

Appendix F:  
1985 Reclamation Plan Approval

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No.	Document
1.	Environmental Assessment, dated March 1, 1985
2.	Staff Report for Planning Commission Meeting of March 7, 1985
3.	Minutes for Planning Commission Meeting of March 7, 1985
4.	Reclamation Plan Approval, dated March 7, 1985
5.	Reclamation Plan

**County of Santa Clara**  
**California**

Department of Planning and Development  
Office of Planning  
County Government Center, East Wing  
76 West Hedding Street  
San Jose, California 95110  
(408) 289-2521

ENVIRONMENTAL ASSESSMENT

File No.: 2250-13-66-84P Sponsor: Kaiser Cement Corp.  
Date: March 1, 1985 Project: Reclamation Plan for Kaiser  
Prepared by: Ransom Bratton Cement Permanente Quarry  
Reviewed by: Hugh H. Graham

RECOMMENDED ENVIRONMENTAL DETERMINATION:

- CATEGORICALLY EXEMPT. Project is within a class of projects determined not to have a significant effect on the environment.
- NEGATIVE DECLARATION. The proposed project could not have a significant effect on the environment, or, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case if the mitigation measures are added to the project. (In this case, if mitigation does not occur through: (1) a change in plans; or (2) an enforceable commitment from the applicant, an EIR would be required).
- ENVIRONMENTAL IMPACT REPORT IS REQUIRED. The proposed project may have significant effects on the environment. These significant effects, as determined by the Initial Study and other sources, will be evaluated in an EIR.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

- |  |  |
|--|--|
| <input type="checkbox"/> Land Use/General Plan                 | <input type="checkbox"/> Safety                      |
| <input checked="" type="checkbox"/> Geologic                   | <input type="checkbox"/> Air Quality                 |
| <input checked="" type="checkbox"/> Resources/Parks            | <input type="checkbox"/> Noise                       |
| <input checked="" type="checkbox"/> Waste/Sewage/Water Quality | <input checked="" type="checkbox"/> Aesthetic        |
| <input checked="" type="checkbox"/> Flora and Fauna            | <input type="checkbox"/> Energy                      |
| <input type="checkbox"/> Transportation                        | <input type="checkbox"/> Historical/Archaeological   |
| <input type="checkbox"/> Housing                               | <input type="checkbox"/> Public Services & Utilities |

DISCUSSION (continued on back)

Staff Conclusion: (SEE ATTACHED SHEETS)

## DISCUSSION

### Staff Conclusion

A Negative Declaration is recommended for this project. The proposed reclamation plan can be carried out without adverse permanent impacts on the environment. The reclamation plan's conditions of approval being established by the Planning Commission will provide adequate protection for surface waters, slope stability, flora, aesthetic and to public health and safety. No environmental factors were found which were incapable of mitigation by the conditions of approval. There will be a period during the expansion of the quarry pit towards the east when the East Rock Storage area will be visible from off the property, but this situation will be eventually eliminated by the revegetation process is implemented by the plan. There is a community benefit from approval of this reclamation plan as there is currently no such plan in effect for the quarry site.

### Environmental Setting

The project area is located west of the Kaiser Cement plant area approximately 1-1/2 miles west of the City of Cupertino and 1/2 mile west of the cement plant. The area of the reclamation plan comprises approximately 330 of the 3268 acres owned by Kaiser Cement Corporation. The quarry and reclamation area are accessed by the private road system extending west from Permanente Road.

The site is located in the eastern foothills of the Santa Cruz Mountains at the western edge of the valley with elevation ranging from 950 to 1900 feet. The terrain's vegetation has been heavily modified as a result of years of quarry operation along with subsequent revegetation. Varieties of the more native vegetation types include oak woodland, oak savannah, woodland/chaparral and chaparral habitats. There no known rare or endangered plant or animal species to be found in the area of the reclamation plan. The total reclamation area, with the exception of the quarry pit, drain into the headwaters of Permanente Creek. Except for the extreme northeasterly corner of the top of the eventual pit and adjacent rock storage area the project area is totally surrounded by lands owned by Kaiser Cement Corporation, which acts as a buffer to neighboring properties.

## Background and Project Description

The proposal is for the approval of a reclamation plan for an existing quarry under the provisions of Section 36-4.3 of the County's Zoning Ordinance. The quarry has no use permit, being a legal non-conforming use, however, it is required by State and local regulations to have a reclamation plan. On July 13, 1982, the County Board of Supervisors adopted regulations that all quarries in the unincorporated County which have been in operation since January 1, 1976 obtain approval of a reclamation plan from the County Planning Commission. This reclamation is limited to that portion of the quarry site which has occurred since January 1, 1976, per the limitations spelled out in the State Mining and Geology Act. The project area covers approximately 330 acres of the 3268 acres owned by Kaiser Cement Corporation, the remainder of the site being occupied by the cement plant facilities and open lands buffering this use from adjacent properties.

This reclamation plan has been prepared to address the site's reclamation needs for approximately the next 25 year. At the end of that time, a subsequent plan similar to this will need to be prepared. A previous landscape plan was prepared by Kaiser Cement and implemented in the early 1970's to screen the most visible areas of the quarry and stabilize some of the slopes. However it is not comprehensive enough to comply with the State and local requirements for current and future reclamation needs on the site.

The proposed plan shows excavation of the main quarry pit area in a series of 25' feet wide benches 50 feet in height. This eventual expansion will require the relocation of an existing pile of rock materials which will be relocated further to the east and revegetated, see Figures 6 & 7 of Reclamation Plan report. This will allow mining of the limestone beneath while maintaining a knoll as a visual barrier between the main quarry area and the valley floor to the east. The plan also deals with a second major material storage area west of the quarry. The materials deposited here are not used for the production of cement or aggregate. However, it is expected that at some future date, when the market demands they may be so utilized. Until that time the area will be reclaimed with proper slope, installation of drainage controls and revegetation. For a more complete background and project description, the Reclamation Plan prepared for Kaiser Cement Corp. by Ruth & Going, dated October 1984, should be consulted.

## DISCUSSION OF IMPACTS

### 1. Geologic

The Reclamation Plan Report by Ruth and Going includes a full section on the geology and potential impacts upon the local environment by the results of the quarrying activity in the event of seismic activity. This chapter is based on numerous geologic works performed in the Permanente quarry and surrounding area by Kaiser personnel, consultants, and outside parties such as universities, and State and Federal geologic surveys. Numerous test holes along with geologic maps and cross-sections have been prepared since Kaiser began operating here in 1939.

Numerous faults lie in the vicinity of the quarry. The San Andreas, the fault which would likely have the greatest impact resulting from movement lies approximately 2 miles to the west. The Monta Vista Fault, part of the Sargent-Berrocal System lies 1-1/2 miles to the east. The Berrocal Fault main trace appears to trend northwest across Kaiser property under Permanente Creek where it forms a linear valley between the cement plant and the quarry. The fault does not appear to be active within the Permanente area, although micro-seismicity near Stevens Creek Reservoir, approximately 2 miles southeast, suggests it may be potentially active.

In the event of a major quake it is unlikely that a significant ground failure would occur in the quarry because of the hard rock materials and the pit slope angle of 45°. Any failure would impact the interior area of the quarry pit and no surrounding property. Earth shaking effect on rock storage areas would likely be restricted to ground settlement and local slumping. The coarse nature of the rock in these storage areas will preclude any failure due to liquefaction. Neither area supports any structures or buildings. The revegetation provided and installation of drainage facilities will reduce the potential for erosion during and following completion of the deposition activities in the materials storage areas.

### 2. Resources/Parks

This quarry currently produces approximately four million tons of rock annually, providing for an annual production of 1.6 millions tons of cement. It acts as a significant source in the Bay Area for high quality crushed stone. Estimated reserves are in excess of 130 million tons. Materials now being deposited in the West Materials Storage Area will possibly be utilized as a source for additional crushed stone for aggregate in response to future market and quality conditions.

The quarry and materials storage areas are bordered on the north by lands of the Mid-Peninsula Open Space District. The existing ridgeline will be maintained by means of the easement agreement and conditions of this reclamation plan to insure neither the quarry pit nor materials storage area will be visible towards the north and east. There will be a 30' minimum setback of the most outward point of the eventual pit area from the nearest property line.

The revegetation process will provide new plant species more similar to what exists in the surrounding area than what now exists on some of the rehabilitated slopes. The long-term effect will be beneficial to the area when those revegetation plantings take hold.

### 3. Water Quality

One of the main purposes for a reclamation plan is to insure that no degradation of surface waters adjacent to the quarry site occurs during and after completion of this reclamation plan. The engineering consultants feel that the porous material of the deposits of Storage Area "A" & "B" will result in a very high infiltration capacity and low erosion potential, and that revegetation of the slopes will insure that the erosion potential will be adequately mitigated. The materials storage areas will be maintained at a 3:1 gradient in order to maintain stability. The phasing plan provides for installation of revegetation plant materials as soon as each level is deposited in each materials area. Runoff in the materials storage is currently directed to catchment areas which collect sediments. The high percentage of rock and granular materials result in rapid percolation of rainwaters. As Phase "1" of materials storage in west storage area nears final completion a new sediment basin will be installed, the design of which is subject to review and approval by the Santa Clara Valley Water District personnel. Sediment basins will be installed whenever necessary to insure no sediments will be deposited in Permanente Creek. The revegetation plan and drainage controls should adequately mitigate any potential impacts from the proposed use on the local area's surface waters.

### 4. Flora and Fauna

Both the East and West Material Storage areas will receive revegetation treatment. The west area will be hydro-mulched while the East Area will utilize more plant materials and more intensive type planting techniques. That is because this area is more visible from the valley floor thus requiring a greater degree of treatment to mitigate any permanent visual impacts. The main purpose of revegetation in the west materials area is to stabilize the slopes and prevent erosion. The types of materials being proposed for both areas are native to the surrounding environment and should blend well into the hillsides.

The plantings shall occur in phases so soon as a particular phase of deposition is completed, so that revegetation process will be occur at the same time the period of quarrying is taking place. The natural habitat will be restored once the quarry activity is completed and the selected species of plants will have a beneficial effect on the overall quality of flora on the site. The inner quarry pit area and its operational future and eventual rehabilitation will be addressed in a future plan to be prepared approximately 20 years from now.

5. Aesthetic

One of the purposes of the reclamation plan is to reduce any permanent adverse visual impact of this land use upon the surrounding environment and provide adequate mitigation measures to do so. The East Materials Area is visible from the urbanized areas of Cupertino to the east and south. The Permanente ridgeline and its easement dedication will insure no exposure of the quarry or its material area towards the north and northeast. At the request of the County, the applicant's engineer has prepared cross-sections to judge the quarry's impacts upon Cupertino. These cross-sections show that East Materials Storage Area will be visible during and after deposition and revegetation. Extensive tree and shrubbery planting will be used in this area to incorporate the new hill surface into the surrounding natural setting. To insure survival of plant species protective measures are planned to attempt to protect plantings from deer and rodents. Also because of the southern and westerly exposure and high porosity of the soils temporary watering devices are planned to provide supplemental water to this East Storage Area revegetation. Thus the revegetation plan should reduce the permanent visual impact from the effects of quarrying to less than a significant level.

Persons Consulted

- o Sue Tippetts, Santa Clara Valley Water District
- o Jim Berkland, County Geologist

RB:ad

ad#1/PC/2250EA



County of Santa Clara

California

Planning Commission  
County Government Center, East Wing  
70 West Hedding Street  
San Jose, California 95110  
299-2521 Area Code 408

STAFF REPORT

P/C Meeting: March 7, 1985

Prepared by: Ransom Bratton

Reviewed by: Hugh H. Graham

FILE: 2250-13-66-84P APPLICANT: Kaiser Permanente Corp.

LOCATION: Western end of Permanente Road, approximately 1.5 miles west of City of Cupertino ADDRESS: none

ZONING: HS GP DESIGNATION: Hillside LOT SIZE: Kaiser prop. 3268Ac. Site area: 330<sup>1</sup>Ac.

PRESENT LAND USE: Quarry SUPERVISORIAL DISTRICT: SD-5

PROPOSAL: Approval of a reclamation plan for an existing surface mining operation

PROJECT DETAILS

The proposed reclamation plan addresses the reclamation needs for the next 25 years for the limestone quarry pit at Kaiser Permanente. This quarry produces approximately 4 million tons of rock annually both for cement manufacture and significant quantities of aggregate. The application by Kaiser Cement Company is in direct response to the State and local regulations that all quarries which have been in operation since January 1, 1976, be required to obtain approval of a reclamation plan from the County Planning Commission. It should be noted by the Commission that this approval is for reclamation aspects of the quarry area and not the operational activity nor does it include the area of the cement plant. Consequently, the plans and recommended conditions of approval are limited to the reclamation aspects of the quarry site as spelled out by the State Mining and Geology Act and County surface mining regulations. State law makes it mandatory for this land use to have a reclamation plan approved by the lead agency. (County of Santa Clara).

ACTION ON ENVIRONMENTAL ASSESSEMENT & PROJECT

1. Approve the Negative Declaration on the project.
2. Approve the reclamation plan subject to the recommended conditions as contained in Exhibit "A".

FINDINGS SUPPORTING RECOMMENDATION

1. The proposed reclamation plan is in conformance with Section 2772 of the State Mining and Reclamation Act and County Regulations regarding surface mining and land reclamation.
2. The proposed project would not have a significant effect on the environment if the recommended conditions of approval are included which will mitigate any potential impacts.

3. The approval of the reclamation plan provides the County an opportunity to apply needed conditions for reclamation of the property following completion of this land use.

#### BACKGROUND

State records indicate that limestone quarrying along Permanent Creek in the subject area began as early as 1906. Kaiser Corp. acquired the site in 1930's and began quarrying and cement processing in 1939. The quarrying activity has been continuous since that time.

In 1972, Kaiser Cement prepared and implemented landscape plans for the more visible areas of the quarry in order to provide screening and to stabilize the quarried slopes; plantings under the guidance of this plan is presently ongoing. At the same time Kaiser granted a permanent easement to the County of Santa Clara to ensure the protection of the Permanente ridge line view in order to screen the quarrying from view towards the north and northwest. The proposed reclamation plan takes this easement line into consideration. The Plan being proposed at this time focuses on those portions of the 330 site quarry area which need to be addressed under State and Local regulations for the next 25 years. It deals with erosion control and maintenance, including revegetation of the West Material Storage Area, and reclamation and revegetation of the East Materials Storage area which serves as a visual buffer between the quarry and the valley to the east. The ultimate reclamation of the pit area and future quarry operation will be dealt with in a revised reclamation plan which would be submitted around 2005 as this reclamation phase has neared completion. The present mining plan project assumes at least a 25 year period of operation, although limestone reserves are estimated to support the current operations for a period of up to 50 years. Beyond that period, the quarry site could serve as a source for crushed rock for aggregate. The total life of the quarry is only an estimate and subject to changes in market demand for its products.

The Reclamation Plan report for Kaiser Cement Permanente Quarry prepared by Ruth & Going October 1984 provides a much more detailed picture of the quarry environmental setting, operational characteristics of the mining operation along with the reclamation aspects of the project.

#### AB 884 DEADLINES:

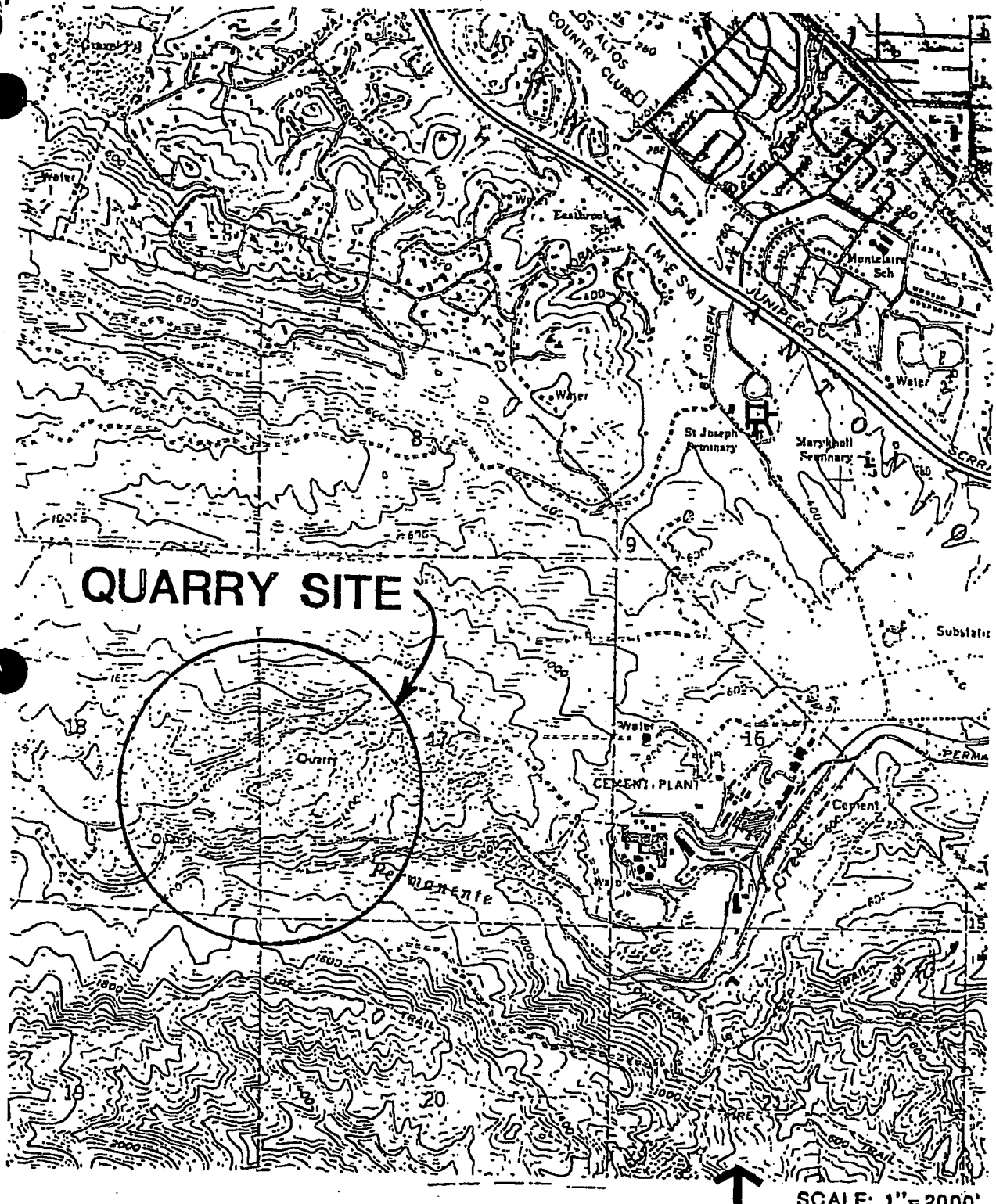
File completion date February 17, 1985, Planning Commission must act on item by August 1985 Commission meeting.

PROCEDURES:

Following approval by the Planning Commission of the reclamation plan, Staff will file the plan and associated documents with the State Mines and Geology office in Sacramento.

RB:ad

ad#1PC/2250StR



**QUARRY SITE**

SCALE: 1" = 2000'

**LOCATION MAP: 2250-13-66-84P**

**KAISER PERMANENTE CORP**

5c

EXHIBIT "A"

RECOMMENDED CONDITIONS OF APPROVAL for Reclamation Plan for  
Permanente Quarry, File No. 2250-13-66-84P

The following conditions are based on the environmental assessment for this project, and to comply with County and State requirements governing reclamation plans for surface mines. Those marked with an asterisk are necessary for mitigation of potential adverse impacts.

- \*1. The following plans and reports as prepared by Ruth and Going, Inc., are hereby made a part of the conditions of this permit.
  - a. Report entitled, "Reclamation Plan, Kaiser Cement Permanente Quarry by Ruth and Going, Inc., dated October 1984.
  - b. Sheets C-1, C-2, C-3 - Reclamation Plan dated August 13, 1984.
  - c. Sheet L-1, L-2, L-3, L-4 - Revegetation Plan dated August 13, 1984.
- \*2. Comply with the conditions by Santa Clara Valley Water District, January 16, 1985. Obtain permit and install outfall structure by Permanente Creek by October 15, 1986.
3. The applicant shall submit a report every two years for the life of the plan, which describes and evaluates compliance with conditions of the reclamation plan. Following the report, the County representative shall inspect the site. The first report shall be submitted no later than April 1, 1987.
4. Submit a copy of plan Sheet C-3 depicting the location of the easement line which was dedicated to the County of Santa Clara in 1972.
5. This reclamation plan is limited to a period of 25 years and shall expire on April 1, 2010, unless extended or renewed by the Planning Commission.
- \*6. Final fill slopes in Area "A" (west materials storage area) shall be no closer than 30' distant from the Palo Alto city boundary line.
- \*7. Final cut slopes shall not be closer than 25 feet distant from any property line and shall not violate the ridgeline easement granted to the County of Santa Clara from Kaiser Corp.
- \*8. The maximum height of deposition in Area "A" shall not exceed the top of the ridgeline bordering to the north.

9. Existing barbed wire fencing shall be maintained along the northerly, and property lines in areas of general proximity to the final cut slopes. Permanent signs warning proximity of extreme slopes shall be posted along these fence lines.
- \*10. Reclamation shall be carried out regardless of extent of excavation of quarry areas. Should the quarry not be excavated to the final stage, reclamation shall be still completed to the extent possible in accordance with the plan.
- \*11. Revegetation shall be carried out prior to the onset of the winter rainy season (Nov. 1) for each particular phase level which has been completed in that year.
- \*12. Provide adequate drainage controls to insure that sediments from deposition areas shall not be washed into the Permanente Creek system.
  - a. Phasing of drainage facility installation shall occur as outlined on plans submitted.
  - b. Sediment basin to be periodically cleaned to insure maintenance of its capacity.
13. Upon completion of Phase II portion of Area "A", an engineering geologist shall review the area and submit a report to the County which evaluates the adequacy from a geologic stability standpoint of the reclamation plan.
14. Top soils in Area "B" of quarry pit area to be retained to the extent possible for use in revegetation process of Area "C", (East Rock Storage Area").
- \*15. Revegetation of excavated areas shall take place as shown on revegetation plans and details sheet. The revegetation, hydro-seeding and placement of container plants to be carried out in full, generally prior to November 1st in order to take advantage of warm days and rains for good germination.
16. Prior to installation, submit plans for irrigation water storage tank to Secretary of Architectural and Site Approval for review and approval. Include in plans proposed screening of tank.

RB:ad

ad#1PC/2250ExbA

2250 13 66 84P KAISER CEMENT CORPORATION

Public hearing was held on environmental assessment of and on an application for approval of a reclamation plan for an existing surface mine. Property situated at the west end of Permanente Road, property of Kaiser Cement Corporation. HS zoning district. Parcel size: 330 acres, total size area approx. 3,268 acres. (SD-5) File completed February 13, 1985. Environmental Assessment: Negative Declaration. The Secretary identified the location of the property by the use of maps and photographs and reviewed the staff report. Ransom Bratton stated that the proposed reclamation plan addresses the reclamation needs for the next 25 years for the limestone quarry pit at Kaiser Permanente. This quarry produces approximately four million tons of rock annually, both for cement manufacture and significant quantities of aggregate. This application is in direct response to the state and local regulations that all quarries which have been in operation since January 1976 be required to obtain approval of a reclamation plan from the County Planning Commission. This approval is for reclamation aspects of the quarry area and not the operational activity; nor does it include the area of the cement plant. Consequently, the plans and recommended conditions of approval are limited to the reclamation aspects of the quarry site as spelled out by the State Mining and Geology Act and County surface mining regulations. State law makes it mandatory for this land use to have a reclamation plan approved by the lead agency, in this case the County of Santa Clara. Staff recommends approval of a Negative Declaration and approval of the reclamation plan subject to recommended conditions contained in Exhibit "A" of the staff report. The public hearing was opened. Brian O'Halloran of Ruth & Going appeared representing the applicants and stated that Kaiser has no opposition to any of the recommended conditions. Commissioner Coombs questioned whether the reclamation plan would hide the quarry from Highway 280. Mr. O'Halloran stated that the main visual impact would be in the east storage area; the storage area will create a ridgeline and will be vegetated. The planting will start as the storage area is created. The west storage area will not be visible. Norman Gilbertson, representing Kaiser Cement, appeared and stated that there are between 200 and 400 loads daily, about 50% of it being cement. Regarding scheduling, he stated that the east side should be done late this year or early next year. Mr. O'Halloran reviewed the types of material that would be planted, all of which were chosen following extensive research to determine the type of material that would best grow in the area, and stated that Kaiser has an extensive irrigation system. The public hearing was closed. It was then moved by Commissioner Hinoki, seconded by Commissioner Christopher and unanimously carried to adopt a Negative Declaration on the proposed project. It was further moved by Commissioner Hinoki, seconded by Commissioner Christopher and carried to approve the reclamation plan for the existing surface mine subject to conditions as contained in Exhibit "A". The motion passed on the following roll call vote:

AYES: CHRISTOPHER, CLARK, COOMBS, HINOKI, LINDSAY, MORALES  
NOES: NONE  
ABSENT: NONE

ZONING ORDINANCE AMENDMENT - SECTION 36-5

Continued public hearing of February 7, 1985 on environmental assessment of and on an ordinance amending Section 36-5 of the Zoning Ordinance of the County of Santa Clara, relating to the filing of development applications for properties within an urban service area and contiguous to a city boundary. Environmental Assessment: Negative Declaration. Continued at staff's request. The Secretary stated that staff is requesting that this matter be continued to the meeting of May 2, 1985. The Chair so directed.

County of Santa Clara

Planning Commission  
County Government Center, East Wing  
70 West Hedding Street  
San Jose, California 95110  
299-2521 Area Code 408

California

RECLAMATION PLAN APPROVAL

File No: 2250 13 66 84P  
Grantee: KAISER CEMENT CORPORATION  
Applicant: KAISER CEMENT CORPORATION  
For: Approval of a Reclamation Plan  
Location: Westerly end of Permanente Road, approximately 1.5 miles west of the City of Cupertino

Having filed a reclamation plan as required by Section 2772 of the State Surface Mining and Reclamation Act, and Section 36-4.3 of the Zoning Ordinance of the County of Santa Clara, the Planning Commission having reviewed such a plan hereby grants approval subject to the following conditions:

See Exhibit "A" attached hereto and made a part hereof.

This approval shall be effective on March 22, 1985 provided that the grantee has signed ACCEPTANCE STATEMENT and has filed it with the Secretary of the Planning Commission.

Lucas S. Stamos (SB)  
Lucas S. Stamos, Secretary

March 7, 1985  
Date

ACCEPTANCE STATEMENT

The undersigned understands and accepts this approval and the conditions therein set forth, including the schedule for periodic inspection; agrees to comply with all conditions of the approval, understands that failure to comply therewith will render the approval subject to revocation, and acknowledges receipt of the copy of this approval.

E. Green  
Signature of Grantee

4/4/85  
Date

E. Green  
Signature of Applicant

4/7/85  
Date

cc: Central Permit Office

PLEASE SIGN AND RETURN THIS FORM IN THE ENCLOSED ENVELOPE  
THANK YOU

ad#1-1(2);RECLAM FORM



EXHIBIT "A"

CONDITIONS OF APPROVAL for Reclamation Plan for Permanente Quarry,  
File No. 2250-13-66-84P

The following conditions are based on the environmental assessment for this project, and to comply with County and State requirements governing reclamation plans for surface mines. Those marked with an asterisk are necessary for mitigation of potential adverse impacts.

- \*1. The following plans and reports as prepared by Ruth and Going, Inc., are hereby made a part of the conditions of this permit.
  - a. Report entitled, "Reclamation Plan, Kaiser Cement Permanente Quarry by Ruth and Going, Inc., dated October 1984.
  - b. Sheets C-1, C-2, C-3 - Reclamation Plan dated August 13, 1984.
  - c. Sheet L-1, L-2, L-3, L-4 - Revegetation Plan dated August 13, 1984.
- \*2. Comply with the conditions by Santa Clara Valley Water District, January 16, 1985. Obtain permit and install outfall structure by Permanente Creek by October 15, 1986.
3. The applicant shall submit a report every two years for the life of the plan, which describes and evaluates compliance with conditions of the reclamation plan. Following the report, the County representative shall inspect the site. The first report shall be submitted no later than April 1, 1987.
4. Submit a copy of plan Sheet C-3 depicting the location of the easement line which was dedicated to the County of Santa Clara in 1972.
5. This reclamation plan is limited to a period of 25 years and shall expire on April 1, 2010, unless extended or renewed by the Planning Commission.
- \*6. Final fill slopes in Area "A" (west materials storage area) shall be no closer than 30' distant from the Palo Alto city boundary line.
- \*7. Final cut slopes shall not be closer than 25 feet distant from any property line and shall not violate the ridgeline easement granted to the County of Santa Clara from Kaiser Corp.
- \*8. The maximum height of deposition in Area "A" shall not exceed the top of the ridgeline bordering to the north.

9. Existing barbed wire fencing shall be maintained along the northerly, and property lines in areas of general proximity to the final cut slopes. Permanent signs warning proximity of extreme slopes shall be posted along these fence lines.
- \*10. Reclamation shall be carried out regardless of extent of excavation of quarry areas. Should the quarry not be excavated to the final stage, reclamation shall be still completed to the extent possible in accordance with the plan.
- \*11. Revegetation shall be carried out prior to the onset of the winter rainy season (Nov. 1) for each particular phase level which has been completed in that year.
- \*12. Provide adequate drainage controls to insure that sediments from deposition areas shall not be washed into the Permanente Creek system.
  - a. Phasing of drainage facility installation shall occur as outlined on plans submitted.
  - b. Sediment basin to be periodically cleaned to insure maintenance of its capacity.
13. Upon completion of Phase II portion of Area "A", an engineering geologist shall review the area and submit a report to the County which evaluates the adequacy from a geologic stability standpoint of the reclamation plan.
14. Top soils in Area "B" of quarry pit area to be retained to the extent possible for use in revegetation process of Area 'C', (East Rock Storage Area").
- \*15. Revegetation of excavated areas shall take place as shown on revegetation plans and details sheet. The revegetation, hydro-seeding and placement of container plants to be carried out in full, generally prior to November 1st in order to take advantage of warm days and rains for good germination.
16. Prior to installation, submit plans for irrigation water storage tank to Secretary of Architectural and Site Approval for review and approval. Include in plans proposed screening of tank.

RB:ad

ad#1PC/2250ExbA

RECLAMATION PLAN  
KAISER CEMENT  
PERMANENTE QUARRY

FOR:  
SANTA CLARA COUNTY  
  
OFFICE OF PLANNING

DEPARTMENT OF PLANNING AND DEVELOPMENT

PREPARED BY:

RUTH AND GOING, INC.

OCTOBER, 1984

JOB NO. 16803

COUNTY OF SANTA CLARA  
PLANNING DEPARTMENT  
APPROVAL

Project No. \_\_\_\_\_  
START  COMPLETION DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_  
BY: \_\_\_\_\_  
DATE OF APPROVAL \_\_\_\_\_  
REMARKS: \_\_\_\_\_

RECLAMATION PLAN  
KAISER CEMENT CORPORATION  
PERMANENTE QUARRY

I. BACKGROUND AND INTRODUCTION:

Background:

Kaiser Cement Corporation's Permanente Quarry and Cement plant is the major supplier of cement to the northern California area and major source of aggregate for Santa Clara County. The limestone quarry produces approximately 4 million tons of rock annually providing for an annual production capacity of 1.6 million tons of cement, and significant quantities of aggregates for highway, residential and industrial construction.

In conformance with County directives, the California Surface Mining and Reclamation Act, 1975, and the 1982 Santa Clara County Mining Regulations, Kaiser Cement Corporation has been, and continues to be involved in the development of reclamation plans. These plans incorporate reclamation activities into ongoing quarry operations to provide short term visual protection, and eventual long term reclamation.

Past reclamation and scenic protection activities include a landscaping plan and Ridgeline Protection Easement which were undertaken in 1972. Kaiser Cement Corporation granted a permanent easement to the County of Santa Clara to ensure the protection of the view of Permanente Ridge from the Los Altos area. This easement, granted in the form of a deed dated August 18, 1972, states that the ridge will not be lowered below the elevation of

1500 feet for the majority of its length, and not below 1650 feet for a specified area. Permanent fixed monuments physically located the easement in the field, and have been checked periodically by County staff. Work in the ridge area was successfully completed in 1975.

Several months after the Ridgeline Protection Easement was granted, Kaiser Cement prepared and implemented a landscape plan to screen the most visible areas of the Permanente quarry, and to stabilize quarried slopes. This plan, a detailed rehabilitation study prepared by Royston, Hanamoto, Beck and Abey was accepted by the County Board of Supervisors on November 28, 1982. Planting under the guidance of this plan is presently ongoing.

#### Introduction:

At this time, Kaiser Cement Corporation has prepared another reclamation plan to address the next 25 years of the quarry's operation. This plan will be reviewed and adopted by the County prior to its implementation. In addition to the features of the reclamation plan, this report discusses the quarry's environmental setting, and the operating characteristics of the mining operation. The entire Kaiser Cement site encompasses over 3200 acres, but the discussion in this document is focused only on portions of the 330 acre quarry area -- the location of the reclamation activity.

## II. LOCATION AND SETTING

### A. Location

The Kaiser Cement site is located at the western end of Permanente Road, approximately 1-1/2 miles west of the corporate limits of the City of Cupertino. The Kaiser property, including the cement plant and quarry, consists of 3268 acres situated in Sections 17 and 18, Township 7 South, Range 2 West, Mt. Diablo Base and Meridian. Of this acreage, the quarried area and subsequent reclamation comprises approximately 330 acres. The site location is shown in Figures 1 and 2.

### B. Environmental Setting

The Permanente Quarry is located in the eastern foothills of the Santa Cruz mountains at the western edge of the Santa Clara Valley. Elevations in the quarry area range from 950' to 1900' above sea level with terrain comprised of hilly grassland vegetated with oak and brush. The site experiences annual temperatures ranging from roughly 35 to 100 degrees (F), with precipitation averaging 32 inches a year. Permanente Creek, a perennial stream, is located on the Kaiser property but does not pass through the quarried area.

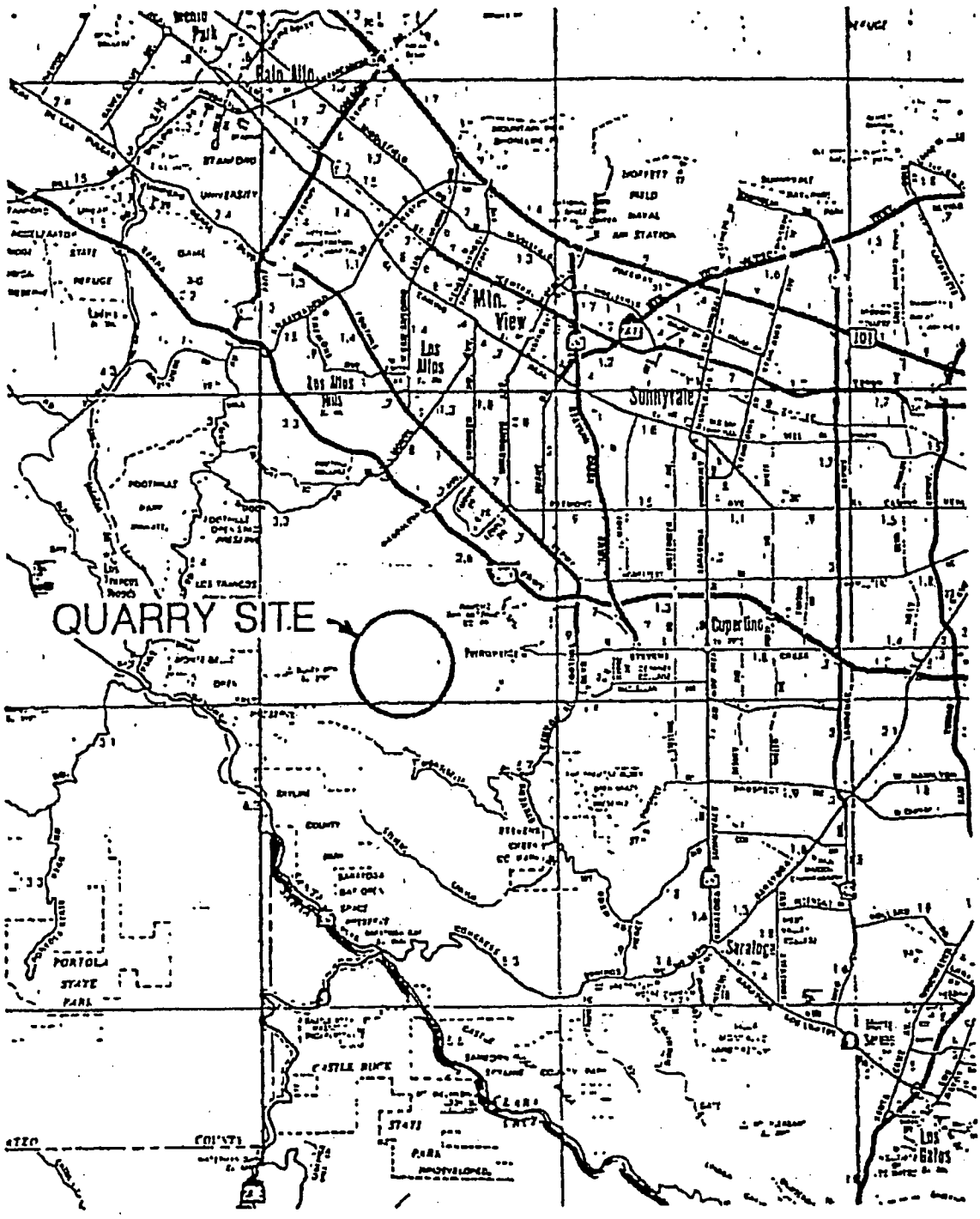
Vegetation: Varieties of vegetation on the site consist of oak woodland, oak savannah, woodland/chaparral, and chaparral habitats. The oak woodland habitat occurs on well drained slopes and flatlands, and consists of open to dense stands of oak trees with an understory of annual grasses, herbs, and low shrubs such as poison oak, coffee berry and coyote brush. The California live oak is one of the oak species on the site.

This species is a slow growing variety of oak, but one that can survive for hundreds of years.

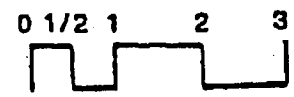
There are no rare or endangered plant species expected to be present in the area. The nearest recorded location of rare and endangered plant species is in the coastal foothills of the Santa Cruz mountains, some 15 miles away.

Wildlife: The oak woodland vegetative group provides a valuable habitat for a variety of birds, reptiles, and mammals, as well as refuge for larger animals such as deer and coyote. Known and expected wildlife on the site include the Mule deer, coyote, raccoon, bobcat, Red tailed hawk, California quail, Western fence lizard, and various snakes and amphibians.

No rare or endangered animal species are expected to inhabit the areas near the Permanente Quarry.



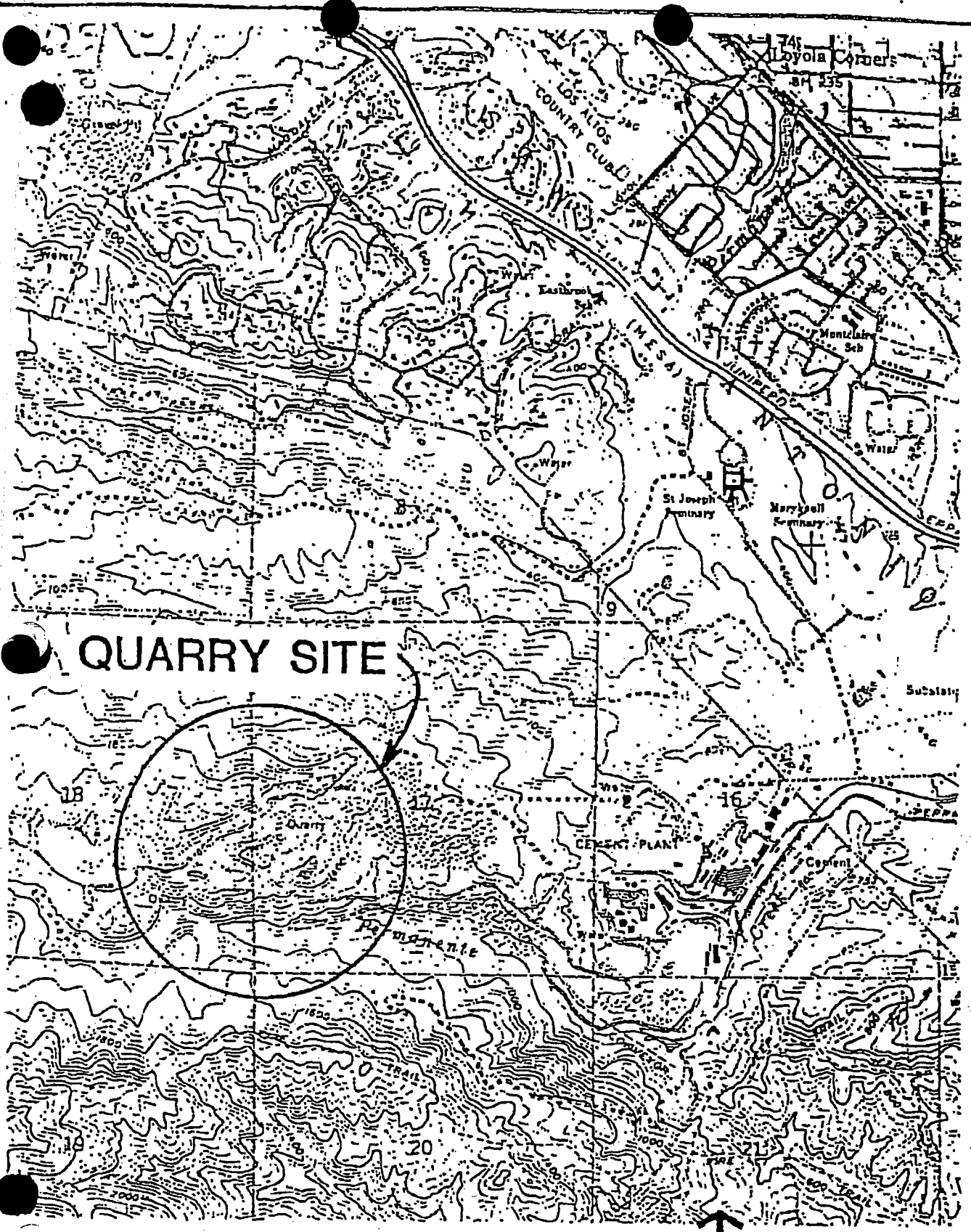
SCALE IN MILES



LOCATION MAP

FIG. 1





**QUARRY SITE**

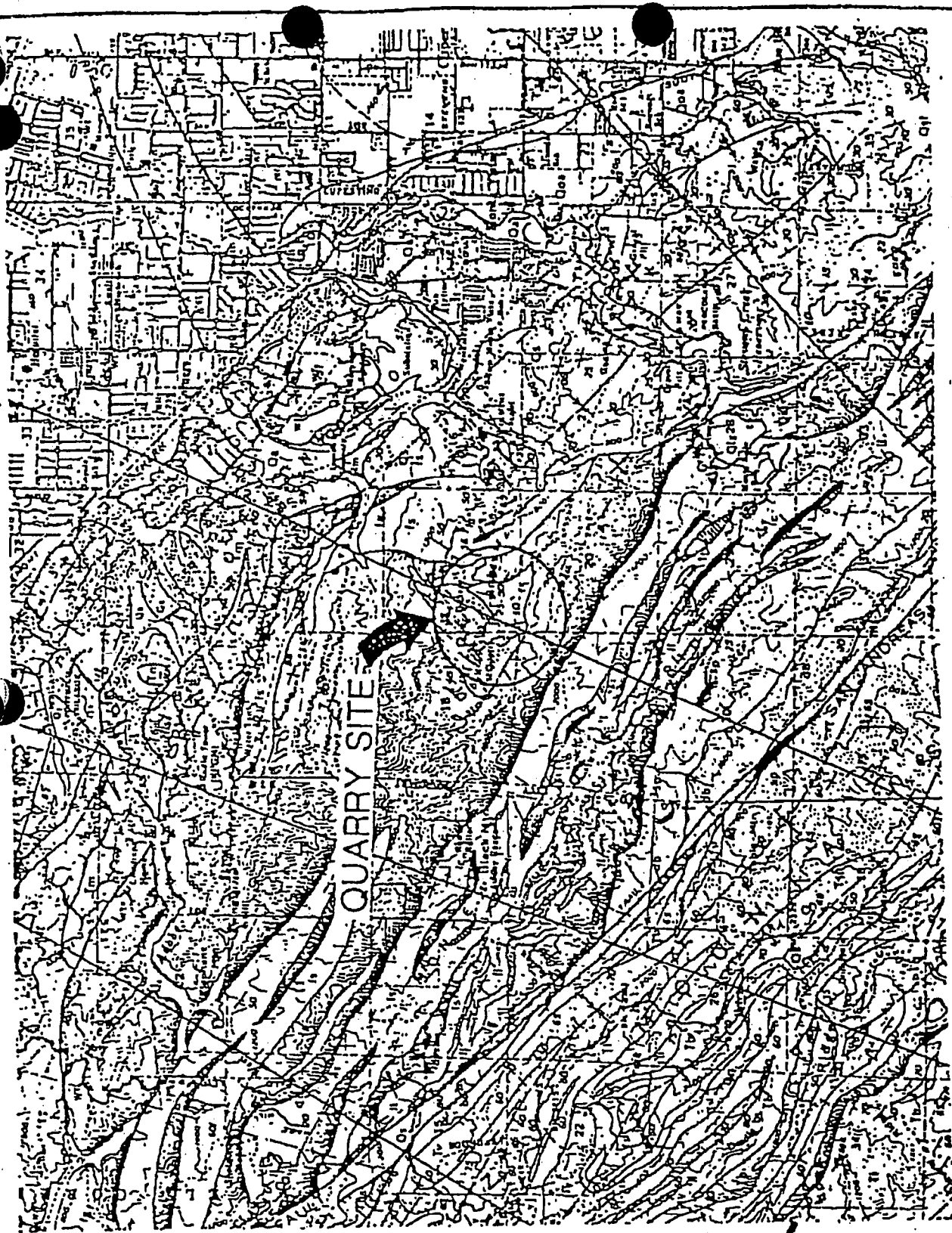
SCALE: 1" = 2000'

VICINITY MAP

FIG. 2

C. Geology

The limestone quarried at Permanente is considered to be one of the units of the Jurassic-Cretaceous age Franciscan Complex. The limestone unit is locally referred to as the Calera limestone. The Permanente deposit is by far the largest limestone body known to exist in a number of discontinuous masses of limestone that crop out along a northwest-southeast trending zone in the central and southern San Francisco peninsula area of the Coast Ranges. The limestone deposit in the quarry is associated with Franciscan graywacke, sandstone, red chert, diabase and greenstone, all of which are exposed in the quarry area. Further to the east, in the vicinity of the cement plant, the Franciscan is in contact with the younger Plio-Pleistocene Santa Clara Formation. As indicated on Figures 3A and 3B, the quarry areas pertaining to this reclamation plan are completely underlain by the Franciscan.



←  
SCALE: 1" = 4000'

GENERAL GEOLOGY MAP

FIG. 3A

EXPLANATION  
OF FIGURE 1

Qs	Qm	Qls
----	----	-----

Surficial sediments  
Qs, alluvium;  
Qm, bay mud and clay;  
Qls, landslide rubble.

UNCONFORMITY

Qos
-----

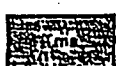
Older alluvium

UNCONFORMITY

Qs	Qsl
----	-----

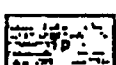
Santa Clara Formation  
Qs, gravel;  
Qsl, lake beds

UNCONFORMITY



Merced(?) Formation

UNCONFORMITY



Purisima Formation

UNCONFORMITY



Monterey Shale

Tus
-----

Unnamed sandstone

Tpb
-----

Page Mill Basalt

Tmb
-----

Mindego Basalt

Tb
----

Basalt and diabase



Lambert Shale

QUATERNARY

TERTIARY

Metatercera

Pliocene

Miocene

Oligocene

Fairfax

Cretaceous

Ts
----

Vaqueros Sandstone

Tsl
-----

San Lorenzo Formation



Butano Sandstone

Tbu, sandstone;  
Tbs, shale;  
Tbc, basal conglomerate



Unnamed shale



Serpentine



Diabase

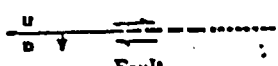
fs	fh	fl	fc	fg	fu
----	----	----	----	----	----

Franciscan Formation

fs, sandstone or graywacke;  
fh, shale;  
fl, limestone;  
fc, chert;  
fg, greenstone;  
fu, undivided rocks (Shown in sections only)

Contact

Dashed where gradational or approximately located



Fault

Dashed where indefinite or of doubtful existence; dotted where concealed. U, upthrown side; D, downthrown side. Parallel arrows indicate relative lateral movement; single arrow indicates dip of fault plane

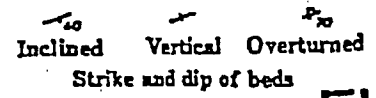


Anticline

Syncline

Fold, showing surface position of axis and direction of plunge

Dashed where approximately located



Inclined

Vertical

Overturned

Strike and dip of beds

CRETACEOUS  
GENERAL GEOLOGY LEGEND

FIG. 3E

Geologic work has been performed in the Permanente quarry and surrounding area by Kaiser personnel, consultants, and outside interests such as universities and state and federal geologic surveys. A complete reference listing of geologic reports, published is presented as Appendix A to this report. In addition, there have been more than 700 exploratory test holes drilled at Permanente along with numerous "in-house" geologic maps and cross sections prepared since Kaiser Cement Corporation began operating this deposit in 1939.

Table 1 indicates the location of the Permanente quarry relative to active and potentially active faults in the region. Of the faults listed, the strike-slip San Andreas fault is considered capable of producing a great earthquake equal to the 1906 San Francisco Earthquake.

Among the faults that may directly affect the subject area, the Sargent-Berrocal Fault Zone, as described in the literature, is a northwest trending zone of reverse and thrust faults extending from San Juan Bautista north to Permanente and then to Palo Alto, where it appears to join the San Andreas Fault. At Permanente, the main trace appears to trend northward under Permanente Creek where the creek forms a one-half mile N30W-trending, linear valley in a zone between the cement plant

ACTIVE AND POTENTIALLY ACTIVE FAULTS AND THEIR EARTHQUAKE CHARACTERISTICS

Causative Faults	Distance and Direction from Permanent Quarry	Maximum Historical Earthquake Magnitude (Richter Magnitude)	Maximum Probable Earthquake Magnitude (Richter Magnitude)	Est. Recurrence Interval of Max. Prob. Earthquakes
San Andreas	2 Miles West	8.3 (Last event: 1906)	8.3	50-200 Years
Hayward	16 Miles East	7.0+ (Last event: 1868)	7.0	10-100 Years
Calaveras	19 Miles East	6.0+	7.0	10-100 Years
Mariposa	1/2 Mile East (Main segment) (Branch exposed in quarry)	3.7 to 5.0	6.5 to 7.0	Data insufficient for estimating
Merced	1 1/2 Miles East	2.0 to 3.0	6.5 to 7.0	Data insufficient for estimating

SOURCE: Seismic Safety Element  
City of Martinez

TABLE 1

and the quarry. There is a significant difference between bedrock types on opposite sides of this linear valley, with the southeastern block predominantly Santa Clara formation and the northeastern block composed of Franciscan complex rocks. A northwesterly trending branch of this main Berrocal fault segment does appear to split off through the quarry. This is observed in the quarry as a series of northwest trending shear zones within the limestone.

The present activity of the Berrocal zone in the Permanente area is speculative. There is no evidence to date, that indicates the fault has offset recent sediments within the local area, although microseismicity near Stevens Creek Reservoir, about 2 miles southeast, suggest that the fault may be potentially active.

The possible seismic hazard to the Permanente quarry and surrounding area is the potential for severe ground shaking from a major event on the San Andreas. Secondary effects due to this strong ground motion would be ground failure such as landsliding, ground settlement, ground cracking and rock falls. Due to local differences in the geologic and topographic conditions, variations of ground shaking intensity are to be expected from place to place. If a significant earthquake event occurs on the San Andreas, effects in the quarry may include localized rock falls on quarry faces, ground cracking on benches close to adjacent quarry faces, or local slumping or sliding of less competent materials such as the serpentized greenstone area in the upper northwest portion of the quarry. Due to the nature of the hard rock materials and existing pit slope angle of  $45^{\circ}$  in the quarry, it is unlikely that significant ground failure will occur. Effects to the

rock storage areas will most likely be ground settlement and local slumping of exposed faces. The very coarse rock material in these storage areas will preclude any failure due to liquefaction. Neither area (quarry or rock storage) supports any buildings or man-made structures.

D. Mineral Deposit

The Calera limestone at Permanente covers an irregular triangular area with an approximate exposed length of one mile and width of two-thirds of a mile. The limestone unit is tabular in nature with an exposed thickness of at least 800 feet. The section is composed of thin limestone beds and interbedded chert. The limestone is made up of continuous beds of uniform thickness that can be traced the entire length of outcrops. The thickness of most beds ranges from 2-6 inches. Chert lenses are of the same range in thickness but are not continuous. Over only a few feet of section, chert may be absent or form up to 50% of the rock.










The limestone deposit is divided into two units that include a lower black limestone and an upper white limestone. The lower unit is largely recrystallized and bituminous, with about 2% organic matter. Less recrystallized parts contain some nanofossils. Larger microfossils are radiolarian molds occurring in both limestone beds and chert lenses. The upper white limestone is stratigraphically above the lower black limestone (based on geopetal features and graded bedding). It is less recrystallized than the lower unit, lacks bituminous matter and contains more chert lenses, and has planktonic Foraminifera in addition to Radiolaria. No burrowing or primary sedimentary structures or megafossils are present. The



best estimate of the age range in the light limestone till now is mid-late Cretaceous (late Turonian, 88 million years) in the upper light limestone to late, lower Cretaceous (Albian, 105 million years) in the lower part of the light limestone, based on recent work by the U.S. Geological Survey. Dateable fossils have not been found in the lower, black limestone.

Stratigraphic relations of the two limestone units have been extensively studied. Problems with interpretations have been related to extensive thrust and high angle faulting causing repetition and omission of strata. Recent work, as indicated on Figure 4, suggests that the two limestone units, the upper white and lower black limestones, are repeated by thrust faulting into two blocks. The upper limestone unit is split by a diabase sill, approximately 80 feet thick. The sill occurs only in the upper thrust block. A few volcanic ash horizons 20-40 cm thick are found interbedded with the upper white limestone, although recent interpretations suggest that these layers may be a clayey fault gouge related to thrust faulting. The limestones are in fault contact, both at the top and bottom of the section with Franciscan rocks, greenstones, graywacke, and serpentinized greenstone, which are exposed in the quarry.

STRATIGRAPHIC SECTION  
 FERNANDITE QUARRY

Geologic Symbol	Approximate Thickness (ft)	Bed Name	Geologic Description
 E <sub>7</sub> / E <sub>6a</sub>	30 - 70 (covered)	Franciscan volcanics, sandstone	Altered calcareous basalt, gneiss, and graywacke sandstone.
 E <sub>5</sub>	20 - 30	Upper White, v/s short	White to light gray, fine- medium crystalline lime- stone. Trace of short lenses.
 E <sub>4</sub>	110 - 115	Upper White, v/short	White to medium gray, very fine-grained crystalline limestone, numerous lenses and beds of medium dark gray short.
 E <sub>3</sub>	80 - 100	Medium	Greenish gray, medium crystalline, massive, diabase silt.
 E <sub>2</sub>	100 - 150	Lower White	Light gray to brownish gray, fine crystalline limestone with varying amounts of banded gray to dark gray short.
 E <sub>1</sub>	200 - 250	Lower Black	Medium to dark gray, medium crystalline limestone with traces of dark gray short beds. Irregular mass.
Lenses			
 E <sub>2</sub>	100 - 110	Upper White.	White to medium gray, very fine-grained crystalline limestone. Light gray to dark gray short beds parallel to bedding.
 E <sub>2</sub>	50 -	Lower Black	Medium to dark gray, medium crystalline to brownish limestone, with occasional short beds.
Lenses			
 E <sub>7</sub> / E <sub>6a</sub>	unknown thickness	Franciscan volcanics, sandstone, and siltstone	Basalt, buff, gray- wacke sandstone, and unconsolidated siltstone.

28/52 2A2

Structurally the limestone body is complicated by faults and folds, but generally dips  $25^{\circ}$  to  $35^{\circ}$  SE. The section is highly jointed and both types of limestone are strongly fractured. Joints are mostly perpendicular to bedding.

Exposures in the quarry indicate that at least three thrust faults roughly parallel to bedding slice the deposit. Subsequent high angle faulting, possibly related to the Berrocal Fault system trends generally NW.

The chemical quality of each limestone unit varies considerably. The upper, light limestone averages 80% calcium carbonate ( $\text{CaCO}_3$ ) or more, but varying amounts of chert lenses lowers the bulk  $\text{CaCO}_3$  to 70% or less when mined. The upper portion of this unit has lesser amounts of chert and has higher carbonate values. The lower, black limestone averages 87%  $\text{CaCO}_3$  ranging from more than 90% to less than 80% in individual layers. Variations also occur near contacts and where chert interbeds are common. Both limestone units exhibit a decrease in  $\text{CaCO}_3$  values in shear and fault zones that bisect the deposit. Four grades of rock are presently used for quarry development: (1) high grade - dark gray limestone unit with  $\text{CaCO}_3$  values greater than 85%; (2) medium grade - mixture of light and dark limestone running between 70 to 85%  $\text{CaCO}_3$ ; (3) low grade - mainly light gray limestone with chert lenses ranging 50-70%  $\text{CaCO}_3$ ; and (4) non-limestone rock types such as the diabase, Franciscan volcanics and sediments, fault gouge, and soil overburden. The high and medium grade limestone is principally used in the manufacture of cement while the low grade limestone and harder Franciscan rock types are used in the production of crushed rock for aggregate.

Small amounts of Franciscan volcanics and sedimentary rocks are used as a clay additive in the cement-making process, depending upon the respective chemistry of each rock type.

E. Historic Land Use

The earliest recorded activities on the site indicate that, by 1899, a wagon road had been constructed along much of the length of Permanente Creek to gain access to the limestone. The State Mineralogist's report of 1906 records that limestone quarrying along the creek took place at least as early as 1903. The sugar beet industry was an early stimulus for limestone extraction, later followed by the tremendous urban growth in the Bay Area.

The Kaiser Corporation acquired the site in the late 1930's and began quarrying and cement processing in 1939. The operation began as a two-kiln, wet process plant which expanded, after World War II to six kilns. In 1982, the original kilns were replaced with a single 1.6 million ton dry process kiln.

### III. MINING OPERATIONS

#### A. Mined Lands

For the next 25 years, the existing and planned excavation and storage areas will encompass approximately 330 acres.

The materials storage areas are located just west and east of the quarry. The west site is used for maintaining a supply of material which currently is not used for the production of cement. This material includes low-grade limestone, and other rock types excavated from the quarry. It is expected that these lower grade limestone and rock materials will be used in the future when scarcity of the materials increase their marketability. The east site is comprised of an existing pile of rock materials which will be relocated further to the east and revegetated. This will allow the limestone beneath to be excavated while maintaining a knoll as a visual buffer between the quarried area and the Santa Clara Valley area. Figure 5 shows the quarry and both material storage areas.



1:25,000

FIG. 5

QUARRY PIT AND STORAGE AREAS

## B. Operations

The Permanente Quarry utilizes an open pit technique to extract the limestone and associated rock materials. This procedure generally is: 1) any topsoil overburden is removed and stockpiled for future use, 2) haulage roads are developed to the planned benches, 3) blast holes are drilled in the rock with rotary blasthole drills, then controlled electric blasting loosens the rock at a benching interval of 50 feet, 4) front-end loaders and electric shovels load the broken rock into 65-ton off-highway haul trucks to be transported to the primary crusher located at the southeastern edge of the quarry. From there, the crushed rock is transported, for further processing, to the cement plant further to the east. Other rock types, and limestone not currently utilized in cement manufacture are either crushed and conveyed to the commercial rock plant or hauled directly to the materials storage area for potential use in the future.

The quarry operates year-round, five days a week, two shifts a day, although the schedule is subject to variations due to market conditions or maintenance periods.

The design for the reclamation plan is shown in Figure 6, which presents the excavation contours overlain on the existing topography. The overall pit slope for both the existing and future operations will be maintained at an angle of 45 degrees (1:1).

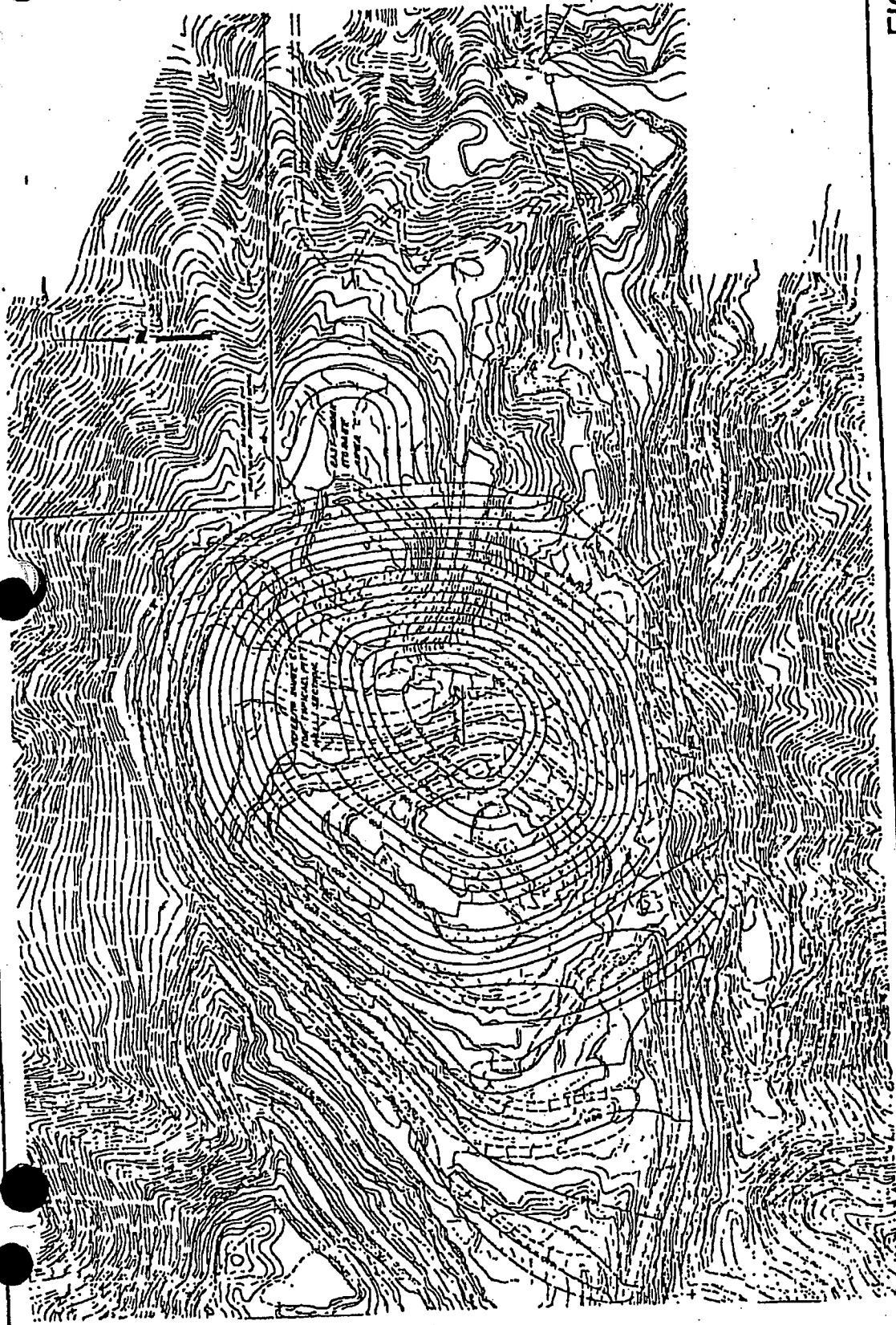


FIG. 6

QUARRY PIT DESIGN



A slope stability study for the quarry area, which is summarized in Appendix B, indicates that the 1:1 slope design is well within recommended features for slope stability.

The West Materials Storage area, contains the stockpiled rock materials and currently nonmarketable limestone. This material is maintained at a 3:1 gradient in order to achieve slope stability. Beyond the timeframe of this reclamation plan, it may eventually be sold or utilized in the reclamation process.

The East Materials Storage area will be similarly established.

C. Public Health and Safety

On-site dust related to mining operations is controlled by spraying the haul roads with water mixed with a commercial dust suppressant. Runoff collected in the quarry supplies some of the water for this use.

Blasting operations are conducted only by state licensed personnel to ensure that the procedures meet or exceed the requirements of Cal-OSHA.

For safety and security reasons, the public is barred access to the site by gates located on Permanente Road at the cement plant area.

#### IV. RECLAMATION

##### A. Timeframe

The reclamation plan presented is intended for a 25 year period. It addresses erosion control and maintenance of the West Materials Storage area, and reclamation and revegetation of the East Materials Storage area, allowing this area to serve as a visual buffer between the quarry and the Santa Clara Valley. Ultimate reclamation of the pit area, or treatment of future quarry operations, will be addressed in a revised reclamation plan to be submitted around the year 2005 when this reclamation phase nears completion. Since market demand for cement partly determines the rate of limestone extraction, this estimate may be subject to some modification in the future, in response to demand for the product.

Present mining plans for the quarry call for a 25 year period of operation. Inferred limestone reserves are estimated to support an operation of this magnitude for up to 50 years. Beyond this period the quarry could continue to operate as a crushed stone source for construction aggregate. Thus, the time span of the total life of the operation is only an estimate and is subject to future modification in response to actual market and quality conditions.

##### B. Phasing

###### West Materials Storage Area

The West Materials Storage area will be built up, contoured, and revegetated as quarrying operations generate overburden and

excess rock material. Within the storage area, the build up of material is expected to occur roughly in three phases: Phase 1 will bring the material pile up to the 1800 foot contour; Phase 2 will add another 100 feet in elevation to reach the 1900 foot level; Phase 3 will bring portions of the material to elevations of 1950 to 1975 feet, contoured to achieve both slope stability and a natural appearance in relation to the surrounding terrain.

All surfaces will be revegetated when they reach their ultimate grade. Phase 1, 2 and 3 are expected to be executed in 10, 20 and 25 years, respectively. Some modifications to the timing may result in relation to the rate of quarrying activity.

Runoff in the storage area is currently directed to catchment areas which collect sediment. The high percentage of rocks and granular material in the storage area allow rapid percolation by the runoff. As Phase 1 of the material storage nears final grade, the runoff will be directed along the new access road. The runoff will be caught in a sedimentation basin as shown on the reclamation plan. The basin and outfall will be constructed prior to the completion of Phase I.

#### East Materials Storage Area (Area C)

In this area the slope between contours 1400 and 1420 will be revegetated first, other areas will be planted as material becomes available for placement.

After the proposed grades have been reached for an area, 4 inches of soil will be added where practical and plant materials installed. The plant materials and planting

techniques used will be tailored to the specific area to be revegetated.

#### West Materials Storage Area (Area A)

The West Storage Area, because the rock material here may be used in the future, will be revegetated using seed material applied within a hydromulched slurry mixed together with fertilizer. No woody tree or shrub materials will be used in this mix, however tree species found on-site will establish themselves naturally over the 25 year period.

The purpose of the seven species of grass and wildflower seed within this mix is to stabilize the slopes and prevent erosion. Use of the seed materials selected promotes reseeding and does not require the use of supplemental irrigation.

Revegetation of the East Storage Area will utilize significantly more plant materials and different planting techniques. More extensive tree and shrub plantings will be used to incorporate the new hill into the surrounding natural setting. These plantings will include two types of oak seedlings, coyote brush, ceanothus and buckwheat seedlings, as well as a seed mix containing four different grass and wildflower species. Figure 7 presents the proposed revegetation scheme in this area.

To insure survival of the tree and shrub seedlings, protective screening is proposed to protect the vegetation from deer and rodents. Six-foot high "Poultry Net" fencing will be used to protect seedlings from deer. In addition, a portion of the oak seedlings will be protected individually by fine mesh screening to prevent damage from rodents.

Although native plant species have been selected for revegetation, some supplemental, temporary irrigation will be required due to conditions at this particular location. The high porosity of the soil, and the predominance of southern and western exposures contribute to a very dry environment for seedlings to develop. Therefore, supplemental irrigation will be provided for approximately 5 years, until the plants are fully established. An existing irrigation system will be expanded and utilized to provide water to the East Storage Area revegetation.

**LEGEND**

[Symbol]	AREA TO BE REVEGETATED
[Symbol]	SOURCE OF TOP DRESSING MATERIAL
[Symbol]	DEER FENCING
[Symbol]	<b>PLANT LEGEND</b>
[Symbol]	COMMON SUCKER BRUSH 210
[Symbol]	COYOTE BRUSH 180
[Symbol]	GOLD CUP OAK 210
[Symbol]	LEATHER OAK 210
[Symbol]	COYOTE BRUSH WILD SUCK/WHEAT 400
[Symbol]	HYDRATED MIE
	TOTAL 1210

**NOTE**

EACH PLANT OR BRUSH WITHIN FENCED AREA SHALL BE PLANTED IN THE SAME FENCED AREA. EACH PLANT OR BRUSH WITHIN FENCED AREA CONTAINS 26 SEEDLINGS FOUR HAVES NO.

PLANT AREA TO BE REVEGETATED SHALL BE CONTIGUOUS TO TOGETHER A REAR SHALL BE PLANTED AS FULL OPERATIONS ARE COMPLETED.

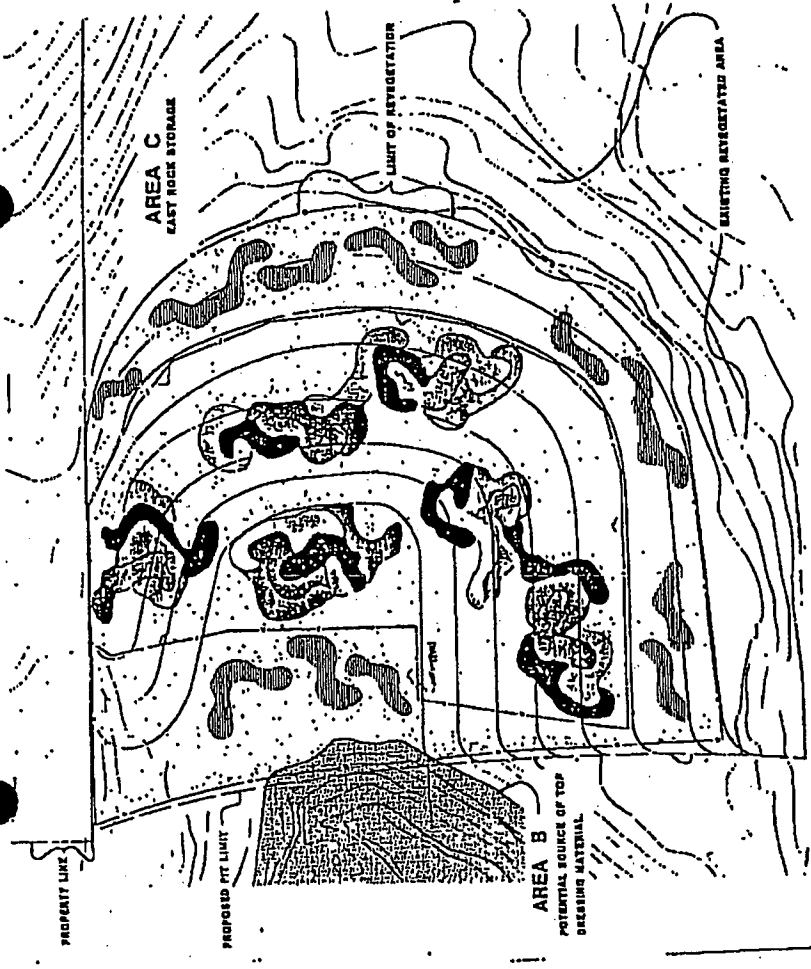


FIG. 7

REVEGETATION PLAN EAST MATERIALS STORAGE AREA

In addition to fencing protection and irrigation, all revegetation materials will be fertilized. For hydroseeded/mulched materials a totally organic, water soluble fertilizer will be used within the slurry. In the case of seedlings, slow release, long term tablets will be placed within the root zone to provide fertilization over the following two years.

The overall intent of the revegetation plan proposed is to provide the proper conditions to promote healthy mature plantings that will be similar to the surrounding native vegetation.

To further insure that the revegetated plantings will survive and grow to mature sizes, the Kaiser Cement Corporation intends to monitor all installations and conduct periodic maintenance. In this way the proper plant materials, irrigation and fertilization will be insured any potential problems can be addressed early on, providing every chance for the successful revegetation of these areas.

C. Ultimate Conditions

At the end of this 25 year reclamation program the following conditions will exist. The West Materials Storage area will have reached a maximum elevation of 1975 feet. Its slopes will be established at a 3:1 gradient and planted with native grasses to control erosion.

The East Materials Storage area will have reached a maximum elevation of 1475 feet, with slopes at a 3:1 gradient. It will be revegetated with native grasses, shrubs, and trees.

The quarry pit area will be excavated at an overall gradient of 1:1 in conformance with the slope stability investigation. Any future alternatives, including revegetation and continued operation, will be addressed in another reclamation plan to be prepared in approximately 20 years.



APPENDIX A

BIBLIOGRAPHY

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDUM ON PERMANENTE PROPERTY

Contents of file kept in Permanente Office - Revised August 22, 1951 to include additions indicated by \*.

DATE	TITLE	AUTHOR	CONTENT
1898	Eighth Annual Report of the State Mineralogist, "Santa Clara County"	California State Mining Bureau	Historical notes on Guadalupe deposit, Mentions bituminous limestone.
1899	Tenth Annual Report of the State Mineralogist, "Santa Clara County"	California State Mining Bureau	Historical notes: Guadalupe and Los Gatos deposits.
1894	Twelfth Annual Report of the State Mineralogist, "Santa Clara County"	California State Mining Bureau	Historical notes: Los Gatos, Guadalupe, and Wright's Ranch deposits.
1896	Thirteenth Annual Report of the State Mineralogist, "Santa Clara County"	California State Mining Bureau	Historical notes: Guadalupe and Los Gatos deposits.
1906	Structural and Industrial Materials of California, "Santa Clara County"	California State Mining Bureau	Historical notes: El Dorado Sugar Company's Quarry (=Permanente) and Los Gatos Line Quarry.
1908	Map showing distribution of apparent intensity, known faults, routes examined	Lawson, A.C., ed., 1908 Atlas, U. S. G. S.	1:125,000 scale
Jan 1921	Report XVII of The State Mineralogist "Santa Clara County"	California State Mining Bureau Huguenin, E. & Catalita, G.O.	Historical notes: Winship Property.
Jan 1930	San Francisco Field Division Santa Clara County	California Division of Mines Frank, H.A.	Brief Regional Description - Historical Notes - Bond and Winship Properties.
1933	Limestone Deposits of the San Francisco Region	California Division of Mines Echel, E.C.	Distribution, Composition, Historical Notes.
1933	Limestone Weathering and Plant Associations of the San Francisco Region	California Division of Mines Kelly, J.W.	Limestone soils, Plants, Vegetation.

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDA, PERMANENTE PROPERTY

<u>DATE</u>	<u>TITLE</u>	<u>AUTHOR</u>	<u>COMMENT</u>
Apr 1944	Tonnage Available In The North Ridge of The Upper Quarry	Grimm, K.E., Chief Geologist, Knuth, W.J., Permanente Corporation	Notes on mining aspect.
Feb 21, 1945	Development and Operations Program For The Permanente Cement Company Quarries for the Years 1945, 1946, 1947, 1948, and 1949	Grimm, K.E., Chief Geologist, Knuth, W.J., Permanente Corporation	Mining plan, recommendations to strip and beneficiate to extend life of property.
Aug 27, 1945	Memo to J. V. Sharp	Jack, O.E., Permanente Laboratory	Drill hole analysis from Black Mountain
Sep 1945	Geological Report of McCaugher Property	Grimm, K.E., Chief Geologist Permanente Corporation	Report on surrounding properties, particularly Black Mountain region.
Nov 1946	Insoluble Residues of The Calera Limestone In Santa Clara County, California	Pantlin, J.H., Stanford University M.S. Thesis	Stratigraphic correlations, Permanente geologic map and section.
Dec 4, 1946	Limestone Reserve of The Upper Quarry Area, Permanente, California	Hullin, C.D., Dept of Geology, University of California, Berkeley	Reserve study. Identifies "Andasite" as "Olabase," different structure interpretation to Tolman (19) based on new information.
Feb 26, 1947	Memo to Sharp, Hall, Jack, Knuth	Zimmerman, Jr., John, Chief Geologist, Permanente Corporation	Report on outside areas to supplement limestone supplies - Guadalupe Dam, Los Gatos, Monte Bello, etc.
Apr 14, 1947	Letter to Lewis Timpany	Zimmerman, Jr., John, Chief Geologist, Permanente Corporation	No interest.
Jun 1947	Insoluble Residues of the Calera Limestone from Its Type Locality, Calera Valley, San Mateo County, California.	Miranda, L.J., Stanford University M.S. Thesis	Stratigraphic correlations.

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDA - PERMANENTE PROPERTY

DATE	TITLE	AUTHOR	CONTENT
1st	1947 California Journal of Mines and Geology, "Limestone in California"	California Division of Mines Logan, C.A.	Description of limestone deposits. Permanente's operations.
Aug 6, 1950	Letter to H. J. Kaiser	Timpany, Lewis	Promotional description of limestone on property south of Permanente.
Aug 22, 1950	Letter to Lewis Timpany	Marsh, V.A., General Manager, Permanente Corporation	No interest.
Dec 1950	The Cajera Limestone in San Mateo and Santa Clara Counties, California	California Division of Mines Walker, G.M.	Special report on Cajera limestone.
1952	Cretaceous Foraminifers from the Franciscan Cajera Limestone of California	Church, C. C.	Assigns middle to basal upper Cretaceous age to Calera.
Dec 30, 1954	Memo to J. M. Garoutte	Covello, A., Geologist, Permanente Corporation	Black Mountain outcrops on Ement Burns, Crocker (now Kaiser) and Alives properties.
Nov 14, 1956 and Nov 12, 1957	Letters on Burns Property	Whitcliff Realty, W.A. Marsh, Carlton Hallin, and J.M. Garoutte	Black Mountain properties.
Jan 15, 1958	Memo to W. A. Marsh	Stilbolt, C.B.	Crocker lands.
Apr 6, 1961	Permanente Quarry Stratigraphic Section	Towse, D.	With CaCO <sub>2</sub> percent.
Jul 20, 1961	Memo to R. G. Hohnsbeen	Kennedy, J.R.	Ref to planning & development in Palo Alto/Foothills area.
Jan 9, 1963	Memo to E. B. Connors	Towse, D.	Ref to pit development to south.
1964	Floating Limestone at Permanente	Kleiber, J.C. & Meisel, G.M.	Beneficiation of low grade limestone.

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDA ON PERMANENTE PROPERTY

DATE	TITLE	AUTHOR	CONTENT
Jun 26, 1939 and Oct 13, 1939	Report on Tonnage & Composition of Limestone Available in Proposed Quarries A and B, Permanente Corporation, and Superficial Residuary Clay on The Property of The Permanente Corporation	Toisman, Prof. C.F. and Neuman, Jr., J.V., Stanford University	Original evaluation Permanente property confined to area above 1500' el. although, limestone was recognized at lower elevations. First detail mapping of rock units and structures, description of sampling, and tonnage calculation.
1941	MILLING at the Permanente Cement Plant	Kivari, A. H.	Early quarrying and milling; short summary of Toisman and Neuman report.
1942	Geologic History and Correlation of the Jurassic of Southwestern Oregon and California	Telleferro, H. L.	Early ideas on origin and age of Franciscan and relationship to other formations of same age.
1942	Uppercretaceous Age of the "Franciscan" Limestone near Laytonville, Mendocino County, California	Thalman, H.E.	Assigns same age to Laytonville and Calera limestones.
Nov 1, 1942	Geological Report and Discussion of Reserve Rock Permanente Quarry Areas	Grimm, K.E., Chief Geologist, Permanente Corporation	Update on Toisman, Neuman report with new information available from operations. Further identification of limestone units. References to south side of creek.
Dec 5, 1942	Memo to Rhodes	Grimm, K.E., Chief Geologist, Permanente Corporation	Ref to Parcel 2 of Perrone Property.
1943	Franciscan-Knoxville Problem	Telleferro, H.L.	Urges narrowing of definition of Franciscan. States that Knoxville is an upphase of Franciscan. Discusses lithology.
Jul 1943	Black Mountain Prospect #1	Grimm, K.E., Chief Geologist, Permanente Corporation	Report - Geology, Economic Geology, plus map and section.
Oct 27, 1943	Geological Report & Discussion of Reserve in The Quarries of The Permanente Cement Company	Grimm, K.E., Chief Geologist, Permanente Corporation	Update and general confirmation of previous work.
Mar 19, 1944	Memo to B111 Sharp	Grimm, K.E., Chief Geologist, Permanente Corporation	Limestone on McLaughern Properties and adjacent area (Black Mountain).

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDA ON PERMANENTE PROPERTY

DATE	TITLE	AUTHOR	CONTENT
1966	Franciscan and Related Rocks and Their Significance in The Geology of Western California	California Division of Mines and Geology, Bailey, E.H., Irwin, M.P., and Jones, O.L.	Distribution and characteristics of Franciscan limestones; relation to other rocks.
1968	Map - Geology of the Palo Alto 15' Quadrangle, Santa Clara and San Mateo Counties, California	California Division of Mines and Geology, Dibblee, Jr., T.U.	1:62,500 scale descriptive text.
1967	Electron Microscopy of Limestones in the Franciscan Formation of California	U. S. Geological Survey Gerrison, R.C. & Bailey, E. H.	Distribution, characteristics, and origins of Franciscan limestones. Recognized organic origins.
1969	Preliminary Report & Geologic Guide to Franciscan Melanges of the Morro Bay - San Simeon Area California	Hsu, K.J.	Description and distribution of melanges in San Luis Obispo County.
Aug 25, 1969	Mining Plan & Use Permit		For Kaiser Property in Palo Alto.
No Date	None		Fire Department access to Monte Bello Road.
1972	What is Franciscan?	Berkland, J.O., et.al.	Structural & lithologic definition of Franciscan Complex.
1973	Mixed Depositional Environments in the Franciscan Geosynclinal Assemblage	Matthews, Vincent III and Wachs, Daniel	Origin of Franciscan rocks.
1973	Preliminary Report 17 "Environmental Geologic Analysis of the Monte Bello Ridge Mountain Study Area Santa Clara County" Maps: Plate 1, 1-A, 2, 3, 4	California Division of Mines and Geology, Rogers, T.H. and Armstrong, C.F.	Text: Area geology, Permanent deposit rock descriptions. Maps: Bedrock, surficial, fault activity and mineral resources stability.
1973	Limestone and Dolomite Resources of California	California Division of Mines and Geology, Bowen, D.E.	Occurrences, characteristics, and economics.
1973	Petrology & Depositional History of Limestones in the Franciscan Formations of California	Wachs, Daniel, U.C. Santa Cruz, Ph.D.	Electron and Petrographic microscopy of Calera Limestone at Permanente, and Laytonville

SUMMARY - GEOLOGICAL REPORTS AND MEMORANDA ON PERMANENTE PROPERTY

DATE	TITLE	AUTHOR	CONTENT
1974	Petrography and Diagenesis of Franciscan Limestones	Wachs, Donat and Helm, J.R.	Detail on Calera Limestone.
Mar 29, 1974	Letter to J. K. Walker	Ellis, V.C.	Review of J. F. Small's quarry reserve estimates.
May 24, 1974	Memo to J. H. Lucas	McCloud, J.P.	Recommends geologic mapping of ridge across Permanente Creek from quarry.
1975	Geologic Map of the Sargent-Berrocal Fault Zone	U. S. Geological Survey, Sorg, D.H. & McLaughlin, R.J.	1:24,000 scale map; descriptions of faults, earthquakes, landslides, mineral springs.
Jan	Franciscan Limestones and Their Environments of Deposition	U. S. Geological Survey, Wachs, D. & Helm, J.R.	Limestone characteristics and origin.
Jul 21, 1977	Cover Memo, Open File Report, Vicinity Map, Topographic Map, Geologic Map, and Use Permit	California Division of Mines and Geology, Stinson, Melvin G.	Evaluation of Permanente aggregate reserves.
1978	Limestone, Dolomite, and Shell Resources of the Coast Range Province, California	California Division of Mines and Geology, Hurt, Earl V.	Includes descriptions of Monte Belle Ridge and Permanente deposits.
Feb 1980	Franciscan Limestone Geology and Resources at Permanente and New Almaden, Santa Clara County, California	Kinfeinan, Steven A., Geological Engineer, Kaiser-Cement Corporation	Stratigraphy, structure, origin, economic potential.
Dec. 1981	The Santa Clara Formation and Orogenesis of Monte Belle Ridge, Northwest Santa Clara County, CA	William L. Vendthorst San Jose State University MS Thesis	Stratigraphy and structures of Santa Clara Fa.
May 28 1982	Geology of the Permanente Property, KCC	Hachison, E.L., Associate Geologist, KCC	Geology of KCC's Permanente property, including quarry and plant areas.

APPENDIX B  
SLOPE STABILITY STUDY



## Slope Stability

Pit Area - Based upon a 1975 investigation of slope stability of the Permanente quarry by Golder, Brawner & Associates, recommended overall slope angles for the pit are listed below:

<u>Pit Area</u>	<u>Recommended Overall Slope Angle</u>	<u>Bench Angle (Min.)</u>
1. Slopes on south side Facing 00° (North)	Theoretically stable up to 75°.	62 degrees
Facing 020°	Theoretically stable up to 75°.	62 degrees
Facing 090°	Theoretically stable up to 57°.	----
2. Northern slopes from western end of pit-eastern end of serpentine slide area		
Facing 090°	60 Degrees	----
Facing 130°	46 Degrees	----
3. Northern slopes from eastern end of serpentine slide area to western end of pit		
Facing 130°	44 Degrees	

<u>Pit Area</u>	<u>Recommended Overall Slope Angle</u>	<u>Bench Angle (Min.)</u>
4. East face	Theoretically stable up to 72°	52 Degrees
Facing 130°		
Facing 200°	Theoretically stable up to 90°.	52 Degrees
5. Southern and southeastern faces excluding		
1. above		
Facing 230°	48 Degrees	-----
Facing 295°	46 Degrees	-----

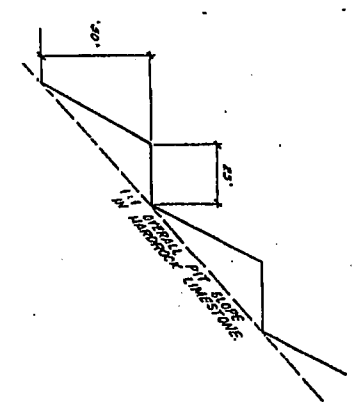
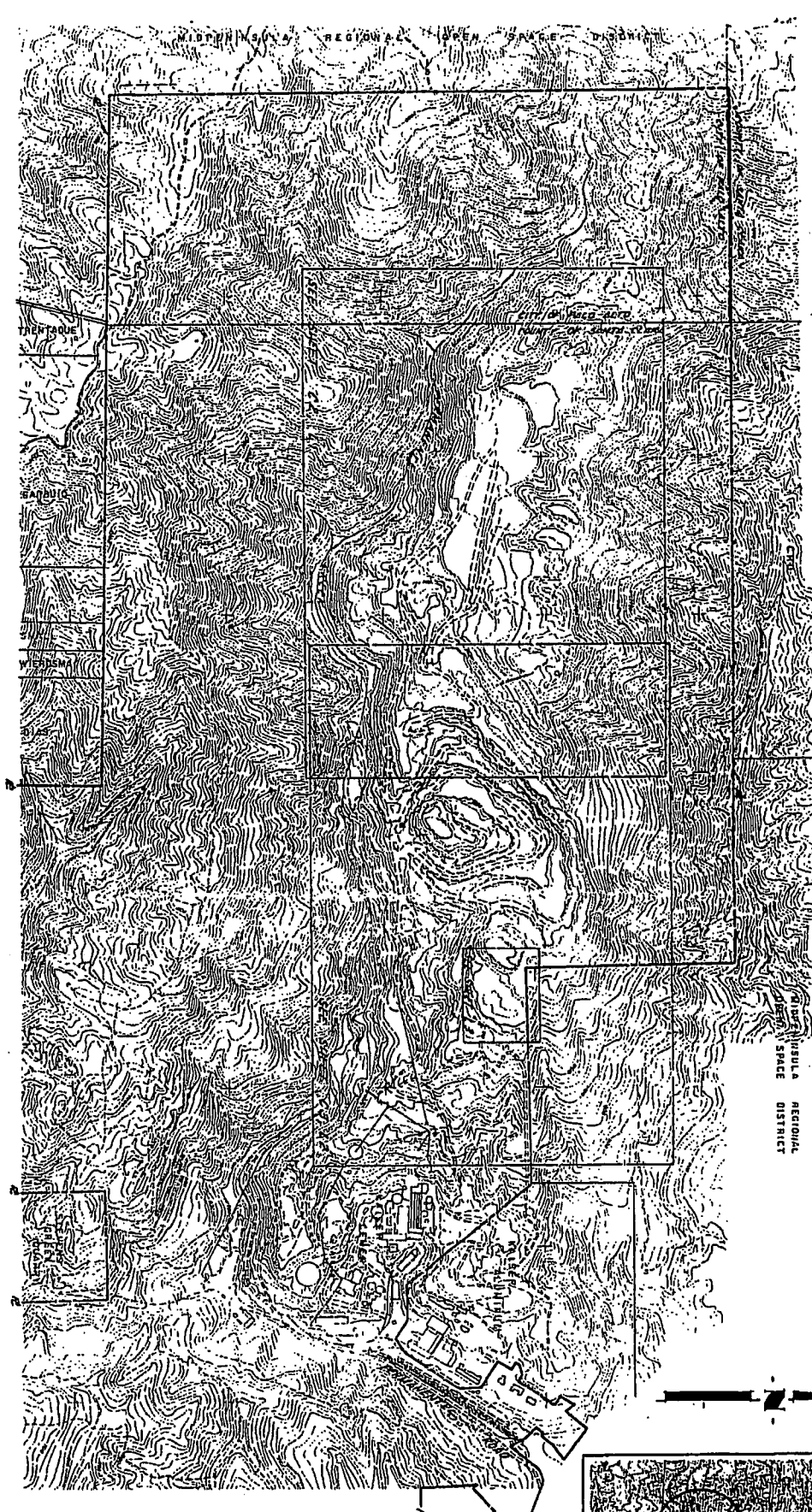
The existing and design overall pit slope angle of 45° (1:1) is within these recommendations.

The 1975 study was primarily concerned with the stability of the "serpentine slide area" located on the north-northwest side of the pit. No final recommendations were made concerning stabilization of this "serpentine" slide mass. However, in 1978 and 1979 approximately 440,000 cubic yards of material was removed from this area. The slope was graded and cut back to an overall angle of approximately 26°. Terraces, drainage

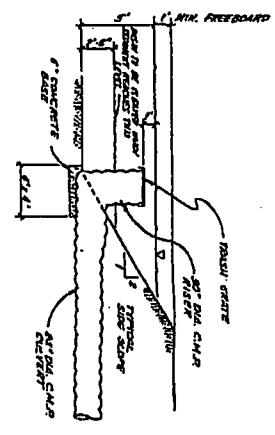
ditches, and revegetation were installed for drainage and erosion control. The regrading work to remove the driving force on the slide along with the fact that a block of limestone remains in the pit below the "serpentine slide area" acting as a buttress, has mitigated the previous problem of gross instability in this area. Since 1979, and probably due to recent wet winters, an area of localized surface slumping has occurred in the lower portion of the "serpentine" slope. This area does not reflect any gross instability in the slope and will be re-graded in order to restore drainage along terraces.

Groundwater seepage has not been observed in quarry faces except for isolated seepage zones on the "serpentine" slope. This seepage occurs seasonally, during wet weather in the winter and usually dries up in the summer. There are no uniform geologic structures in the serpentine unit and it appears that seepage follows random fractures and shear zones.

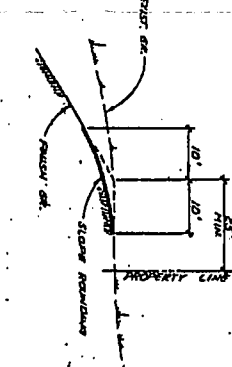
Rock Storage Areas - Rock fill slopes of 3 (horizontal) :1 (vertical) in the rock storage areas are shallow and should be stable. Existing rock fill slopes at slope angles 1-1/2:1 located just east of the main pit shown no sign of instability. Design fill slopes in the rock storage areas will be terraced and revegetated in order to control drainage and erosion.



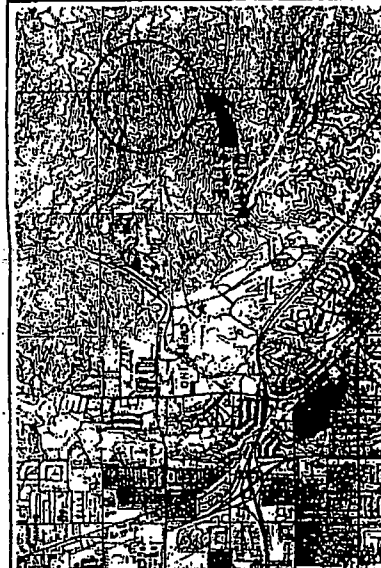
PIT WALL SECTION  
N.T.S.



BASIN AND OUTLET SECTION  
N.T.S.



TYPICAL SLOPE ROUNDING FOR  
TOP OF SLOPE



VICINITY MAP

NOTE  
1. TOPOGRAPHIC MAPS SUPPLIED BY KAISER CEMENT CORPORATION.  
2. DATUM: ALL ELEVATIONS ARE BASED ON USC & GS DATUM.  
3. FINISHED CONTOURS FOR PIT 27 AND POND STORAGE AREA ARE BASED ON SURVEYS BY KAISER CEMENT CORPORATION.

ABBREVIATIONS  
P.L. PROPERTY LINE  
C.I.P. CONCRETE IN PLACE  
D.M. DRAINAGE  
M.M. MINIMUM

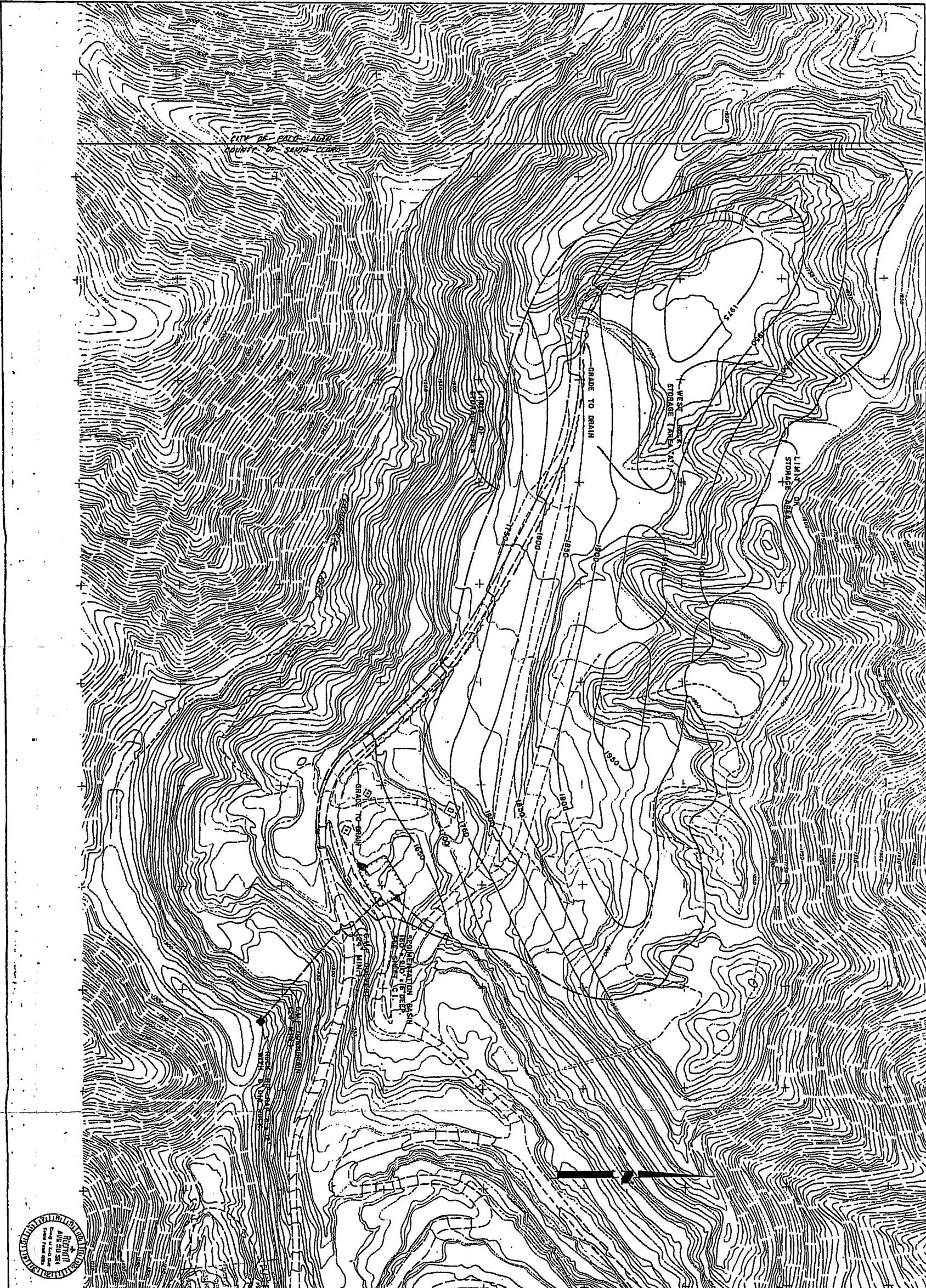
INDEX

SHEET	DESCRIPTION
C1	COVER SHEET
C2	RECLAMATION PLAN
C3	RECLAMATION PLAN
L1	REVEGETATION PLAN
L2	REVEGETATION PLAN
L3	REVEGETATION NOTES



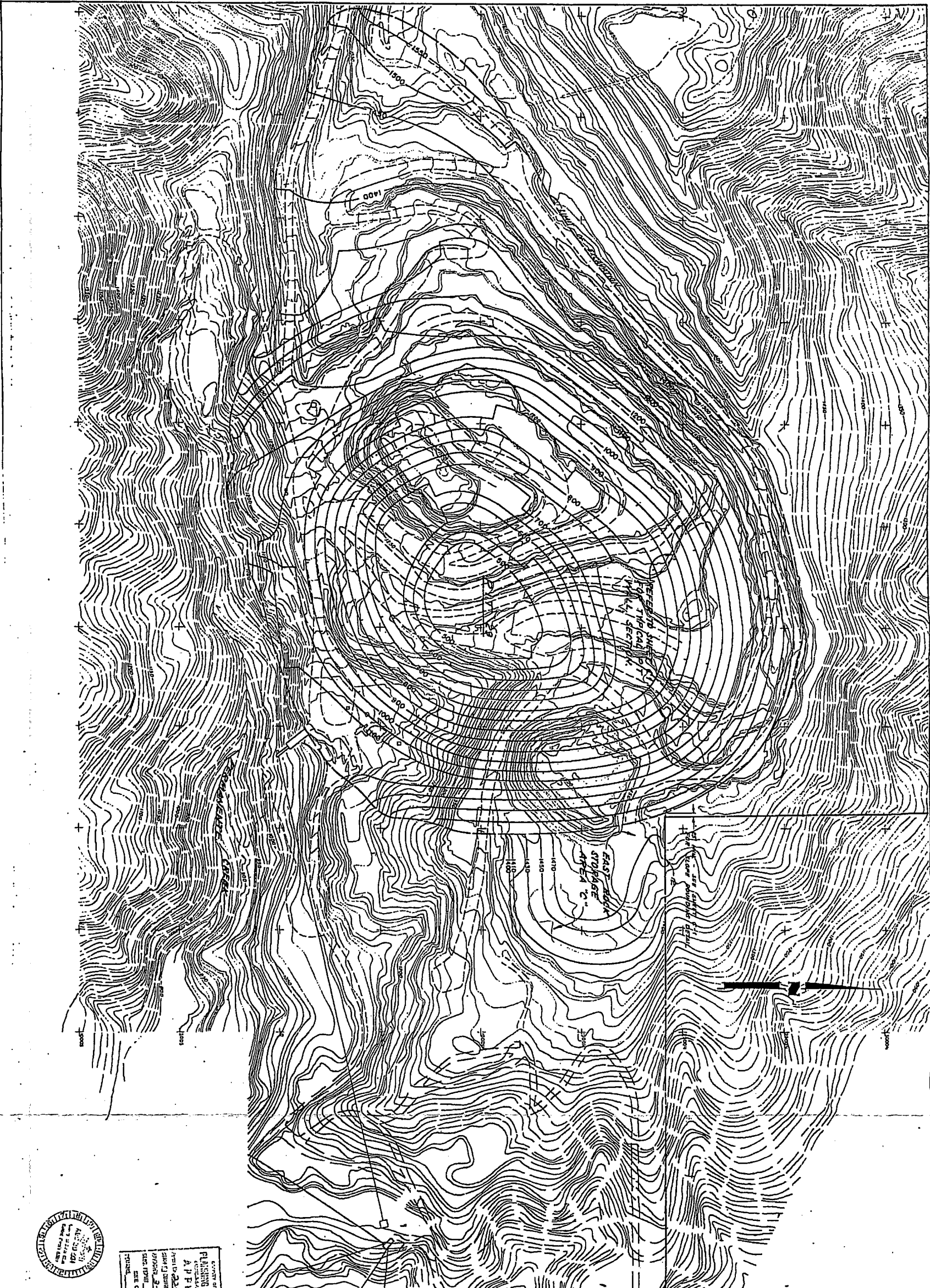
PLANNING COMMISSION  
APPROVED  
DATE: 12-15-66  
BY: [Signature]

<p><b>RECLAMATION PLAN</b> <b>PERMANENTE QUARRY</b></p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		MARK	DATE	BY	DESCRIPTION												
MARK	DATE	BY	DESCRIPTION																
<p>DESIGN: [Signature]</p> <p>CH'NO: [Signature]</p>	<p>DRAWN: [Signature]</p> <p>SCALE: 1" = 800'</p>	<p>DATE: 12-15-66</p> <p>SHEET 1 OF 7 SHEETS</p>	<p>KAISER CEMENT CORPORATION</p> <p>SANTA CLARA COUNTY, CALIFORNIA</p>																

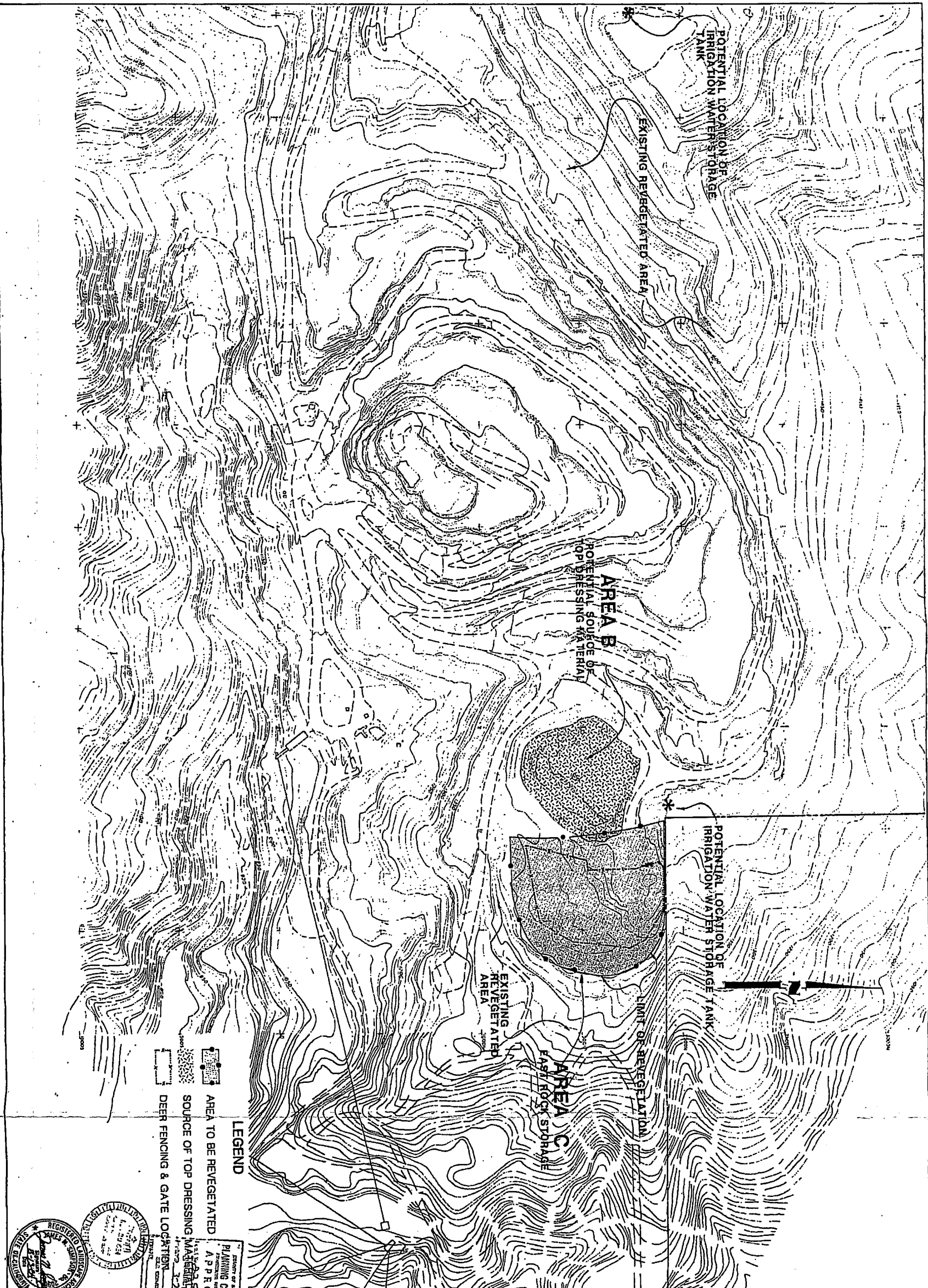


<b>22</b> SHEET 2 DATE AUG. 17, 1954	<b>R+G</b> Ruth and Goring Inc. architects and engineers 518 THE ALAMITOS SAN JOSE, CALIFORNIA 95128 (408) 297-2272	<b>RECLAMATION PLAN</b>  <b>PERMANENTE QUARRY</b>	<b>REVISIONS</b> <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	MARK	DATE	BY	DESCRIPTION																
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DESIGN: <i>RAL</i> CH'KD: <i>DW</i>	DRAWN: <i>WJ</i> SCALE: <i>1" = 40'</i>	REG. NO. <i>20000</i> KAISER CEMENT CORPORATION SANTA CLARA COUNTY, CALIFORNIA																					





SHEET 5 OF 7 SHEETS DATE AUG. 11, 1954 CH. NO. 100	<b>RC</b> RICHARDSON & COMPANY ENGINEERING PLANNING 1000 CALIFORNIA ST. SUITE 1000 SAN FRANCISCO, CALIF.	<b>RECLAMATION PLAN</b> <b>PERMANENTE QUARRY</b>		REVISIONS <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		MARK	DATE	BY	DESCRIPTION																
		MARK	DATE	BY	DESCRIPTION																				
DESIGN: <i>W.A.L.</i> CH. NO. <i>100</i>	DRAWN: <i>R.H.</i> SCALE: 1" = 100'	CHECKED BY: <i>George J. Child</i> REG. NO. 24882	KAISER CEMENT CORPORATION SANTA CLARA COUNTY, CALIFORNIA																						



**LEGEND**

- AREA TO BE REVEGETATED
- SOURCE OF TOP DRESSING MATERIAL
- DEER FENCING & GATE LOCATION

**R-G** Engineering, Inc.  
 810 THE ALAMEDA  
 SAN FRANCISCO, CALIFORNIA 94103  
 (415) 774-2272

DATE: AUG 15, 1968  
 SHEET: 11  
 JOB NO. 70001-000

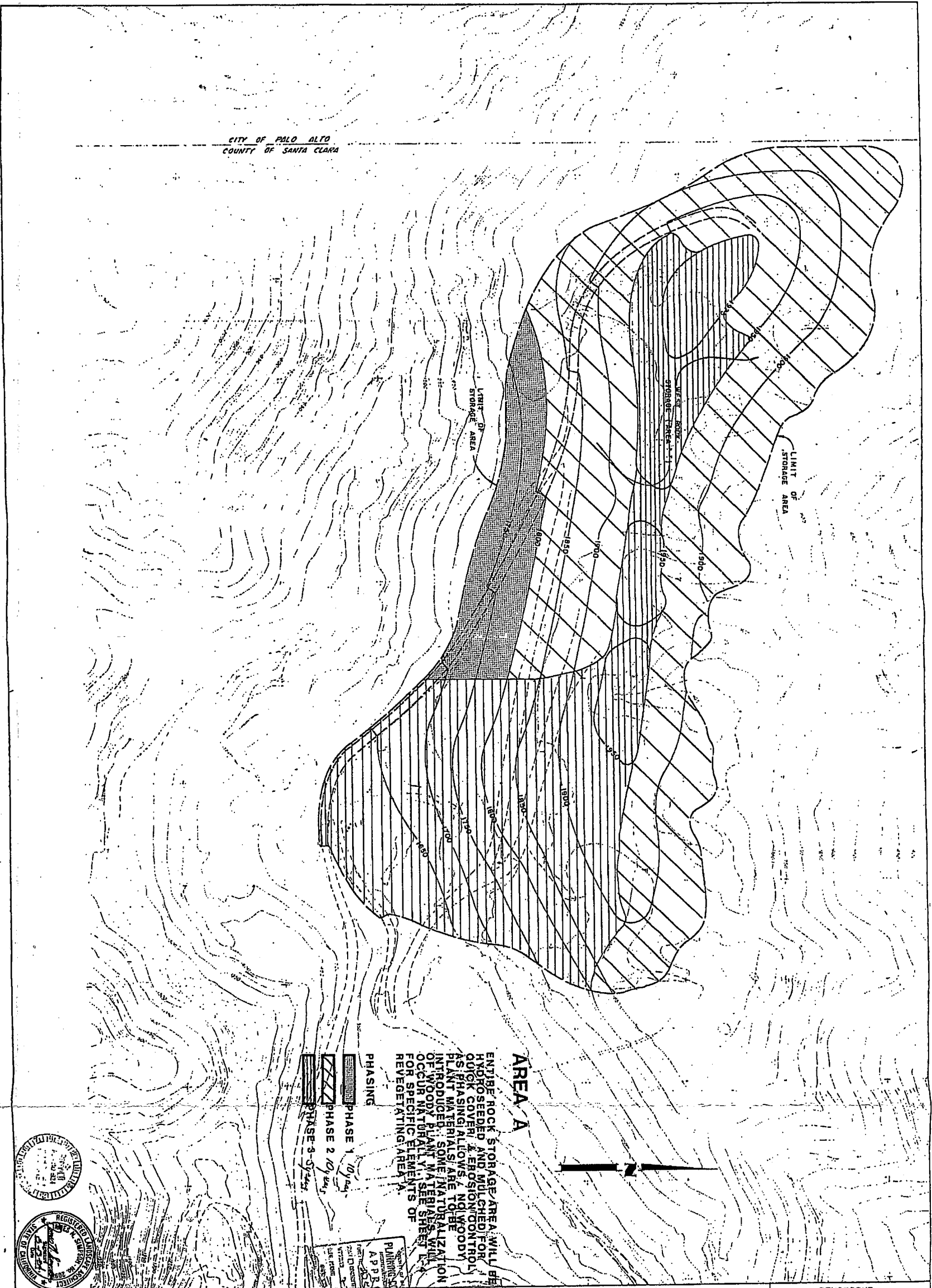
**REVEGETATION PLAN**

**PERMANENTE QUARRY**

KAISER CEMENT CORPORATION      SANTA CLARA COUNTY, CALIFORNIA

REVISIONS			
MARK	DATE	BY	DESCRIPTION

CITY OF PALO ALTO  
COUNTY OF SANTA CLARA



**AREA A**

ENTIRE ROCK STORAGE AREA WILL BE HYDRO SEEDED AND MULCHED FOR QUICK COVER & EROSION CONTROL. PHASING ALLOWED, NO WOODY PLANT MATERIALS ARE TO BE INTRODUCED. SOME NATURALIZATION OF WOODY PLANT MATERIALS WILL OCCUR NATURALLY. SEE SHEET FOR REVEGETATING AREA A.

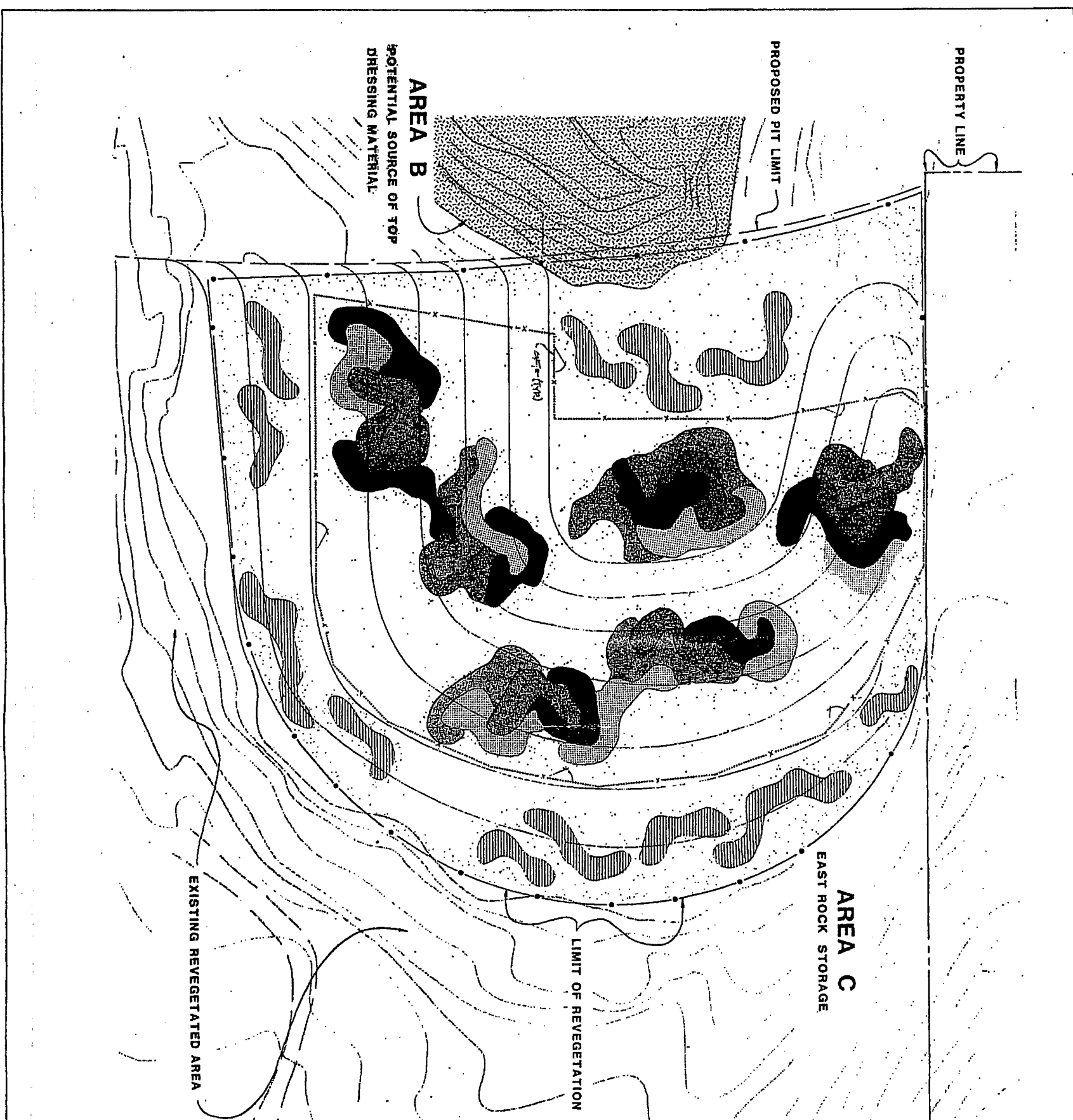
- PHASING
- PHASE 1 10y
  - PHASE 2 10y
  - PHASE 3 5y



2250-13-66-84P  
AUG 17 1984

<p><b>RIG</b> Ruth and Going, Inc. architecture engineering planning</p> <p>210 THE ALAMEDA SAN JOSE CALIFORNIA 95126 (408) 277-0270</p>		<p><b>REVEGETATION PLAN</b></p> <p>PERMANENTE QUARRY</p> <p>SANTA CLARA COUNTY, CALIFORNIA</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		MARK	DATE	BY	DESCRIPTION																
MARK	DATE	BY	DESCRIPTION																						
<p>DATE: AUG 13 1984</p> <p>SHEET: 12</p> <p>OF 7 SHEETS</p> <p>JOB NO. 78093-000</p>		<p>DESIGN: <i>[Signature]</i></p> <p>CH'KD: <i>[Signature]</i></p> <p>SCALE: 1"=100'</p> <p>REG. NO. 22898</p> <p>KAISER CEMENT CORPORATION</p>		<p>APPROVED</p> <p>PLANNING PERMISSION</p> <p>DATE: AUG 13 1984</p> <p>BY: <i>[Signature]</i></p>																					



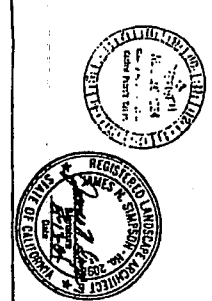


**LEGEND**

	AREA TO BE REVEGETATED
	SOURCE OF TOP DRESSING MATERIAL
	DEER FENCING
<b>PLANT LEGEND</b>	
	COMMON BUCK BRUSH 210
	COYOTE BRUSH 180
	GOLD CUP OAK 210
	LEATHER OAK 210
	COYOTE BRUSH WILD BUCKWHEAT 400
	HYDROSEED MIX
<b>TOTAL 1210</b>	

**NOTE:**

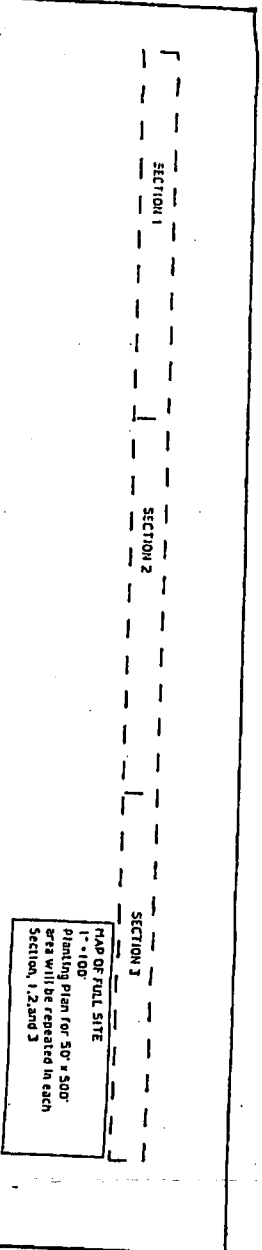
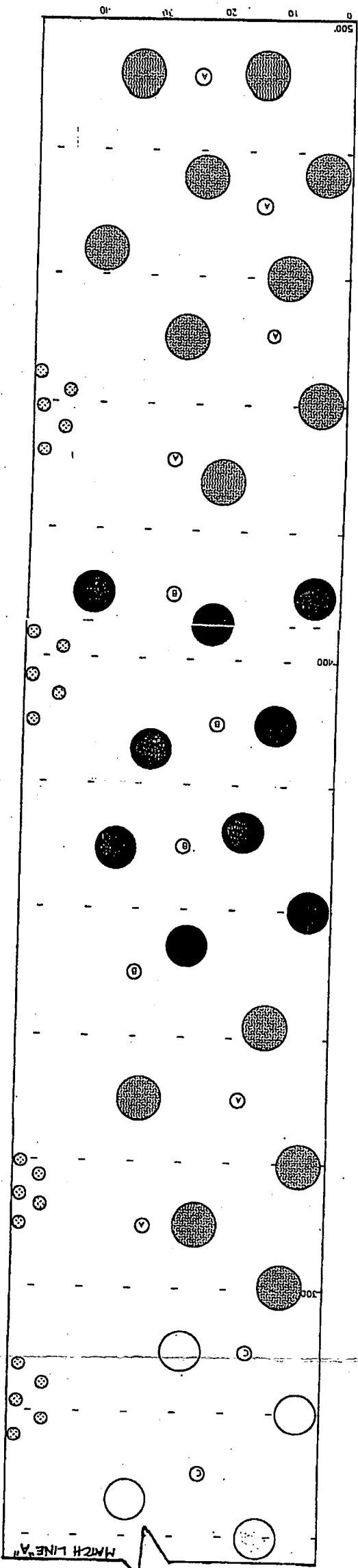
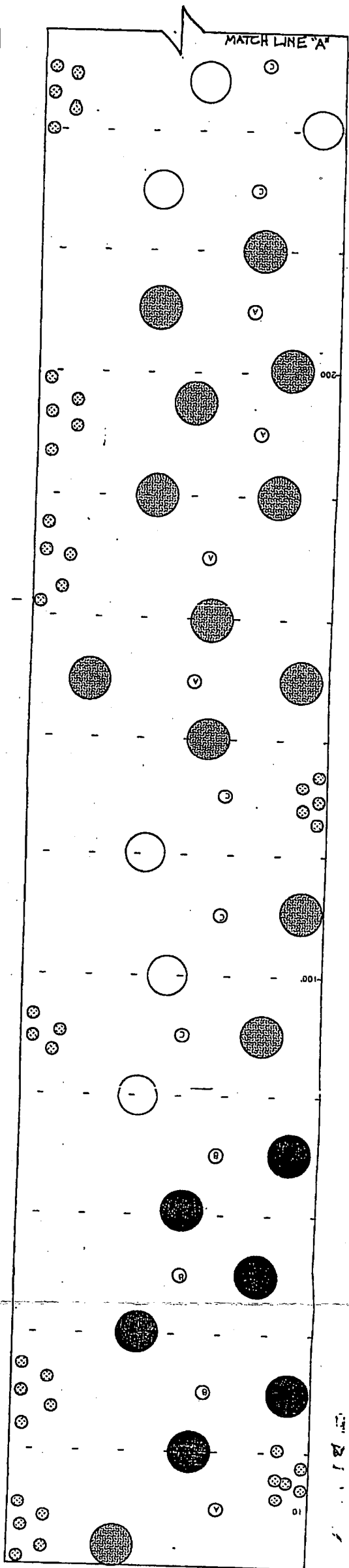
EACH PLANT GROUPING WITHIN FENCED AREA CONTAINS 40 SEEDLINGS.  
 EACH PLANT GROUPING OUTSIDE FENCED AREA CONTAINS 25 SEEDLINGS FOUR HAVE 50.  
 FIRST AREA TO BE REVEGETATED SHALL BE CONTOUR 1400 TO 1420 OTHER AREAS SHALL BE PLANTED AS FILL OPERATIONS ARE COMPLETED.



<b>REVEGETATION PLAN</b>		<b>PERMANENTE QUARRY</b>									
KAISER CEMENT CORPORATION		SANTA CLARA COUNTY, CALIFORNIA									
R+G Ruth and Going, Inc. architecture engineering planning 918 THE ALAMEDA SAN JOSE CALIFORNIA 95126 (408) 207-8273	DESIGN: <i>llp</i> CH'KD: <i>llp</i>	DRAWN: <i>llp</i> SCALE: <i>1"=50'-0"</i>	REVISIONS <table border="1"> <thead> <tr> <th>MARK</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	MARK	DATE	BY	DESCRIPTION				
MARK	DATE	BY	DESCRIPTION								

**L3**  
SHEET NO.





**SECTION ONE, 50' X 500'**

- (A) means that the following plants will be installed in that 20' x 50' area, on 5' centers, no closer than 10' from the 3 large tree species listed below:
  - 15 *Ceanothus leucanthus* (1 gal)
  - 15 *Arctostaphylos uva-ursi* (teach tube or 1 gal)
  - 15 *Baccharis pilularis* (teach tube or 1 gal)
  - 15 *Arctostaphylos bakeri* (1 gal)
- (B) means that the following plants will be installed in that 20' x 50' area, on 5' centers, no closer than 10' from the 3 large tree species listed below:
  - 15 *Arctostaphylos crinitica* (1 gal)
  - 15 *Baccharis pilularis* (teach tube or 1 gal)
  - 15 *Ceanothus leucanthus* (1 gal)
  - 15 *Ceanothus thyrsiflora* (1 gal)
- (C) means that the following plants will be installed in that 20' x 50' area, on 5' centers, no closer than 10' from the 3 large tree species listed below:
  - 15 *Baccharis pilularis* (teach tube or 1 gal)
  - 15 *Arctostaphylos uva-ursi* (1 gal)
  - 15 *Arctostaphylos crinitica* (1 gal)
  - 15 *Cercis occidentalis* (1 gal)



**PLANT LIST FOR KAISER PERMANENTE REVEGETATION SITE**

270	<i>Ceanothus thyrsiflora</i>	Snow Flurry	Teach/1 gal.
375	<i>Baccharis pilularis</i>	Creative Bush	4 gal on site
270	<i>Arctostaphylos bakeri</i>	Leontopodium	1 gal
105	<i>Arctostaphylos crinitica</i>	Brilliant Fern	1 gal
		(substitute <i>Fremontodaphne</i> )	
105	<i>Cercis occidentalis</i>	California Glory (if available)	
27	<i>Quercus agrifolia</i>	Western Redbud	Teach/1 gal.
15	<i>Pinus contorta</i>	Coast Live Oak	Teach/1 gal
10	<i>Acer macrophyllum</i>	Coaster Pine	1 gal
		Big Leaf Maple	Teach
		(grown from seed harvested on site)	

KAISER PERMANENTE REVEGETATION SITE 3155 Pacific Blvd San Bruno, CA 94066 (415) 335-1011	DATE: 12/1/78 SCALE: 1" = 20' DRAWN BY: [Signature]
--	---

**RECEIVED**  
 COUNTY OF SANTA CLARA  
 PLANNING DEPARTMENT