rock. Currently, the entire project area is about 2.8 acres; with the quarry floor about one acre in area, and the stockpile 0.5 acres. The quarry face is approximately 400 ft long x 40-50 ft high, with a ramp angling down from the top and a bench about 25 ft from the bottom.

DESCRIPTION OF ENVIRONMENTAL SETTING

Aesthetics

The quarry is located just below the Bald Hills ridgeline and faces north. The quarry face is not visible from Bald Hills Road. Portions of the site are visible from Bald Hills Road, especially the outer edge of the stockpile. The site is also visible from Schoolhouse Peak, within Redwood National Park.

Air Quality & Natural Occurring Asbestos

In 2002 the California Air Resources Board approved an Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (Final Regulation Order Section 93105). The Bald Hills #2 quarry is not located in a known ultramafic rock unit and does not appear to contain asbestos, serpentine, or ultramafic rock. If in the event naturally occurring asbestos (NOA) is discovered, the North Coast Unified Air Quality Management District will be notified immediately. Stringent dust control measures will be applied during quarrying, processing/sorting, and stockpiling operations and during activities associated with final reclamation. If NOA is discovered within the project site, any areas left exposed will be encapsulated by re-soiling during final reclamation.

The North Coast Unified Air Quality Management District is in non-attainment for Particulate Matter smaller than 10 microns in diameter (PM10) according to State of California Standards. Sources of PM10 in the project vicinity are from road and natural airborne dust, vehicle emissions, and occasionally forest fires.

Biological Resources – Vegetation

There are no species of plants listed by the US Fish & Wildlife Service (USFWS) as threatened or endangered in the French Camp 7.5' quadrangle. The California Natural Diversity Database (CNDDB) contains records for six sensitive plant species [ranked 2.2, 2.3, and 1B.2 by the California Native Plant Society (CNPS)] in the area covered by the French Camp Ridge quadrangle.

Rare/Sensitive Plant Species

SCIENTIFIC NAME	**COMMON NAME**	LISTING STATUS	CNPS RANK
Astragalus umbraticus	Bald Mountain milk-vetch	Fed: None Cal: None	2.3
Coptis laciniata	Oregon goldthread	Fed: None Cal: None	2.2
Erythronium revolutum	Coast fawn lily	Fed: None Cal: None	2.2
Iliamna latibracteata	California globe mallow	Fed: None Cal: None	1B.2 (Fairly threatened in CA)
Piperia candida	White-flowered rein orchid	Fed: None Cal: None	1B.2 (Fairly threatened in CA)
Thermopsis robusta	Robust false lupine	Fed: None Cal: None	1B.2 (Fairly threatened in CA)

(CNDDB 2009)
(1B = Rare, Threatened or Endangered in California and Elsewhere)
(2.X = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere)

Bald Mountain Milk-Vetch – Bald Mountain milk-vetch can be found in dry open oak and pine woodlands from 650 to 4,000 ft elevation. While Bald Mountain milk-vetch has not been found in the vicinity, the project vicinity contains habitat for the species.

Oregon Goldthread – Oregon goldthread can be found in north coast coniferous forests, in meadows and seeps, and along moist streambanks. The project area contains habitat for Oregon goldthread where the seep ponds and flows under the access road. The project vicinity also contains habitat.

Coast Fawn Lily – Coast fawn lily can be found in bogs, fens, broad-leafed upland forest, and north coast coniferous forest, and has been documented approximately 0.7 miles east of the project area, along a tributary to Tully Creek. Within the project area the pond/wetland constitute habitat for coast fawn lily. There is also habitat in the project vicinity.

California Globe Mallow – California globe mallow can be found in north coast coniferous forests, in seepage areas with silty clay loam soil. It has been documented along Bald Hills Road 0.7 miles east of the quarry. Both the project area (pond/wetland) and vicinity contain habitat for California globe mallow.

White-Flowered Rein Orchid – White-flowered rein orchid can be found in north coast coniferous forest, lower mountain coniferous forest, and broad-leafed upland forest. It prefers serpentine, forest duff, mossy banks, rock outcrops, and muskeg, in elevations ranging from sea level to 4,000 ft. Orchids have not been found near the project. The project area does not contain habitat for white-flowered rein orchids, however there is habitat in the project vicinity.

Robust false lupine – Robust false lupine can be found in north coast coniferous forests and broad-leafed upland forests, on ridge tops and sometimes on serpentine. Robust false lupine has not been documented near the project, however both the project area (hillside above quarry face) and vicinity contain habitat for the lupine.

Biological Resources – Wildlife

The following species of wildlife are listed by USFWS as threatened or are candidates for listing for the French Camp Ridge 7.5' USGS quadrangle.

USFWS Species List for French Camp Ridge Quadrangle

SCIENTIFIC NAME	COMMON NAME	STATUS	CRITICAL HABITAT?
Fish			
Eucyclogobius newberryi	Tidewater Goby	Endangered (1994)	Yes (2000)
Oncorhynchus kisutch	S. OR/N. CA Coho Salmon	Threatened (1997)	Yes (1999)
Oncorhynchus mykiss	Northern California Steelhead	Threatened (2000)	Yes (2005)
Oncorhynchus tshawytscha	CA Coastal Chinook Salmon	Threatened (1999)	Yes (2005)
Birds			
Brachyramphus marmoratus	Marbled murrelet	Threatened (1992)	Yes (1996) Revision Proposed (2006)
Coccyzus americanus	Western yellow-billed cuckoo	Candidate	No
Strix occidentalis caurina	Northern spotted owl	Threatened (1990)	Yes (1992)
Mammals			
Martes pennanti	Fisher, West Coast DPS	Candidate	No

(USFWS 2009)

There is no habitat for the listed fish species in the project area (upland location).

Fisher – The quarry does not contain habitat for fishers, although there is fisher habitat in the vicinity of the quarry (undisturbed late-successional forest with rotting logs or tree cavities for nesting).

Western Yellow-Billed Cuckoo – There is no habitat for western yellow-billed cuckoos in the quarry or vicinity (dens willow and cottonwood stands on river floodplains).

Northern Spotted Owl – The quarry does not contain habitat for northern spotted owls. There is habitat in the vicinity of the quarry (old-growth or mixed-age stands of mature and old-growth trees).

Marbled Murrelet – The quarry and vicinity do not contain habitat for marbled murrelet (old-growth forests with large trees and high canopy closure).

Review of occurrences of rare and sensitive wildlife species recorded in CNDDB (March 2009) for the French Camp Ridge 7.5' USGS quadrangle revealed a total of seven species of birds, mammals, amphibians, and fish.

Rare/Sensitive Wildlife Species
(Habitat in Project Area/Vicinity)

SCIENTIFIC NAME	COMMON NAME	LISTING STATUS
Arborimus pomo	Sonoma tree vole	Fed: None Cal: None
Martes pennanti (pacifica) DPS	Pacific fisher	Fed: Candidate Cal: None
Oncorhynchus clarkii clarkii	coast cutthroat trout	Fed: None Cal: None
Pandion haliaetus	Osprey	Fed: None Cal: None
Plethodon elongates	Del Norte salamander	Fed: None Cal: None
Rana boylii	Foothill yellow-legged frog	Fed: None Cal: None
Rhyacotriton variegates	Southern torrent salamander	Fed: None Cal: None

(CNDDB 2009)

Sonoma Tree Vole – There is no habitat for Sonoma tree vole in the quarry. There is habitat in the quarry vicinity (old-growth and large second growth forests of Douglas fir, redwood, and mountain hardwood-conifer).

Pacific Fisher – There is no fisher habitat in the quarry area. There is habitat for fishers in the quarry vicinity (undisturbed late-successional forest with rotting logs or tree cavities for nesting).

Osprey – There is no habitat for osprey in the quarry area or vicinity (larger good-fish-producing streams and rivers).

Del Norte Salamander – The quarry area contains habitat for Del Norte salamanders in the pond/wetland and outflow. There is also salamander habitat in the quarry vicinity (cool, moist areas with deep litter layer, and near streams).

Foothill Yellow-Legged Frog – The quarry pond/wetland and outflow contains habitat for yellow-legged frogs. There is also habitat in the quarry vicinity (cold, well-shaded permanent streams and seeps).

Southern Torrent Salamander – The quarry pond/wetland and outflow contain habitat for southern torrent salamander. The quarry vicinity also contains habitat for salamanders (cold, well-shaded permanent streams and seeps).

Cultural Resources

There are no known or recorded archaeological or historical sites at the quarry. The Bald Hills Archaeological District (4,310 acres), listed in the National Register of Historical Places, is located within Redwood National Park near the quarry site but does not include the quarry.

Geology

This site lies within a region of Franciscan sandstone made up chiefly of greywacke, interbedded shale, minor conglomerate and thin-bedded chert. It is in Earthquake Ground Shaking Zone E, Bedrock. Characteristics of earthquake shaking are higher accelerations but of relatively short periods and shorter duration of shaking, and high slope instability. The South Fork Mountain Fault (a major east-dipping thrust fault) is about three miles east of the quarry.

There is a west-facing hillside adjacent to the east end of the quarry face that has been subject to slope failure, producing a small landslide several years ago (exact date unknown). The slide area is ~45 ft high and several trees from the top have fallen to the quarry floor.

Soils

Soils at the quarry site are an association of two soil series, Wilder and Kneeland. Soils in the Wilder series have a depth of three to four feet, less than 30% slope, rapid permeability with good to excessive drainage, and high erosion hazard. The soil is sandy and gravelly loam, with parent material of sandstone and high erosion hazard. Wilder soils are highly suitable for timber production but have low to very low suitability for range use. Kneeland series soils are clay loam soils found in hilly to steep areas that have good drainage and moderate erosion hazard. These soils are unsuited for timber production but highly suited for range use.

Noise

Ambient noise levels in the quarry vicinity range from 30 to 65 dBA and result from wind, birdcalls, and vehicular traffic on Bald Hills Road. Noise contribution from quarry activities are in the low-80s dBA range, which is typical for this type of activity, with the loudest noise coming from equipment backup horns and the crusher.

GENERAL LEAD AGENCY INFORMATION

Lead Agency
Humboldt County Community Development Services Department, Planning Division

Staff Contact
Anita Punla, Senior Planner

Phone Number
(707) 445-7541

Address
3015 H Street
Eureka, CA 95501

Use Permit Number
CUP-06-93XM

Date Issued
Pending

Expiration Date
Pending

Financial Assurances
Approved June 2, 2009 (Humboldt County Board of Supervisors), updated annually

*Current 2025 FACE being processed by Lead Agency

DESCRIPTION OF MINING ACTIVITIES

HCPW will mine a maximum of 15,000-yd³ of rock over the life of the permit (15 years). Mining may consist of a single 15,000-yd³ extraction, or smaller extractions, as frequently as annually, totaling no more than 15,000-yd³ over 15 years. Crushing/sorting and stockpiling are included in the mining activities.

Quarrying

The mining method to be used will be consistent with how HCPW has conducted quarrying activities over the past 15 years (1994 permit period). Extraction will be accomplished by ripping and breaking up the rock with a bulldozer. The material will then be pushed into temporary surge piles on the quarry floor for crushing. In the event localized greywacke boulders are encountered, small-scale separation with charges may be performed. Rock extraction will work into the face by ~20 ft. The alignment of the quarry face will remain about the same.

Mining and crushing will be done during daylight hours (sunrise to sunset), primarily on weekdays. The average time period from extraction to stockpiling will be about 4-6 weeks.

Aggregate Processing

A portable crusher assembly, consisting of jaw and cone crushers, screens, conveyors, and a generator trailer will be temporarily located on the quarry floor. Rock from the surge piles will be transported to the crusher via front-end loader. Crushed sorted rock will then be transferred to the permanent stockpile. Once crushing activities are completed, the crusher assembly will be dismantled and removed from the area.

Dust Suppression

The method of wetting the quarry access road and quarry floor with water (supplied from an offsite source) will be utilized to control fugitive dust. An equipment dust suppression system is utilized during crushing operations. The system includes a large water storage tank located adjacent to the equipment. Offsite water is delivered to the storage tank via the water truck. Refilling is based on demand, typically every 2-3 days. A portable gas-powered pump supplies water to strategically located misters, typically installed at the screen deck and conveyor head-pulleys. Misters may also be utilized on the cone and/or jaw, depending on the volume of dust generated by the material being processed.

Annual Winterization

Following each extraction, the quarry face will be left with a slope of varying steepness, in some places greater than 1:1 (where there are hard rock outcrops). Each fall, whether the site has been quarried or not, and prior to the first rains, the quarry floor will be finish graded to facilitate stormwater runoff towards the center of the site where it will pond and eventually percolate and/or evaporate into the ground. Where disturbed, the existing containment berm around the outside of the quarry floor will be reconstructed as necessary to eliminate stormwater runoff from exiting the site and draining into the unnamed tributary to Tully Creek ~0.5 miles below the site. The rebuilt sections of the berm will be straw mulched as necessary to reduce offsite, sediment transport of fines associated with that portion of the newly constructed berm.

Regular Monitoring and Reporting

Monitoring will consist of regular visual inspections of the quarry by HCPW personnel for slope stability, stormwater management, berm integrity, and maintenance of the drainage culvert. Humboldt County

Planning Division staff will inspect the quarry annually. Reporting will consist of annual reports to the local lead agency and CA Department of Conservation as required by the Surface Mining and Reclamation Act.

INTERIM RECLAMATION

No reclamation has been undertaken for this site, due to the small size, onsite stockpiles, and regular frequent end-haul events. Interim reclamation will occur once the permitted volume of material has been removed from the site and is discussed below.

Post Reclamation Land Use

This parcel (#531-022-02) is zoned Timber Production Zone with a Humboldt County General Plan land use designation of Timberland. The property owner was consulted regarding post reclamation land use and has clearly indicated that they intend to continue utilization of the site as a "borrow pit", for aggregate stockpiling, and for equipment and materials storage once HCPW operations are complete. Interim reclamation will take place following termination of HCPW operation of the site. Maintenance and monitoring by HCPW will continue for a maximum of three years unless the landowner begins borrow operations prior to the end of that three-year period. Continued use of the site as a borrow pit is a compatible use on land zoned for timber production.

Continued use as a borrow pit and for equipment/materials storage does not preclude the opportunity of future mining at this site.

Public safety will not be compromised by interim reclamation of this site. The site is not located on public land and public access is blocked. Measures to protect water quality and ensure slope stability are included in the reclamation activities.

Reclamation Activities

Reclamation activities will consist of the following:

1. Re-grade the quarry face to 1H:1V slope (may vary based on slope stability). Benches will occur at 25' intervals.
1. Finish design grading of the quarry floor.
2. Construction and maintenance of containment berm.
3. Protection of wetland and associated seep.
4. Re-seeding with native grasses/shrubs and mulching.
5. Slope stabilization and erosion control.
6. Monitoring

As the landowner intends to continue use of the site, the culvert directing water from the wetland/pond will not be removed and the access road will not be decommissioned.

1 – Re-grading: The quarry face, which will be approximately 70 ft. high, will be maintained at a 1:1 slope, with 15 ft. wide benches at 25 ft. intervals. Due to the height of the final face, an engineered plan of the final slope will be developed and submitted for review by the California Department of Conservation no less than 30-days prior to the start of final reclamation. The quarry floor will be designed to slope gently (±1%) toward a centralized detention area at the center of the quarry floor or near the base of the quarry face, depending on which area has the most effectual rate of percolation.

2 – Containment Berm: The berm around the northern perimeter of the quarry floor will be left intact to contain stormwater runoff and fine sediment (excluding the wetland/pond outflow) onsite. The earthen berm will be seeded with native grasses and straw mulch for strength and to reduce offsite, sediment transport of fines associated with the berm itself.

3 – Protection of Wetland: The wetland/pond and associated seep area will not be included in any re-grading, but will be left in place as originally designed. Final grading will be conducted as to not influence or indirectly affect the wetland or drainage.

4 – Re-vegetation: A seed application consisting of various, suitable species will occur in the fall following re-grading and the first rain. A typical seed mix for initial re-vegetation may include (but is not limited to) the following species:

- ✓ California brome (*Bromus carinatus*)
- ✓ California oatgrass (*Danthonia californica*)
- ✓ Blue wildrye (*Elymus glaucus*)
- ✓ Regreen wheatgrass x wheat hybrid (*Triticum X Elymus*), this is a sterile, temporary cover crop, ideal for aiding in the establishment of native plant communities.

Areas to be seeded include the top of the quarry face, the area between the face and the adjacent slide, along the containment berm, and any other locations where there is sufficient topsoil to root the above-mentioned species. Seed application density will be approximately 50 pounds per acre; however, specific rates will be determined when the seed mix is finalized. Seed application will be by hydroseeding. Mulch and tackifier will be included in the hydroseed mix. Specifications regarding the rate of application, type, depth of mulch, and type of tackifier used will be based on the manufacturer and applicator's recommendation.

In mid-winter, after the initial seed application has sprouted, shrub species will be planted in appropriate locations throughout the area. The location density will be determined in consultation with the property owner and botanist. Potential locations include the top of the quarry face, the area between the face and the adjacent slide, along the containment berm, and other locations where there is sufficient topsoil (20 inches) to root the intended species. Species may include but are not limited to the following:

- ✓ Coyote brush (*Baaccharis pilularis*)
- ✓ Gooseberry (*Ribes spp.*)
- ✓ Lupine (*Lupinus ssp.*)

Shrub species will be planted by hand. Distribution of shrub species may be based on the variety and density of native species in the immediate area. Species especially palatable to grazers and browsers when young will be protected with diamond mesh seedling protection tubes for the first three years.

Re-vegetation success for grass cover will be based on aerial coverage of 80% one year after planting, and 97% two years after planting. Wherever these goals are not met, the area will be evaluated, and subsequent planting/mulching and soil amending will be performed. Re-vegetation success for shrubs will be based on individual plant counts.

5 – Slope Stabilization & Erosion Control: Following final reclamation, erosion control measures will be instituted and maintained for a minimum of three years or until such time as the landowner begins borrow operations. The final slope will be graded at 1:1 with benches at 25 ft. intervals. This grade is anticipated to provide a stable slope for the geology of the site. Re-vegetation via hydroseeding will minimize sediment transport within the site. Stormwater will make its way across the quarry floor per final design

and will dissipate into the ground. The vegetated perimeter berm will eliminate the opportunity for offsite discharge and sediment transport during torrential storm events. Again, this berm will be maintained for a minimum of three years or until the landowner begins borrowing operations

6 – Monitoring**:** The culvert controls the water surface elevation of the pond and wetland (weiring effect), which in turn assures a stable environment for all wetland species in and surrounding the water body. During the winter months when flows from the source are significant, failure of the culvert could result in erosion of the roadbed adjacent to the culvert and consequently product a sequential drop in water surface elevations. Monitoring for blockage (organic debris) and maintaining the culvert in a functional form year around is of utmost importance.

Frequently monitor that the access gate is kept closed and lock to protect the pond/wetland from livestock and large game animals.

Frequently monitor the earthen berm for integrity to guard against offsite discharge of stormwater and sediment during significant storm events.

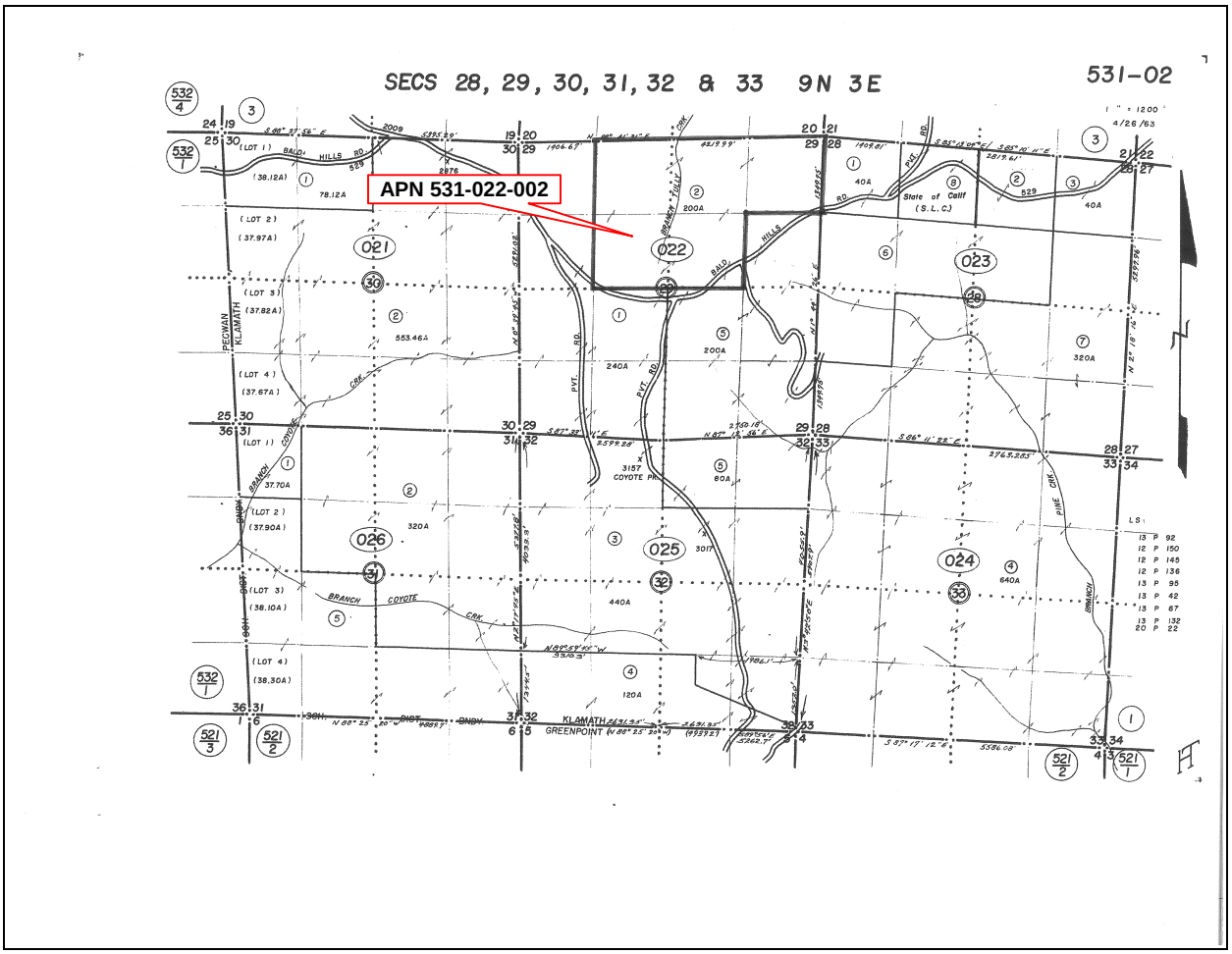
Tailing and Mine Waste Management

Due to the geological characteristics of the soil (discussed on Pg. 9) and the exposed nature of the quarried material, very little overburden exists. The result is a high percentage of usable material with a minimum amount of natural fines. Therefore, all material quarried from the site is blended and utilized, resulting in no production of tailing or mine waste.

Closure of Surface Openings

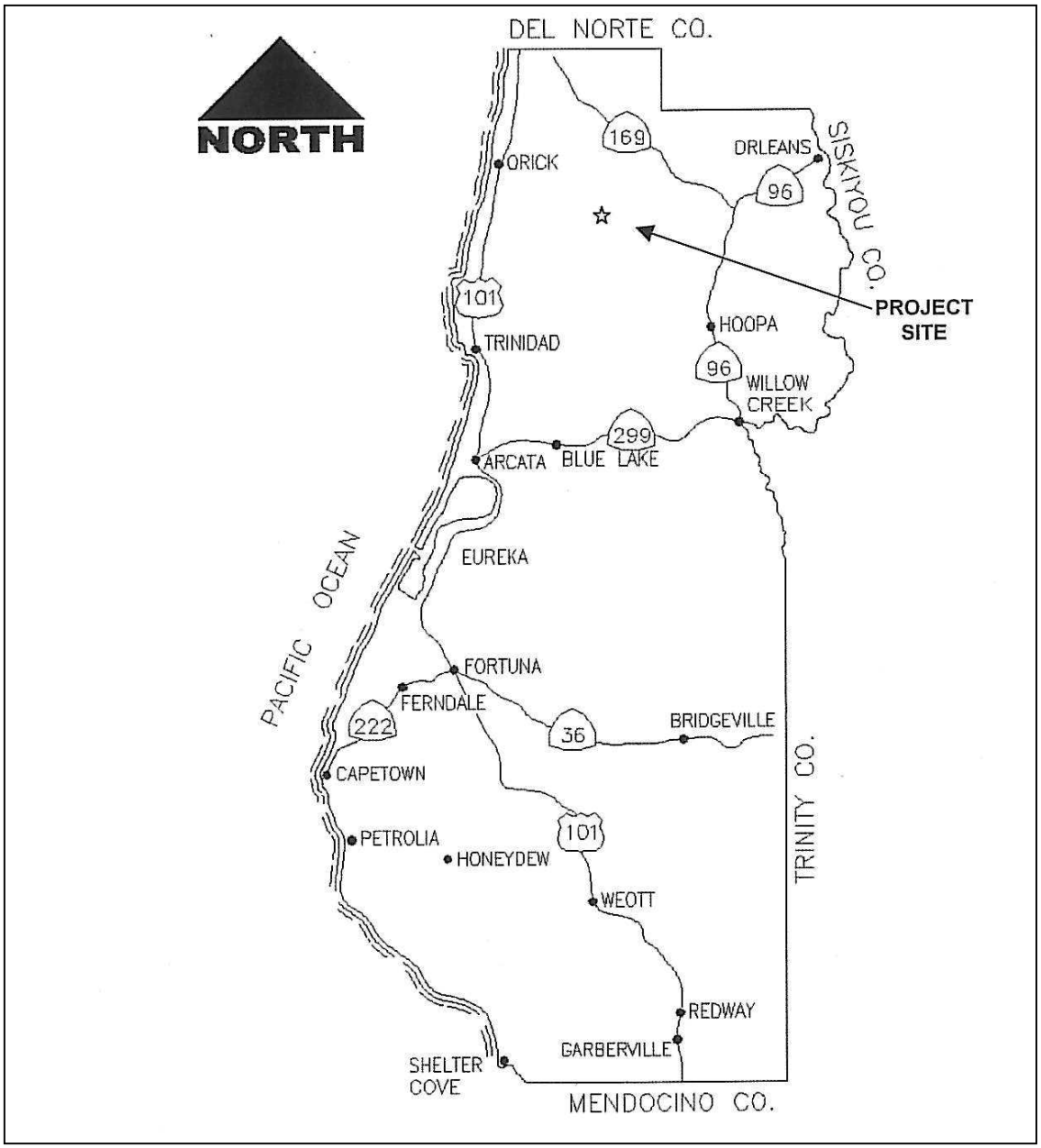
This is a surface mining operation with no openings to underground workings. Closure will include a substantial berm being formed along the base of the quarry face to minimize the chance of damage to vehicles, or injury to people, cattle, or large game animals as the result of falling rock.

ATTACHMENT 1 – Assessors Parcel Map

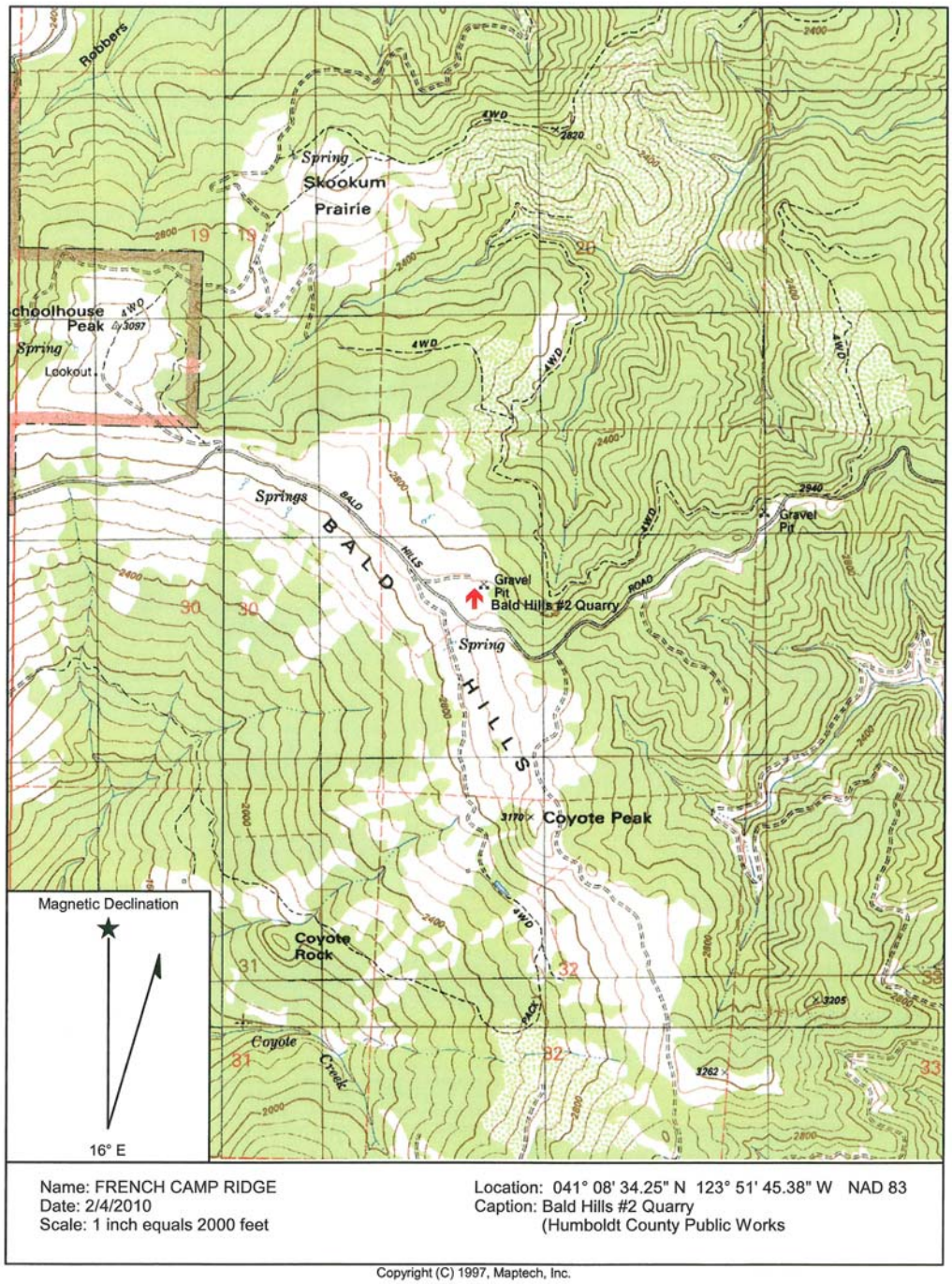


ATTACHMENT 2 – Location Map

Bald Hills #2 Quarry



ATTACHMENT 3 – Vicinity Map



ATTACHMENT 4 – Site Map