

PLAN OF OPERATION

General Information

Project: Drewry Rock Quarry
Renewal of Permit #CUP-19-92/SMP-02-92

Applicant: Humboldt County Department of Public Works
1106 Second Street
Eureka, CA 95501

Parcel: Assessor Parcel #216-021-07

Property Owner: Richard G. and Phyllis A. Drewry
P.O. Box 226
Redway, CA 95560-0226

Volume: Permitted: 2,000 cubic yards annually
Proposed: 20,000 cubic yards as frequently as annually

Acres: Permitted: 2.00 acres
Proposed: 2.00 acres

Introduction

In 1992, the Humboldt County Department of Public Works (HCPW) presented an Initial Study and Negative Declaration to the Humboldt County Planning Division with an application for a surface mining permit to operate a quarry on Bell Springs Road south of Harris (Drewry rock quarry). The Negative Declaration was approved by the Humboldt County Planning Commission on February 18, 1993, and the permit was issued on March 10, 1993.

The project is continued extraction, crushing, and stockpiling of rock from the Drewry rock quarry for County road maintenance and repair projects in the area. This permit renewal application proposes extraction of up to 20,000 cy of rock as frequently as annually for a period of 15 years. The total volume of rock extracted will not exceed 69,200 cy.

Project Location

The Drewry rock quarry is located approximately 2.4 miles south of Harris (1,100 ft south of Island Mountain Road) on Bell Springs Road. It is in Section 16, Township 5 South, Range 5 East and can be seen on the Harris 7.5' USGS Quadrangle Map. The quarry is located on Assessor Parcel #216-021-07.

Past Mining Activities

The surface mining permit issued in 1993 (Permit #CUP-19-92/SMP-02-92) approved the mining of rock from a previously existing rock quarry from 1993 to 2008. The

Department of Public Works proposed to mine and crush up to 2,000 cy of rock annually, for a total of 30,000 cy. The estimated total volume of rock contained in the site was 100,000 cy.

The site had been mined in the past and was already partially developed. A containment berm was constructed along the west side of the quarry floor and stockpile area. The entrance to the quarry is located midway between the stockpile location and the quarry floor/face. Vegetation on the hill above/behind the quarry face consisted of grass, which was left undisturbed. There was minimal topsoil on the site, so no topsoil was stockpiled.

Rock was removed from the quarry face by ripping and pushing it to the floor with a bulldozer. The excavated rock was pushed into temporary stockpiles on the floor. A portable crusher assembly (jaw crusher, conveyors, generator trailer) was located on the quarry floor between the face and permanent stockpiles. A front-end loader transported the piled rock to the crusher assembly for processing. Once processed, the crushed gravel was transferred to the permanent stockpiles on the north end of the site. Stockpiles were accessed throughout the year when needed for road maintenance and repair activities.

Over the period of 1993-2007, the face was mined three times for a total of 30,807 cy. Mining activity was most recently performed in 2007. Rock extraction from the quarry face and crushing were conducted during daylight hours, primarily on weekdays during the summer (dry) months.

The quarry face is currently approximately 20-25 ft high, with the elevation of the top of the face approximately three ft lower than the top of the hill.

Proposed Mining Activities

The Department of Public Works proposes mining, crushing, and stockpiling rock from the quarry face for the next 15 years. Up to 20,000 cy of rock will be taken from the quarry face as frequently as annually. The total extraction will be less than 69,200 cy (100,000 cy-30,807 cy).

Rock Extraction

The mining method to be used will be consistent with how the Department has conducted mining activities over the past 15 years (permit period). Extraction is expected to be accomplished by ripping and breaking up the rock with a bulldozer. The rock will be pushed into temporary stockpiles on the quarry floor. In the event localized graywacke boulders are encountered, small scale separation with charges may be performed. Rock extraction will continue to push the quarry face east, working into the hillside for an additional ~100 ft.

Mining and crushing occurring during the period of September 16 through January 31 will be done during daylight hours (sunrise to sunset). Mining and crushing occurring during the period of February 1 through September 15 will be limited to the daytime from two hours after sunrise to two hours before sunset. The average time period from extraction to stockpiling will be about four weeks. Dust control measures will consist of watering the quarry entrance and floor as needed with a water truck using an offsite water source.

Rock Processing

A portable crusher assembly, consisting of jaw and cone crushers, conveyors, and a generator trailer (see Appendix 1, Figure 4) will be temporarily located on the quarry floor between the quarry face and permanent stockpile area. Rock from the temporary stockpiles will be transported to the crusher via front-end loader. Crushed 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.

Traffic Control

Traffic control will consist of placing warning signs along Bell Springs Road in both directions on either side of the quarry area. 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 Bell Springs Road from the quarry. Delays will be temporary, ending when extraction and processing activities are completed and trucks/equipment leave the area.

General

Following each extraction, the quarry face will be left with a slope of 1:1 (except for hard rock outcrops). The floor will be regraded flat as necessary, with a depression located in the center where rainfall runoff from the face and floor will accumulate and evaporate or percolate into the ground. Containment berms will be repaired or reconstructed as necessary to keep runoff from flowing down the west hillside toward Tom Long Creek (0.4 mile below the quarry). These berms will be revegetated as needed using fast-growing native grass seed and mulched.

Final site reclamation in accordance with the existing reclamation plan will be performed after mining at the site is completed.

See attached Site Plan for additional details on current and future quarry configurations.

Monitoring and Reporting Activities

Monitoring will consist of regular visual inspections of the quarry by HCPW personnel for slope stability, drainage, and berm integrity. The quarry will also be inspected annually by Humboldt County Planning Division staff. 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.

Reclamation

No reclamation has been undertaken for the site. Final reclamation will be undertaken when mining is complete or the permit has expired. Reclamation will consist of regrading the site, spreading imported topsoil, and revegetating the area with pasture grasses for a final end use of livestock grazing (see attached Reclamation Plan).

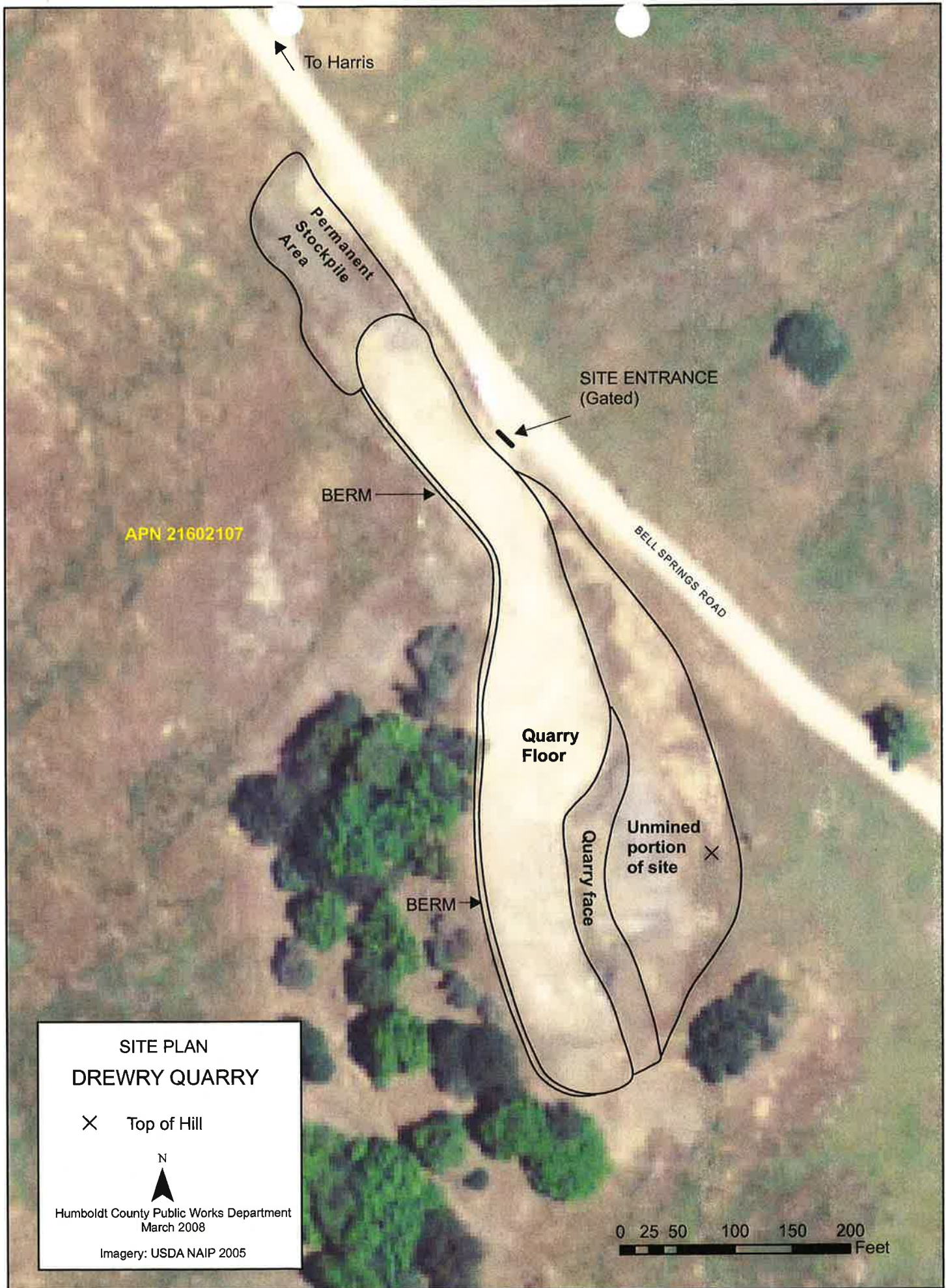
No changes to the existing, approved Reclamation Plan are proposed. No substantial changes in mining or reclamation activities will occur during the proposed renewal period. State Mining and Geology Board Reclamation Regulations, Article 1 §3502(d) states "An amended reclamation plan shall be approved by the lead agency prior to

commencement of activities determined to be a substantial deviation from the approved plan." A substantial deviation includes changes to the operation that substantially affect completion of the previously approved reclamation plan or changes in the end use That would substantially change the scope of reclamation. While an extension of the termination date if mining is proposed, no substantial increase in surface area or depth of mining, or changes in the operation that would substantially affect end use will occur.

Financial Assurances

Financial Assurances are summarized below. These assurances were updated and approved by the Planning Division on May 9, 2007. Other than updating the amounts for the year 2008 (pending, based on the consumer price index), no other changes to these amounts are proposed as no changes to the approved Reclamation Plan are proposed.

| ACTIVITY | COST (\$) |
|--|-------------------|
| Direct Costs | |
| Primary Reclamation Activities (topsoiling) | 1,937.51 |
| Revegetation (native grasses, mulch) | 733.50 |
| Monitoring Costs (revegetation, 3 years) | 216.84 |
| Indirect Costs | |
| Contingencies (10%) | 320.87 |
| Total Estimated Cost | \$3,208.72 |



PHOTOGRAPHS
Drewry Rock Quarry



#1 - Looking South at Quarry from Intersection of Bell Springs Road and Island Mountain Road (February 21, 2008)



#2 - Looking North from Top of Quarry Face (February 21, 2008)

PHOTOGRAPHS
Drewry Rock Quarry



#3 – Looking South at Quarry Face (February 21, 2008)



#4 – Overview of Quarry Face (February 21, 2008)

PHOTOGRAPHS
Drewry Rock Quarry



#5 – Quarry Face (Hard Rock Area) (February 21, 2008)



#6 – Hill Behind Quarry Face (February 21, 2008)

**DREWRY ROCK QUARRY, BELL SPRINGS ROAD
(Humboldt County Department of Public Works)**



**Crusher Assembly in Operation
(Drewry Rock Quarry, 1993)**

RECLAMATION PLAN
FOR
BELL SPRINGS ROCK QUARRY
February 1993

I. GENERAL INFORMATION

Project Name: Bell Springs Rock Quarry

Operator: Humboldt County Road Division
1106 Second Street
Eureka, CA 95501
(707) 445-7421

Owner/Surface Rights: Richard G. Drewry
P.O. Box 226
Redway, CA 95560
(707) 923-2640

Estimated Annual Production: 2,000 Cubic Yards

Estimated Total Production: 100,000 Cubic Yards

Estimated Maximum Depth: 60 Feet

Proposed Start-Up Date: In use since 1952

Proposed Termination Date: 2042

Location: AP#216-021-07 - Northeast quarter, southwest quarter of Section 16, T5S, R5E, H. B. & M. Approximately 300 feet south of the junction of Bell Springs Road and Island Mountain Road (see maps and photo in figures 1-5).

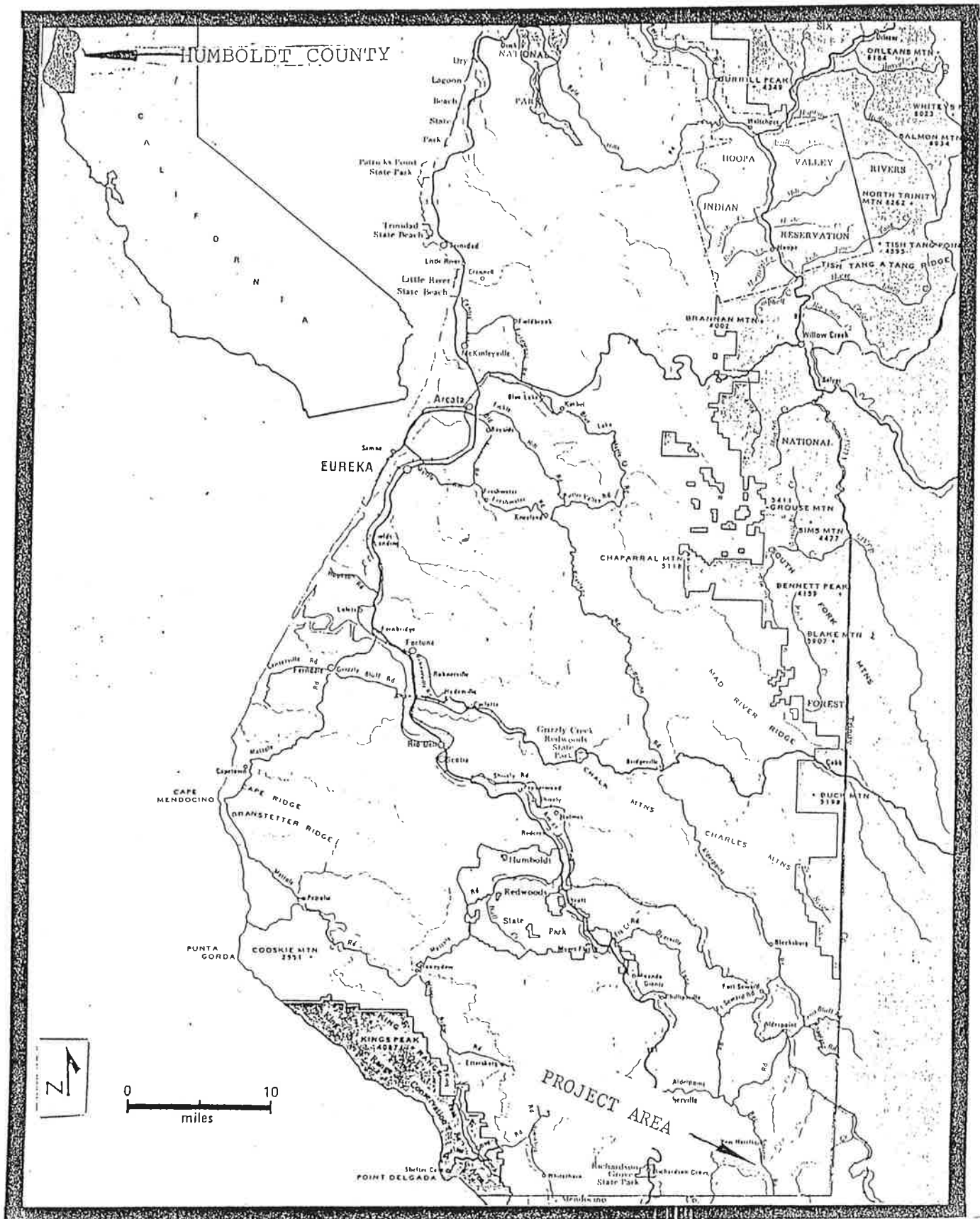


Figure 1 - Regional Map

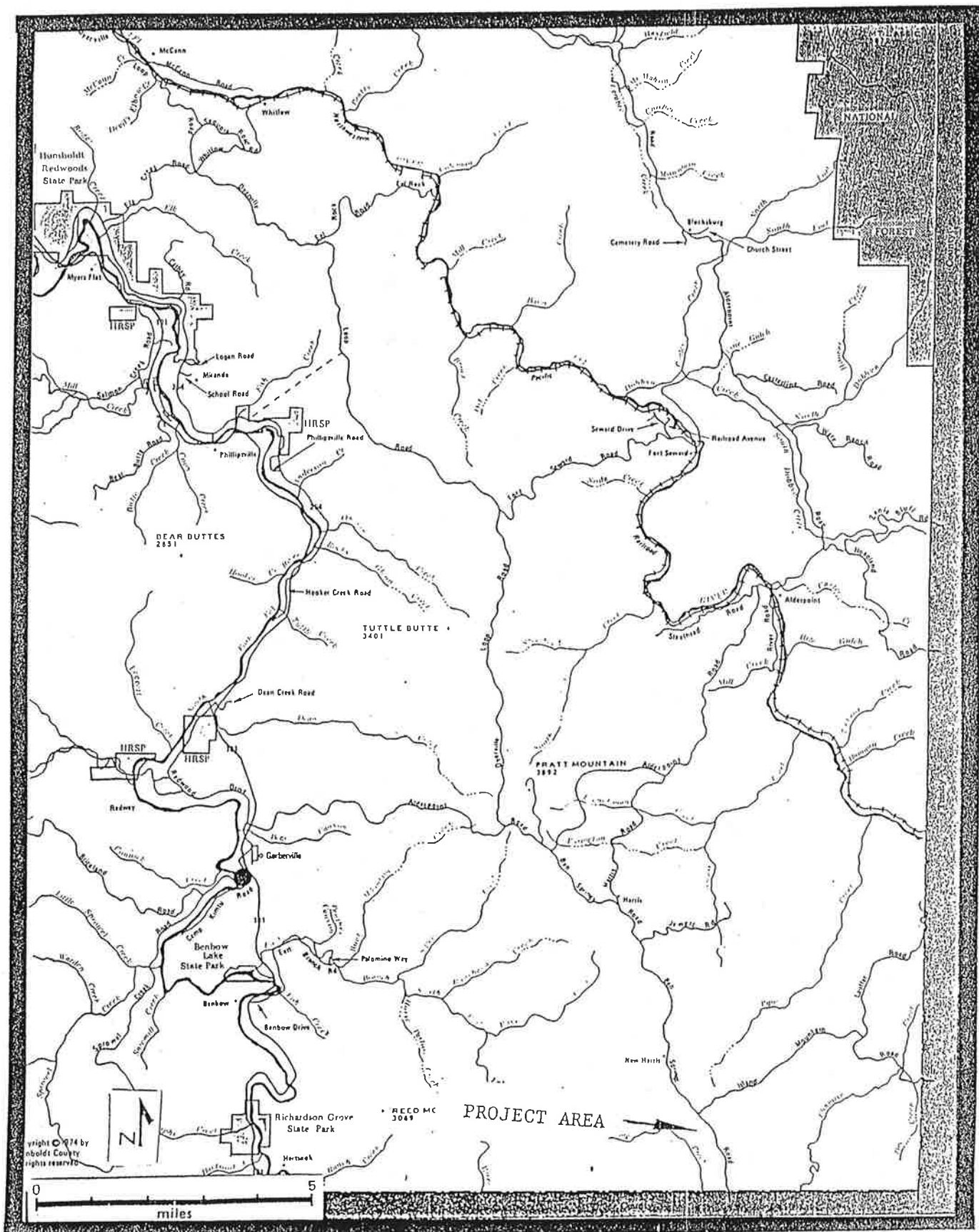


Figure 2 - Area Map

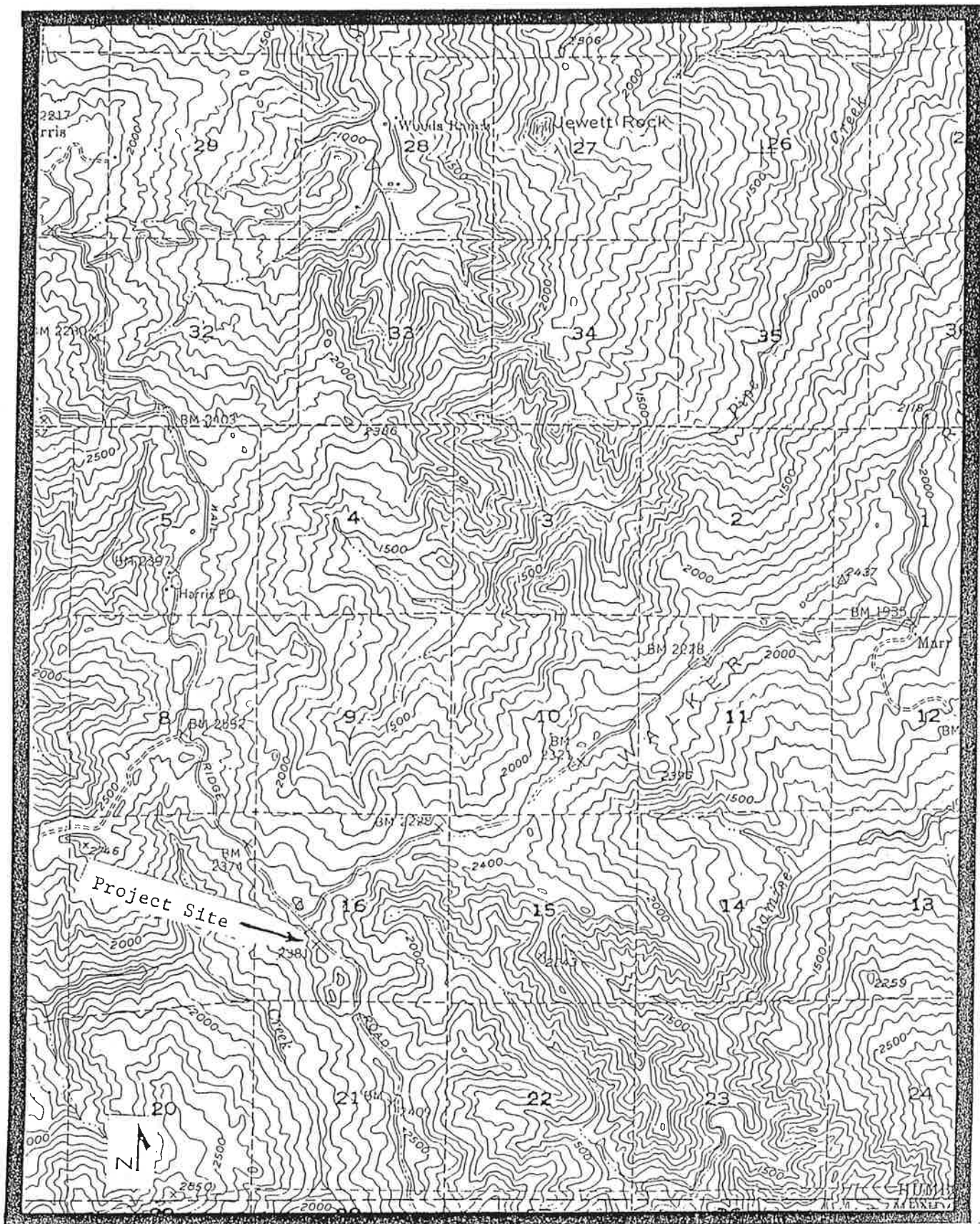


Figure 3 - Portion of 15 Minute USGS Alderpoint
Quadrangle Map. Scale 1" = 4,000'.

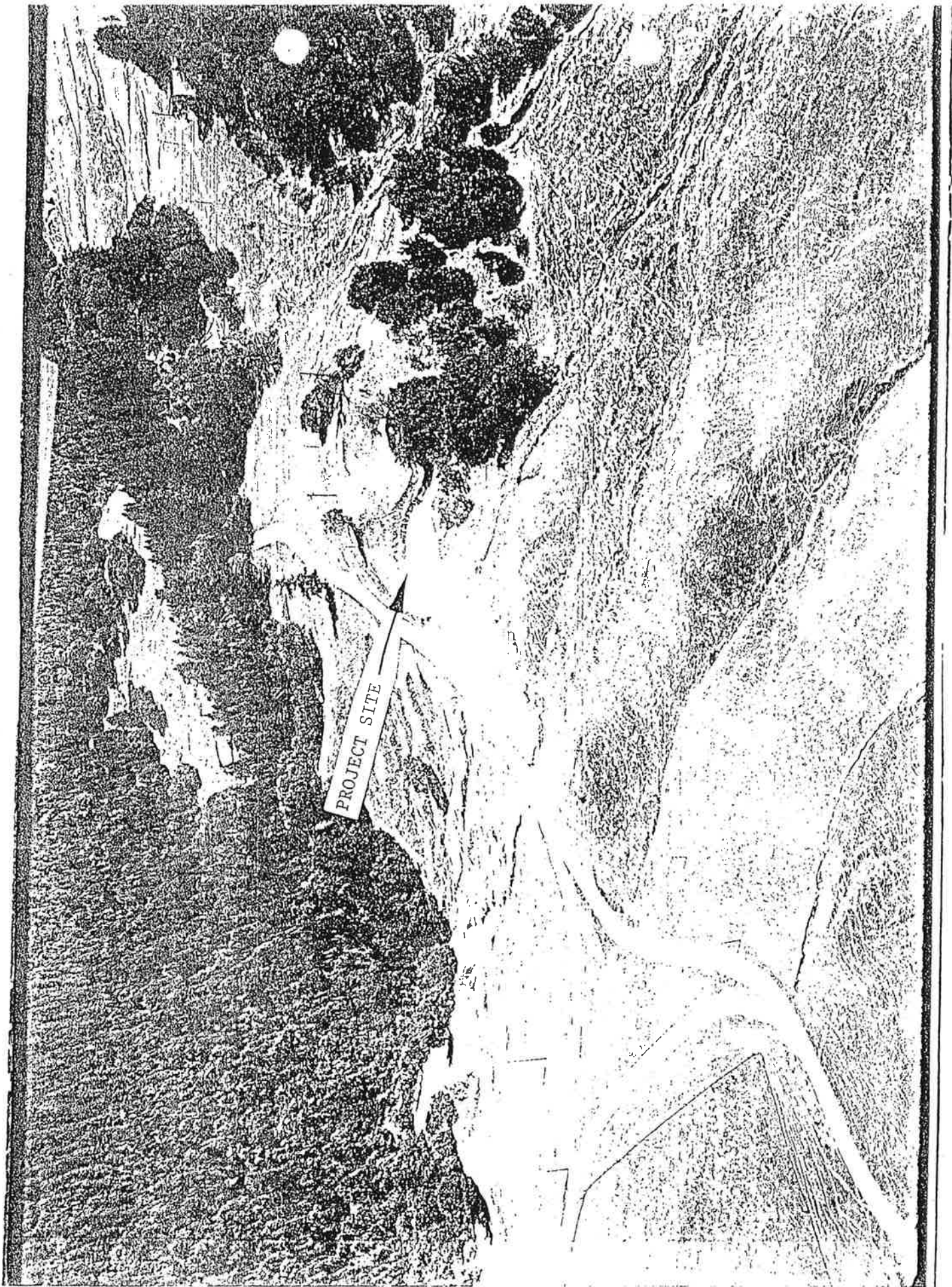


Figure 5 - Aerial Photograph of Bell Springs Rock Quarry 09/07/92.

II. DESCRIPTION OF ENVIRONMENTAL SETTING

Geomorphology.--This small rock quarry is located on the top of the ridge which separates the Main Eel River and the South Fork Eel River drainages. Originally, the site consisted of a mound approximately 60 feet high and 150 feet in diameter. Quarrying over the past 40 years has reduced the height by about 50 feet over the central portion. Approximately 70% of the original exterior slopes of the mound are intact.

The quarry is located on the south and west side of Bell Springs Road at an elevation of approximately 2,400 feet above mean sea level. It occurs in an area of rolling to steep slopes whose vegetation is primarily grasses. There is no surface water at the site.

Geology.--This mountain region of the Eel River basin consists of Franciscan melange which is a highly sheared unit composed of a matrix of sheared massive sandstone. The rock in the quarry itself consists of graywacke and sandstone which has been determined by the Materials Lab to be of excellent quality for road maintenance purposes. Typically, Franciscan melange consists of a rolling hummocky terrain highly susceptible to mass movement in which the melange boulders form scattered knobs that protrude out of grassland and grass-oak woodland. Figure 6 is a portion of the 7.5 minute Harris Quadrangle Map showing the project site. The SS indicates the sandstone and shale rock types found here. There is an earthflow symbol shown to the south and west of the site. Quarrying activity here over the past 40 years has had no known effect on earth movement. This data was compiled by Thomas E. Spittler, Geologist, California Division of Mines & Geology, 1984.

Soils.--The Pacific Southwest Forest and Range Experiment Station, in cooperation with the California Division of Forestry and the University of California at Berkeley, produced a soil vegetation map 29D-3 in May, 1952 which was revised in 1975. This map designates the soil at the quarry site as being in the Laughlin series with a depth of two to three feet. This soil is loam with parent material of sandstone and shale. It is slightly acid and found in rolling to steep uplands. This soil type is permeable with good drainage. It is rated as being unsuitable for growing timber and good to fair for grass.

Vegetation.--There is one large, picturesque oak tree immediately next to Bell Springs Road on the east side of the quarry; one large, dying douglas fir tree immediately on the south slope; and several oak and bay trees along the west side of the quarry. Ground cover surrounding the site consists of perennial grasses. The trees are critical from an aesthetic standpoint and will be left intact.

The California Department of Fish & Game Natural Diversity Data Base listed no rare or endangered plant species at the project site as of September 15, 1992.

Wildlife.--None was observed at the site. Falcons, turkey vultures and swallows were observed in the vicinity. Mammals expected to occur here would include deer, bear and rodents.

The California Department of Fish & Game Natural Diversity Data Base listed no rare or endangered animal species at the project site as of September 15, 1992.

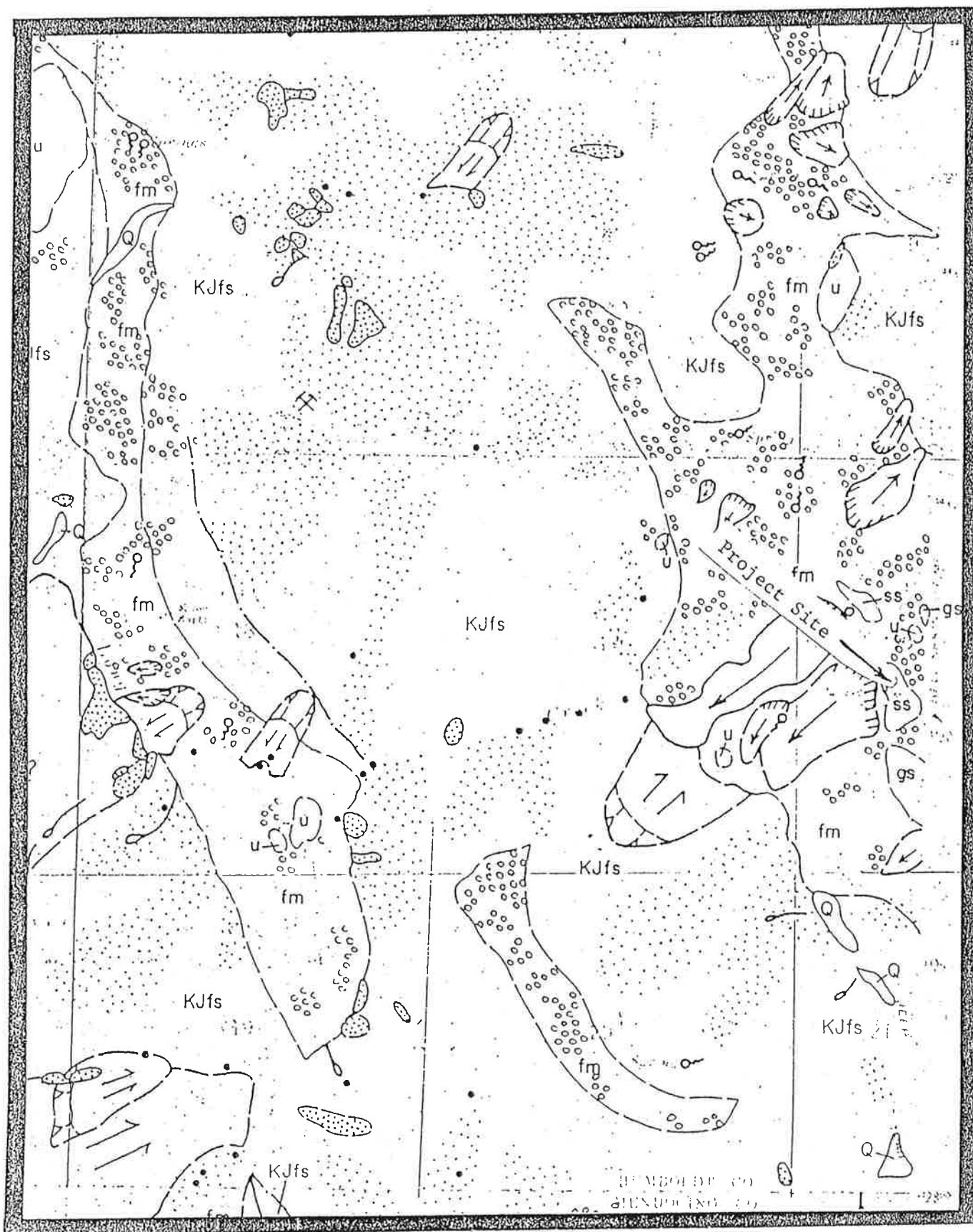


Figure 6 - Portion of 7.5 Minute USGS Harris Quadrangle Map showing geologic features at project site.
Scale 1" = 2,000'

Noise Levels.---Ambient noise levels would range from about 40 dBA to 70 dBA and would result from wind, bird calls, cattle and occasional automobiles. The nearest residence is located two miles from the site.

III. DESCRIPTION OF THE MINING OPERATION

The Road Division of the County Public Works Department has used rock quarried from this site for the past 40 years. Periodically, a crusher, front-end loader and bulldozer are brought to the site. Rock is removed from the central area of the original mound, crushed and stockpiled 300 feet north of the pit for use as needed. This occurs approximately every three to four years and the duration of each crusher operation is two weeks.

To hold environmental impacts to an insignificant level, rock is removed only from the center of the original mound. The original exterior slopes and vegetation remain untouched. This method is creating a horseshoe shaped pit surrounded by the original vegetation and slopes.

At the end of each working of this pit, the interior area is smoothed out.

The project area involved at this site totals approximately two acres including the stockpile area.

IV. DESCRIPTION OF PROPOSED RECLAMATION

The area surrounding the project site is used for cattle grazing. This is the most likely future use of the site when all available rock has been removed. It is estimated that this quarry will be used for approximately another 50 years.

Reclamation will not begin until this quarry is no longer in use since the small area involved and the recurrent operation precludes any staged reclamation.

Reclamation will consist of spreading a thin layer of top soil over the excavated area and seeding it with native grass found in the surrounding area. This will be accomplished in early fall to coincide with the onset of the annual rainy season. If necessary, mulch will be used until the seeds germinate and the plants achieve enough growth to provide erosion control.

The revegetation will be monitored by the Road Division to ensure that it meets the following performance standards: 60% cover within three years; no reseeded area larger than 100 square feet containing less than 40% vegetation cover within three years.

All equipment and debris will be removed from the site. There are no affected surface waters at this site; therefore, no rehabilitation of channels or banks will be necessary. The implementation of this Reclamation Plan will have no effect on future mining in the area.

To guarantee site reclamation, it should be noted that the County Planning Department is the lead agency in issuing a Conditional Use Permit to permit the Public Works Department to operate this quarry. Because the Public Works Department is a department with the government of Humboldt County and the Planning Department is a department within the same government, the Public Works Department feels that a signed statement included in this Reclamation Plan is sufficient to guarantee that the Reclamation Plan will be implemented.

The following signed statement is included in the Reclamation Plan as required by SMARA (PRC) Section 2772(j).

"I, John Murray, Director of Public Works, acknowledge that the Humboldt County Department of Public Works has responsibility for and will reclaim the lands involved with the Bell Springs Rock Quarry in accordance with this Reclamation Plan."



JOHN MURRAY, DIRECTOR

DATE