Appendix A

Prior Surface Mining and Reclamation Plans
HANSEN BROS. ENTERPRISES
AMENDED
APPLICATION FOR CONDITIONAL USE PERMIT
AND
RECLAMATION PLAN
FOR
GRAVEL HARVESTING IN
SEC. 25, T16N, R9E, M.D.B.& M.
(UPPER GREENHORN CREEK)
Mr. Dennis Cook  
Assistant Planning Director  
Nevada County Planning Department  
P.O. Box 6100  
950 Maidu Avenue  
Nevada City, CA 95959  

Re: HANSEN BROS. ENTERPRISES

Dear Mr. Cook:

This letter accompanies a new application being filed by HANSEN BROS. ENTERPRISES to amend their Use Permit #1195.

As I am sure you will recall, HANSEN BROS. ENTERPRISES filed an application with the Planning Department for a permit allowing the harvesting of raw aggregate material in Section 25. After the County Counsel's office ruled a permit for the harvesting of raw aggregate materials in Section 25 would be a violation of Permit #1195, HANSEN BROS. ENTERPRISES withdrew their appeal.

It is the intent of the application to amend the present permit removing the restrictions set forth in paragraphs 19 and 25 which prohibit the harvesting of raw aggregate material in Section 25.

It is our understanding Section L-II 31.9 of zoning regulations limits the authority of the planning agency body to consider other changes or modifications of Permit #1195 other than those requested in the form of an amendment.

In discussing the effect of this section with you, you indicated upon receipt of this application, you would ask the County Counsel's office for a written opinion establishing the limits of the planning agency's authority to make modifications of the basic permit other than those requested by the applicant.

If you have any questions or suggestions concerning this application or the intent of the applicant, please give this office a call.

Sincerely,

[Signature]

LEO J. TODD  
LJT/yw
HANSEN BROS. ENTERPRISES

AMENDED APPLICATION FOR

CONDITIONAL USE PERMIT

AND

RECLAMATION PLAN

TO

EXPAND HARVESTING

INTO

UPPER GREENHORN CREEK

(Por. Sec. 25, T 16 N, R 9 E; MDB&M)

Hansen Bros.: Arlie Hansen or Bill Goss
P.O. Box 1599
Grass Valley, CA 95945

Western Planning & Engineering: Fred Barber
11860 Kemper Rd., Suite 3
Auburn, CA 95603
(916) 823-6917

Date: December, 10, 1990
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APPLICATION FOR EXPLORATION AND/OR MINING PERMIT

NEVADA COUNTY

Applicants should check the appropriate application that is subject to the submittal:

ZONE CHANGE: ___________________ FROM: ___________________ TO: ___________________
USE PERMIT: EXPLORATION: ___________________ MINING: X
RECLAMATION PLAN: X

Please Print or Type

1. Name of proposed project Greenhorn Mining Area Section 25, Township 16 North, Range 9 East, M.D.B. & M.

2. Applicant (Operator) Hansen Bros. Enterprises
   P.O. Box 1599, Grass Valley, CA 95945 (916) 273-3381
   Address Telephone

3. Agent or Contact Person Bill Goss
   P.O. Box 1599, Grass Valley, CA 95945 (916) 273-3381
   Address Telephone

4. Owner of Surface Rights (covered by this application): Hansen Bros. Enterprises (916) 273-3381
   Address Telephone

5. Owner of Subsurface Mineral Rights (covered by this application): Hansen Bros. Enterprises (916) 273-3381
   Address Telephone

6. Briefly describe type of proposed exploratory or mining operation. Specify surface, underground, in-stream, etc. Aggregate Harvesting in Section 25, Township 16 North, Range 9 East and amendment of conditions 19 and 25 of Conditional Use Permit # 1195 to eliminate the prohibition of harvesting and operations North of Section 35 & 36, Township 16 North, Range 9 East.

7. Type of Deposit: Hardrock Placer In-stream Other (specify)

8. Nature of activity: Exploratory Mining X
   Expansion of existing X
   New Mine
   Reopening historic mine
   not presently in operation

9. Assessor’s Parcel Number(s): 38-370-09; 38-380-2,3,5,12
    See Location Map page 3.
Section 25 Township 16 North Range 9 East

10. Total surface acreage of the property: 170 +
    Surface acreage included in this application: 90 +
    Subsurface acreage included in this application: 20 (approx) of sand and gravel

11. Signature of at least one of the mineral rights owners, or a copy of the appropriate agreements.

   [Signature]
   Date 12/10/90

12. Applicant's Statement of Responsibility
    By submittal of this application, the applicant does hereby accept the responsibility to operate and reclaim the proposed project consistent with the conditions of approval imposed by the County on the Reclamation Plan and Use Permit. Provided, however, applicant reserves the right to withdraw this application at any point in the event that conditions or restrictions are proposed that are unacceptable to the applicant.

   [Signature]
   Date 12/10/90

Bill Goss
Printed Name

FOR OFFICE USE ONLY:
APPLICATION NUMBER: SUPervisoriaL DISTRICT:
DATE FILED: RECEIPT NUMBER:
PRESENT ZONING: G.P. CLASSIFICATION:
RECEIVED BY:
NEVADA COUNTY
MINERAL EXPLORATION AND/OR EXTRACTION
ENVIRONMENTAL ASSESSMENT

FILE NUMBER:
APPLICANT: Hansen Bros. Enterprises
CONTACT PERSON: Bill Goss
MINING: X

PHONE NUMBER: (916) 273-2075
PHONE NUMBER: (916) 273-3381
EXPLORATION:

NOTE: The environmental assessment provides information required for
the processing of your application. Incorrect or incomplete
information may cause a delay in processing. This form should
be completed by the applicant, or his/her authorized
representative. It may be reproduced by the applicant in
order to provide expanded responses. Appropriate exhibits
should be submitted to supplement written descriptions and
responses.

A. EXISTING CONDITIONS:

1. Describe the existing natural features of the subject
property, including topography, vegetation, drainages, year
round streams, bodies of water. (Attach exhibits)
See Hansen Bros. Exhibit Map Page 5
The gravel deposit to be removed is in a canyon and is
shown by a dotted pattern on the Hansen Brothers property
along Greenhorn Creek on the map titled: Hansen Brother.
Exhibit Map Upper Greenhorn Area. Topography is also shown
on the map.
The map shows surrounding land which is characterized by
pines, oaks and brush.
Hansen Bros. has applied to the State for Classification of
this deposit in its entirety as an MRZ-2 area (Mineral
Resource Zone with significant deposit). They have also
secured ME (Mineral Extraction) zoning from Nevada County.
This zone is intended to identify the deposit and give
notice that the property may be subject to mining.

2. Describe the existing man-made features of the subject
property, including buildings, roads, wells, septic
systems. (Attach exhibits).
Environmental Assessment for Mining Use Permit

There are no man made features on the property with the single exception of Red Dog Road, which crosses via a ford of the creek at the northern tip of the site.

3. Describe surrounding land uses and distances within the vicinity of the subject property, distances of the surrounding land uses and environmental character of the surroundings.

The gravel deposit in Section 25 T15N, R9E is in the bottom of a stream canyon with steep, mostly heavily wooded sides rising ± 200' to flatter ridge tops. Roadways have been cut along these ridges to provide access for a number of potential building sites on parcels of land that have already been created around the deposit (see Air Photo in Pocket Page 7).

Assessor's records do not show any houses occupying parcels within 1000' of the gravel deposit, but a field review found one occupied mobilehome and one snow damaged unoccupied mobilehome in this area. Outside the 1000' zone eight or ten homes/mobilehomes lie within a half-mile (see Exhibit Map herein).

Fortunately, County zoning precludes further subdivision of the surrounding parcels. Thus increased urbanization through subdivision of the area is not contemplated here.

In the discussion that follows it will be helpful to talk about existing and potential surrounding uses in the context of planning regulations and policies now in effect on properties adjoining recognized mineral deposits.

The Mineral Management Element (MME) of the County General Plan, recently adopted by the Board of Supervisors, contains numerous policies designed to indicate the importance of mineral deposits and the need to protect them from urban encroachment so they can continue to supply the minerals (in this case: aggregates) needed by the citizens of the County far into the future.

At the same time a corollary amendment was approved in the Noise Element of the General Plan requiring mining operations to comply with noise standards on properties having existing (as opposed to potential) sensitive uses such as houses.

Mining operations must also comply with County noise standards in connection with future housing, but as we will see below the County is required to control the location of all new housing to be located on or adjacent to property that is zoned for mineral extraction. This represents a new, but important role for the planning staff.
In recognition of the gravel deposit on the Hansen Bros. property in Section 25 and in keeping with MME policy the Board has approved it for ME zoning.

One of the policies of the MME requires new housing within 1000' of any Mineral Extraction or ME zone to be located "as far removed from the area zoned 'ME' as is reasonably possible". The 1000' rule affects 26 parcels around the gravel deposit in Section 25.

The planning staff will be the agency administering this policy. The staff regularly requires site plans for each permitted use. In most cases the review is fairly simple, confined to meeting yard and height limit requirements, and the proposal is routed to the building department for processing.

When a parcel abuts an ME zone, however, the review will be concerned with additional factors pertaining to the mining (or potential mining) operation. It will, no doubt, be the responsibility of the mine operator to supply staff members with as much information as they need to make appropriate decisions concerning dwelling locations within the 1000' buffer strip. In the case of this use permit information concerning slopes around the deposit and on adjoining properties, soils, ownership boundaries, cross sections and a noise study is a part of the submittal (see Appendix).

The noise study outlines a specific method of harvesting aggregate in Section 25. The system to be used initially calls for a series of passes by single paddlewheel scrapers and indicates noise levels at unoccupied building sites on surrounding parcels. It also lists alternative equipment that could do the work of aggregate removal while emitting noise levels equal to or less than the scrapers. The study shows that: if aggregate is harvested as proposed in this use permit, a location can be found for a house on each of the adjoining parcels that conforms to the Noise Element and the goals of the MME. That is, noise of the mining operation heard at a building site approved by the planning staff (located out of sensitive areas) will not exceed County standards.

Topography of the gravel site and its contiguous area is in large measure responsible for the solutions referenced above.

Reduction of mining vs residential conflicts are further enhanced by the Open Space section of the zoning ordinance (Sec. L-II 3.28 et seq.). This section designates land that slopes more than 30% as environmentally sensitive and requires that it be kept in its natural state. The slopes
Environmental Assessment for Mining Use Permit

...abutting the gravel deposit in Sec. 25 are over 30%. This phenomenon, plus the 1000' rule prevents housing from locating too close to the mining operation.

Soils in this area testify to the wisdom of the 30% requirement (see Soils Characteristics Map page 10). According to the Nevada County Soil Survey the West side-slopes of Greenhorn Creek are composed of thin soils that are good for timber crops but not for roads, driveways grading or other activities associated with residential occupancy. On the East side of Greenhorn soil depths are too variable to classify but recommended limitations on roads and equipment use still prevails due to the steep canyon sidewalls.

All of the soils here except Tailings and Placer Diggings are suitable for growing timber and have high Site Indexes. The natural vegetation here accounts for much of the noise attenuation calculated (and measured) at potential building sites along the ridge tops but out of direct line of sight of harvesting areas.

All of the soils in the area are suited in one way or another to the needs of wildlife according to the Soils Study. The harvest operation and reclamation will follow guidelines set by the State Department of Fish and Game (DFG). This will maintain wildlife values in the area.

The gravel harvest will take place only in the Pr (Placer Diggings) soils zone. Stream setbacks and protection of riparian habitat singled out by DFG will be observed. (see Exhibit Map).
SOILS CHARACTERISTICS

LEGEND:

- Depth 1-2.5' to bedrock - trees growth good, road block difficult
- Depth 1.5-5' to bedrock - trees growth good, road block difficult
- Depth 3.5-6' road block easy

DATE PREPARED: 4-9-30

WESTERN PLANNING AND ENGINEERING
11880 KEMPER RD., SUITE 3
AUBURN, CA 95609
(916) 823-6917
Environmental Assessment for Mining Use Permit Application

B. PROJECT FEATURES:

1. Mineral(s) to be explored and/or mined: Sand, gravel, precious metals if any.

2a. Mining method(s)
   a. Check all applicable

   ___ Open Pit
   ___ Hilltop Quarry
   ___ Sidehill Quarry
   ___ Low Level Quarry
   ___ Gravel/Sand Pit
   ___ Gravel Bar Skimming
   ___ Clay Pit
   ___ Borrow Pit
   ___ Single Bench*
   ___ Multiple Bench*
   ___ Underground
   ___ Mechanical excavation/ harvesting (See below)
     Drill and blast
   ___ Shovel
   ___ Dragline
   ___ Waste Dump
   ___ Tailing Ponds
   ___ Truck to Processing Plant
   ___ Conveyer to Processing Plant
   ___ Rail Transport
   ___ Slurry Pipelines
   ___ Other: Scraper haul to processing Plant; Loader, excavator; Dozer.

2b. Exploration method(s)
   b. Check all applicable

   1) Test Trenches
      ___ backhoe
      ___ tractor
      ___ other (specify)

   2) Drilling
      ___ rotary
      ___ core
      ___ wagon drill
      ___ other (specify)

   3. Seismic
      ___ explosives
      ___ non-explosives

4. Dredging
5. Sluicing
6. Other (specify)

   Estimate total sample (volume in tons and cubic yards.)
   Depth of sampling:

3. Describe the mineral recovery or exploratory process (type of chemicals, method, size and type of crushing equipment, etc.)

   Mineral recovery will be accomplished by paddle wheel scrapers; or as an alternate a loader and trucks or other equipment specified in item 2a. No processing equipment will be used in Section 25.

4. If processing of ore or concentrate is done on-site, describe the treatment process (type of chemicals, method, size, and type of equipment). If not, explain where processing will take place and method of transport.
Environmental Assessment for Mining Use Permit Application

No processing in Section 25. Processing takes place at an existing plant downstream in Section 2, Township 15 North, Range 9 East, M.D.B. & M. Haul will be as outlined in No. 3 above.

5. Is the proposal on an existing and/or historic mine site?  
   X Yes ___ No If yes, describe briefly (specify existing, historic, or both.) Property has been mined (mining claims).

6. Geologic description, including general geologic setting, with more detailed geologic description of the mineral deposit to be explored or mined, and principal minerals or rock types present.

The deposit is best characterized by the attached soils map (page 26) and by the soils information in the appendix. No excavation of the geologic structure of the canyon is contemplated.

7. Will there be any potentially hazardous materials, such as toxic substances, flammables, or explosives used or stored at the site?  
   ___ Yes  X No If yes, describe the method of use, storage and disposal

8. Estimated number of employees:
   Exploration Phase ______  Construction Phase ______  Mine Operation Phase(s) 1. ______
   Reclamation Phase ______

9. Estimated Time Frames
   Exploration Begin N.A.          End
   Construction ______   N.A. ______
   Mine Operation ______   A.S.A.P.  When deposit is depleted*
   Reclamation ______   When deposit is depleted*

For seasonal operation, list operating months ______

10a. Mine Operation Time Periods In Section 25

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>OPERATING HOURS</th>
<th>DAYS OF THE WEEK</th>
<th>TOTAL LENGTH</th>
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</thead>
<tbody>
<tr>
<td>Mine Construction</td>
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</tr>
<tr>
<td>Blasting</td>
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<tr>
<td>Overburden removal</td>
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<td></td>
<td></td>
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<tr>
<td>Off-site hauling</td>
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<td></td>
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<tr>
<td>Ore extraction</td>
<td></td>
<td></td>
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<tr>
<td>Crushing/processing</td>
<td>7 AM to 6 PM</td>
<td>M-F sometimes</td>
<td></td>
</tr>
<tr>
<td>Reclamation</td>
<td></td>
<td>Saturday</td>
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</tr>
<tr>
<td>Other (specify)</td>
<td>Maintenance of Egpt. could occur any time</td>
<td></td>
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</tbody>
</table>

10b. Exploration activities: N.A.
   Operating hours ______

12
Environmental Assessment for Mining Use Permit Application

Days of the week
Length of operation

* Minimum time: 60-100 years.

11. Anticipated annual production (include all mined materials such as overburden, waste rock, ore, etc.)

200,000 to 600,000 tons/yr. depending on market (these figures refer to the entire operation at Greenhorn Creek, not just Section 25 and they could vary substantially).

12. Total life cycle production
A. Mine waste returned to pit or harvest area
   None tons or yd.³
B. Aggregate/crushed rock to off-site uses
   N.A. tons or yd.³
C. Fill material imported for on-site disposal
   None tons or yd.³
D. Mine waste disposed off-site
   None tons or yd.³
E. Total volume of material to be explored
   N.A. tons or yd.³
F. What is ration of tons: yd.³ of material being mined? 1.4-1.8 tons/cubic yard

13. Ground Water
A. Ground water depth:
   0-40 feet
B. Maximum shaft/tunnel/pit depth:
   N.A. feet
C. Estimated daily/annual quantity of water pumped for de-watering
   None gallons

14. Maximum amount of surface disturbance, including drill pads, trenching, access roads, etc.
   90 acres

15. If the nature of the deposit and the exploration and/or mining method used will permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation, and include proposed time schedule for such concurrent activities. If the nature of the deposit and/or mining method does not allow concurrent (annual) reclamation explain why.

Final reclamation will not take place until nearly all the gravel is gone, including the upstream replenishment deposit. In the interim, as the level of the gravel in the canyon drops after 10 or 20 years and exposes canyon walls, we expect natural seeding will revegetate these exposed areas. If it does not we will initiate planting of appropriate species.

16. Describe the ultimate physical condition of the site and specify proposed use(s), or potential uses, of the mined lands as reclaimed.
The ultimate condition will be a natural streambed with riparian plants along the edges of the stream and other species further back out of the area of frequent (5-10 yrs.) flooding.

C. ENVIRONMENTAL IMPACTS:

1. **Land**
   a. How may cubic yards will be moved or removed?  
      3 million, plus material carried downstream by storms
   
   b. Will the project result in the destruction, covering or modification of any unique geological and/or physical features such as unstable soils or historical faults?  
      Yes ___ No X *  If so, what protective measures are anticipated?
      
      * Underlying bedrock is a Paleozoic Marine meta-sediment according to Chico Sheet Geologic Map. Steep slopes of the canyon walls abutting the deposit testify to its stability.
   
   c. Will the project result in increased erosion from wind or water, on-site or off-site?  
      Yes ___ No X *  If yes, what protective measures are anticipated?
      
      * The project consists of removal of a product of erosion that came from an old riverbed upstream.
   
   d. Will the project expose the people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failures, or similar hazards?  
      Yes ___ No X
   
   e. Will the project result in the loss of agricultural lands?  
      Yes ___ No X
   
   f. Is all or a portion of this property subject to a Williamson Land Act contract (i.e., an agricultural preserve)?  
      Yes ___ No X
   
   g. Is all or a portion of this property zoned TPZ?  
      Yes ___ No X

2. **WATER:**

   a. Will the project result in any stream alteration?  
      Yes X  No ___
Environmental Assessment for Mining Use Permit Application

For operations occurring within or adjacent to a seasonal or permanent stream, river or other body of water, describe actions being taken to protect water quality and wildlife habitat. The project consists of harvesting aggregate by mechanical means. No work is done in the water. Gravel is hauled downstream off-site to an existing plant.

b. Will there be any increased run-off?
   Yes ___ No X Explain

c. Will there be any discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? If yes, explain. Yes ___ No X

d. Will there be any septic tank installation, sedimentation or potential chemical contamination? Indicate amount of effluent which may be generated. Percolation tests should be provided. If yes, explain. Yes ___ No X

e. Industrial water requirements:
   Amount required per day None
   Will water be recirculated for re-use? Yes ___ No X

f. Will there be any changes in the quantity of ground waters, either through direct additions or withdrawals, or through interception of any acquifer by cuts or excavations? Yes ___ No X

g. Will there be a substantial reduction in the amount of water otherwise available for public water supplies? Yes ___ No X

h. Will the project expose people or property to water-related hazards such as flooding or ground slippage? Yes ___ No X

i. Will there be any significant changes in temperature, flow, or chemical content of surface thermal springs? Yes ___ No X

3. AIR AND NOISE

a. Will there be any changes in air movement, temperature, dust, ash, smoke, fumes or odor as a result of the project? Yes X No ___ If so, explain.
Environmental Assessment for Mining Use Permit Application

Dust could emanate from the project but it is not likely. The really fine particles (clays) have been carried by stream action into Rollins Lake and beyond. Excavated material is also slightly damp on occasion.

b. Method of dust control (specify water or chemicals to be used and frequency of application).

If dust control is ever needed a water truck will be used to keep haul road surfaces wet. Water for dust control could be from 10,000–20,000 gpd.

c. Will the project result in a change in existing noise or vibration (due to blasting or use of heavy earth moving or breaking equipment) levels in the vicinity? Yes X No ___

Mechanical equipment will be used to harvest gravel in Section 25 and haul it to the plant. Trip turnaround time for each piece of equipment is about 10 min. at the South end of Section 25 and longer at the North end.

d. What type of noise will be created by the project both during and after construction?

The noise of mechanical equipment will be heard during harvesting of the sand/gravel from 7 AM to 6 PM with a 1/2 hr. off for lunch.

e. Determine average noise levels (leq)* at any sensitive receptor for three time periods: Day (7 a.m. to 7 p.m.). Evening (7 p.m. to 10 p.m.), and Night (10 p.m. to 7 a.m.) in dBA.

Exploratory N.A. Mining See report in appendix
Noise at sensitive receptor location A
(See appendix for noise at other receptors).

<table>
<thead>
<tr>
<th></th>
<th>Existing (Pre-Project)</th>
<th>Construction</th>
<th>Site 2</th>
<th>Reclamation</th>
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</thead>
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<tr>
<td></td>
<td>37 (m) dBA</td>
<td>N.A. (m) dBA</td>
<td>82 (m) dBA</td>
<td>52 (m) dBA</td>
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<tr>
<td></td>
<td>(e) dBA</td>
<td>N.A. (e) dBA</td>
<td>(e) dBA</td>
<td>(e) dBA</td>
</tr>
<tr>
<td>Evening</td>
<td>37 (e) dBA</td>
<td>N.A. (m) dBA</td>
<td>37 (m) dBA</td>
<td>37 (m) dBA</td>
</tr>
<tr>
<td></td>
<td>(e) dBA</td>
<td>N.A. (e) dBA</td>
<td>(e) dBA</td>
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<tr>
<td>Night</td>
<td>37 (m) dBA</td>
<td>N.A. (m) dBA</td>
<td>37 (m) dBA</td>
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<tr>
<td></td>
<td>(e) dBA</td>
<td>N.A. (e) dBA</td>
<td>(e) dBA</td>
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<tr>
<td>Weekend/ Holidays</td>
<td>50 (em) dBA</td>
<td>N.A. (m) dBA</td>
<td>37 (m) dBA</td>
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<tr>
<td></td>
<td></td>
<td>N.A. (e) dBA</td>
<td>(e) dBA</td>
<td>(e) dBA</td>
</tr>
</tbody>
</table>

m = measured  e = estimated  em = est. motorcycles

* Leq is the sound level corresponding to a steady-state (A-weighted) sound level containing the same total energy as a time-varying signal over a given sample period. Leq is typically computed over 1, 12, or 24 hour sample periods.

If the exploration and/or mine activity will have mobile on-site equipment, noise levels should be provided for them as well. Noise levels along the major haul route are also required if the activity will result in heavy truck hauling beyond the construction phase. Provide additional support data and exhibiting as needed. Traffic on the haul route is independent of the gravel harvest in Sec. 25. Haul route traffic is totally market-dependent. Mining in Section 25 will allow harvest of larger stones and permit continuation of the operation in the event that storms cease for a long period (as they have in the recent past) to a point where it becomes necessary to harvest gravel further upstream from the plant.

f. What is the distance and location of to the nearest receptor? A mobilehome is 575’ away (see Exhibit Map or Appendix for existing and potential receptor locations).

4. PLANTS AND ANIMALS:

a. Will there, as a result of the project, be any changes in the species, or the number of species of plants or animals?
Yes ___  No X ___ There is little vegetative cover in the area where the gravel will be removed. The Department of Fish and Game has suggested certain stream setbacks and retention of specific areas of riparian vegetation to maintain wildlife values. These areas are shown on the harvest plan.

b. Will the project result in the loss of, or a reduction in any unique, rare or endangered species of plants or animals including their habitat? Yes ___  No X ___

c. Will new species be introduced into the area, or will the project result in a barrier to the normal replenishment of existing species of plants or animals? Yes ___  No X ___

d. Describe any actions being taken during the project and as part of the reclamation process that will enhance/protect wildlife habitat.

As stated in item 16 b of the Environmental Assessment: "We expect native vegetation will cover the area where the bulk of the gravel is removed. An average of 18" of gravel will be left in place when bedrock is reached. It will lie in pockets in the bedrock where it will be somewhat protected from storm flows. We expect natural seeding to revegetate these exposed areas. If it does not we will initiate planting of appropriate species."

5. LIGHT AND GLARE:

a. Will the proposed project produce new light and glare? Yes ___  No X ___ No night time operations are planned in Section 25.

6. LAND USE:

a. Might the project conflict with existing land uses including recreational, educational, religious or scientific? Yes X ___ No To the best of our knowledge there is only one mobilehome and possibly one house that could view the operation (see Exhibit Map). Other building sites around the area are undeveloped. The County has recently approved NE Zoning to protect this deposit and has adopted a Mineral Management Element to the General Plan.

These steps were taken to reduce conflicts between mining and noise sensitive uses. A full discussion of the method the county has chosen to remove conflicts with reference to this particular site was previously covered in item 3 herein.

b. In what way will the project cause change in the land use pattern, scale, or character of the general area?
Environmental Assessment for Mining Use Permit Application

This property is zoned FR-40-ME (Forest & Recreation - 40 Acre minimum building site); surrounding properties are similarly zoned: TP3 (Timber Preserve) and FR-40. This is low density zoning and it was placed on the area in conformity with the County General Plan for several reasons: protection of mineral and forest resources; maintaining a low dwelling intensity in keeping with the lack of capacity in the roadway access system and preservation of the many steep wooded slopes associated with local terrain. These factors plus the General Plan are expected to limit land use changes.

c. Distance from the location of the nearest recognized named community.

Nevada City is about 6 miles away.

7. NATURAL RESOURCES:

a. Will the project result in the increase rate of use of any renewable or non-renewable natural resource? Yes ____ No ____ Which one(s)?

The rate of use of the resource, gravel, is determined exclusively by the market. The project will permit additional area to be harvested in the event storms over a period of years don’t bring a sufficient quantity of aggregate to the plant.

8. RISK OF UPSET:

a. Will the project involve a risk of explosion or the release of hazardous substances, including but not limited to oil, pesticides, herbicides, chemicals or radiation, in the event of accident or upset conditions, flammables or explosives? Yes ____ No ____ If so, explain.

A small amount of oil could be released if the oil pan under the engine fell off. This hasn’t ever happened because the equipment is constantly maintained. If it should happen the spill could be quickly cleaned up because loaders are available for this use.

b. Will the proposal result in possible interference with an emergency response plan or an emergency evacuation plan or will it result in improving such plans or capabilities? Yes ____ No ____ Neither ____

9. POPULATION:

a. Will the project have a growth-inducing effect on the community? Yes ____ No ____
Environmental Assessment for Mining Use Permit Application

b. Could the project alter the location, distribution or displacement of the human population of the area?  
Yes ___  No ___

c. How many new permanent residences will the project generate?  
None

10. HOUSING:

a. Will the proposal affect existing housing or create a demand for additional housing?  Yes ___  No ___

11. TRAFFIC/ROADS:

a. Describe the proposed access to the project:

___ Frontage on County/State Highway  
Name

___ Private Road Easement: width ___  length ___

X Other (explain)  No off-site road use is proposed.  
Haul will be by mechanical equipment down the gravel bars to the plant.

How many one-way trips * will the project generate:

1. per day?  120  
2. peak hour?  12-15  
3. per week?  720 max.  
4. on weekend days?  120 on some Saturdays, none Sundays

b. Will the project involve off-site hauling:  No off-site hauling.  This is done from the plant and is determined by the market not the harvest frequency in Sec 25.

1. exploration samples ___  4. ore ___
2. sand ___  5. waste ___
3. aggregate ___  6. Other ___

If yes, specify:

1. Number of one-way truck trips per day: N.A.

Peak ___  Average ___

2. Number of on-way truck trips per week:

Peak ___  Average ___

3. Number of on e-way truck trips on weekends:

Peak ___  Average ___

4. Hours of hauling activities
   a) weekdays
   b) weekends

5. Volume of material and daily and total amounts
   An estimated 4000 tons or more (depending on demand)
Environmental Assessment for Mining Use Permit Application

6. Size haul vehicles: As required by the operation, but in keeping with noise constraints

c. Will the project involve the transportation of off-site material to this site? Yes ___ No X
   1. Type of material and daily and total amounts: M.A.
   2. Number of one-way truck trips per day:
      Peak___ Average___
   3. Number of one-way truck trips per week:
      Peak___ Average___
   4. Number of one-way truck trips on weekends:
      Peak___ Average___

d. Describe existing and proposed on-site and off-site road improvements:
   1. On-site width
      height
      surface
      name
      Existing 20' sand/gravel
      Proposed 20' sand/gravel
   2. Off-site width
      height
      surface
      name

12. **PUBLIC SERVICES:**

Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:

a. Fire protection? Agency supplying protection: Yes ___ No X

b. CHP and Sheriff Department law enforcement protection:
   Yes ___ No X If so, explain.
   No new services needed.

c. Schools? Which school districts? Yes ___ No X

Distance from and location of nearest school and name of school.

Chicago Park Elementary School is 7 miles away (airline).

d. Federal, State, local or private parks, campgrounds or recreation facilities? Yes X No ___
   These agencies often require aggregate products.

   Distance from and location of nearest such facility and name.
Environmental Assessment for Mining Use Permit Application

Rollins Lake Recreation Area is 4 miles away. The Tahoe National Forest Boundary is 1/2 mile Northeast of the property.

e. Maintenance of public facilities including roads?
   Yes ☒ No ☐ Explain.
   It will have a positive effect on road maintenance because that activity requires aggregate products.

f. Social Services? Yes ☐ No ☒

g. Solid Waste Facilities. Yes ☐ No ☒
   Solid waste, lunch bags, oil cartridges, will be generated and disposed of at the plant; not in Section 25.

Method of trash and industrial waste disposal:
Mine operator hauling to landfill N.A.
Garbage service (specify which) N.A.
Destination N.A.

h. Medical Facilities: Yes ☒ No ☐ If so, explain.
   Since no new personnel are expected to be added as a result of the project, no additional need for medical facilities is seen.

i. Other Services Required:
   None

13. ENERGY:
a. Will the project result in a substantial increase in the demand upon existing sources of energy, or require the development of new sources of energy? Yes ☐ No ☒

b. Source of power:
   1. Public/Private utility company N.A.
   2. Generator (specify diesel or gas, size, quantity, etc.) None
   3. Other (explain) Diesel fuel will power the harvesting equipment. A gasoline powered pickup will drive through the area, occasionally.

14. UTILITIES:

Will the proposal result in a need for new systems, or substantial alterations to the following utilities?

a. Communication Systems? Yes ☐ No ☒

   Private well ☐ Water District (specify which) ☐
   Other: Water is available from a spring at the plant.

   ☐


22
Environmental Assessment for Mining Use Permit Application

Septic System ___ Other portable toilets are located at the plant

d. Describe storm water drainage system (use exhibit)
The gravel bar is the floor of the drainage system. Gravel harvest ceases when the area is inundated and will not recommence until its dry enough to get the equipment on it.

15. HUMAN HEALTH:

a. Will the project result in the creation of any health hazard or potential health hazard (excluding mental health)?
   Yes ___ No X

16. AESTHETICS:

a. How will the different project phases compare aesthetically with the surrounding area?

1. The project is in a remote area so the number of viewers are few to none. In this sense the river bed is not an important aesthetic resource.

2. The few viewers that will see the operation will not expect to see the harvest operation and it may prove offensive to them.

3. Viewers who live in the area will be educated to the concept that the sand/gravel deposit is a valuable building material in a location determined by Nature and that it will be harvested over many years with due regard to controlling noise and other offensive activities if any.

b. Will the project cause a change in scenic views from existing residential areas or public lands or roads?
   Yes X No ___ If so, describe in detail nature of change and duration.

   On a very very gradual basis (60-100+ yrs.) the gravel level in the river channel will be lowered a few feet. We expect native revegetation will cover the area where the deposit is removed since it will have an average of 18" of residuals of sand/gravel on the bedrock. If revegetation does not occur the area will be planted (See Reclamation Plan Map).

17. CULTURAL RESOURCES:

a. Are there any sites of historical, archaeological or paleontological interest on the subject property?
   Yes ___ No X Don't Know ___
Environmental Assessment for Mining Use Permit Application

b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure or object? Yes ___ No  

18. GENERAL:

a. As a result of the project, how many local people will be employed?
No more than those presently employed.

b. What effect will the project have on the local tax base?
It will help sustain the ability to keep up with the demand for sand and gravel products and maintain the flow of sales tax into County coffers.

c. What is the relationship of this project to a larger or future project?
Excavation of the 3 million cubic yards of gravel in Section 25 is not the whole project. An unknown amount of sand and gravel, as much as 100 million cubic yards, may lie above Section 25 and part of it will wash down into Section 25 during major storms like the one in February 1986. That gravel will be harvested, too.

d. Identify State or Federal agencies that require permits, leases, or licenses, and the type to be issued.

Department of Fish and Game: Stream Alteration
M.S.H.A.
Central Valley Water Quality Control Board: Waste Discharge
Northern Sierra Air Quality Management District: Authority to Construct.

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Signature of Applicant  

Date  

12/10/90
# RECLAMATION PLAN

1. **OWNER/OPERATOR/AGENT**  
   **Hansen Bros. Enterprises**  
   P.O. Box 1599, Grass Valley, CA 95945  
   (916) 273-3381

2. **NAME (if any) OF MINERAL PROPERTY**  
   **Greenhorn Mining Area Section 25, Township 16 North, Range 9 East, M.D.B. & M.**

3. **PROPERTY OWNER(S), OR OWNERS OF SURFACE RIGHTS (List all owners)**  
   **Hansen Bros. Ent. P.O. Box 1599 Grass Valley, (916) 273-3381**

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4. **OWNERS OF MINERAL RIGHTS**  
   **Hansen Bros. Ent. P.O. Box 1599 Grass Valley, (916) 273-3381**

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5. **LESSEE**
   **N.A.**

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6. **OPERATOR**  
   **Hansen Bros. Ent. P.O. Box 1599 Grass Valley, (916) 273-3381**

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7. **AGENT OF PROCESS (Person or company designated by operator as agent performing reclamation.)**
   **Same as # 1 above**

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Reclamation Plan

DESCRIPTION

8. Give a brief description of the extent of the mined lands to be involved in this operation. Include legal description and total acreage.

Legal Description: See Appendix
Acreage: 170
Assessors Parcels: AP # 38-370-09; 38-380-02, 3, 5, 12
Section(s) 25 Township 16 North Range 9 East

9. Describe the access route to the operation site

Route to site will be on a temporary road built on gravel bars from the plant to the site each year. The road currently serves mining in Section 2, Township 15 North, Range 9 East, and Section 36, Township 16 North, Range 9 East.

10. Attach Location and Vicinity Map (see Location Map page 3 and Exhibit Map page 5)

11. Mineral commodity to be mined sand, gravel and other minerals.

12. Geologic Description - Briefly describe general geologic setting, with more detailed geologic description of mineral deposit to be mined, and principal minerals or rock types present.

The deposit is best characterized by the soils map on the following page. Mining of bed rock is not contemplated at this location. Rock underlying the stream canyon is a meta-sediment according to the Chico Sheet Geology Map by the State Division of Mines. The engineering properties of the soils are summarized in the appendix.

13. Environmental Description - Briefly describe environment of site and surrounding area. Include existing area land use, soil, vegetation, ground water elevation, surface water characteristics, average annual rainfall and other factors pertaining to environmental impacts and their mitigation and reclamation.
Reclamation Plan

The gravel deposit lies in a stream canyon with steep fairly heavily wooded sides rising 200' to rounded ridge tops. To the best of our knowledge there is only one mobilehome nearly (see Exhibit Map for dwellings on other surrounding properties). The deposit is thought to be about 50' deep but no measurement below 25' have been taken on it. The deposit averages 400' in width and is about 6000' long on the Hansen Brothers property in Section 25.

Soils are shown on the soils map. There are at least eight soils types in the immediate area, but the only type of any consequence to the project is listed as "PR" or Placer Diggings. This is the name given to the gravel deposit in the stream bed.

Ground water elevation is usually from 0 to 5 feet below the surface of the gravel bar from which the sand/gravel is taken. In stormy periods of the winter the gravel bars are flooded and the harvesting of gravel is suspended until the water table subsides enough to allow heavy equipment to operate on them.

No measurements have been taken of surface water chemical/biologic characteristics. Since the operation doesn't operate in the water none are proposed to be taken. Rainfall in the watershed ranges between 50" - 100" annually. The flow down Greenhorn Creek during a 25 year storm at the South end of Section 25 is estimated at 1800 cubic feet per second. This storm would see water flowing about 1 + foot deep through the project area.
14. Proposed starting date of operation **as soon as the Use Permit is approved.**
Estimated life of operation: **Depends on market.**
Duration of first phase **project is not phased.**
Was the mine in operation continuously since January 1, 1976?
No* If yes, provide proper demonstration

Is this a new mine? Yes ___ No X
Is this an expansion of an existing mine? Yes X No ___
Is this continued mining of lands previously mined? Yes X No ___

*This permit is for the extension of an existing operation that began in 1971 Terex.*

Mining on this deposit began in 1878. It has been continuously mined since then. Hansen Bros. Enterprises started acquisition of the property in 1973.

15. Operation will be **seasonal X intermittent X**
If seasonal or intermittent, explain in more detail

The operation in Section 25 will be active when winter storm flows have subsided sufficiently to allow heavy equipment to harvest gravel on the sandbars.

16. Operation will be
   under 5,000 tons (cubic yards)/year ___
   5,000-50,000 tons (cubic yards)/year ___
   50,000-250,000 tons (cubic yards)/year X depends on market
   250,000-1,000,000 tons (cubic yards)/year X on market
   over 1,000,000 tons (cubic yards)/year ___

17. Total anticipated production
   Mineral commodities to be removed: 3 million cubic yards plus material washed down from upstream (see 18c)
   Waste retained on-site 0 (tons) (cubic yards)
   Waste disposed of off-site 0 (tons) (cubic yards)
   Maximum anticipated depth 50 feet.
18. Mining Method (check all applicable)

- [ ] Open Pit
- [ ] Drill & Blast
- [ ] Hilltop
- [ ] Low Level
- [ ] Borrow Pit
- [ ] Rail
- [X] Multiple Bench
- [ ] Shovel
- [X] Gravel Bar Skimming
- [ ] Waste Dump
- [X] Other (see below)

- [ ] Gravel/Sand Pit
- [X] Single Bench
- [ ] Quarry
- [ ] Sidehill
- [ ] Underground
- [ ] Tailings Pond
- [X] Truck to Processing Plan (optional)
- [X] Conveyer to Processing Plant
- [ ] Dragline
- [ ] Clay Pit
- [X] Slurry Pump
- [X] Use Scrapers to load gravel and haul it off-site to the plant.

19. If processing of mined ores or minerals is to be conducted at, or adjacent to, the site, describe briefly the nature of the processing and explain disposal method of tailings or waste from processing.

Processing will be off-site at an existing plant.

20. Estimate quantity (gallons per day) and quality of water required by the proposed operation, specifying proposed sources of this water; method of its conveyance to the site; quantity and quality of used and/or surplus water; and disposal of used and/or surplus water.

On-site in Section 25: None, unless it becomes necessary to use it to control dust. In this case up to 20,000 gallons per day could be used.

21. If the nature of the deposit and the mining method used permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation. Include a proposed time schedule for such concurrent activities.

Reclamation (revegetation) presently takes place naturally below section 25 as the gravel is removed and bedrock is reached. Occasionaly, however, large parts of the upstream deposit cover over or scour out reclaimed areas and the process begins again. The same process is expected to occur in Sec. 25. As the level of the gravel in the canyon drops after 10 or 20 years and exposes canyon walls, we expect natural seeding will revegetate those exposed areas. If it does not we will initiate planting of native species above the approximate line of the 25 year storm event.

22. Attach map of the mined lands and/or suitable aerial photographs and/or topographic maps showing:

A. Boundaries and topographic details of the site.
Reclamation Plan

B. Location of all streams, roads, railroads, water wells, and utility facilities within 500 feet of the site.
C. Location of all currently proposed access roads to be constructed in conducting the surface mining operation(s).
D. Location of areas to be mined, and of waste dump and tailings pond.
E. By use of color symbol or overlay, depiction of separate mining phases if applicable (see Item 21).
F. The source of map base, orientation (north arrow), and scale (e.g., 1"=500') of the map.

The foregoing information, where applicable, is shown on the Exhibit Map (Page 5) and Air Photo (Page 7).

23. Indicate an overlay map of Item 22, or by color symbol on map, those areas to be covered by the reclamation plan.
   See Reclamation Plan Page 31. Size of area to be reclaimed is 90 acres.

24. Describe the ultimate condition of the site and specify proposed use(s) or potential use(s), of the mined lands as reclaimed. If future mining is designated as the future use, explain essential reclamation features that will stabilize slopes, slopes drainage ways, vegetation and waterways.
   See Reclamation Plan (Page 31), and Cross Section (Page 32)

The ultimate condition if the site is shown on the map entitled Reclamation Plan, Section 25, Township 16 North, Range 9 East, Hansen Brothers. It shows the present area of the gravel deposit:

a) Fringed with undisturbed upland vegetation
b) Covered with residual natural sand/gravel
c) Plants in the latter area will be those that were produced through natural seeding or those which were planted to augment natural seeding. Planting will be made in conformity with Nevada County, DFG and Conservation District Requirements.

Proposed use of the mined area will be for watershed and possibly limited recreational uses associated with the stream.
LEGEND:

EXISTING UPLAND VEGETATION TO REMAIN UNDISTURBED.

THRESHOLD OF STREAM DURING 50% STORM (ESTIMATED).

RIPARIAN VEGETATION INCLUDES PLANTED AND NATURAL SEEDING ON APPROXIMATELY 15% OF RESIDUAL SAND/GRAVEL.

EXISTING CONTOURS AT 40' INTERVAL (TAKEN FROM U.S.G.S. QUADRANGLE).

RECLAMATION PLAN

SECTION 25, T.16N., R.9E.

HANSEN BROTHERS

DATE PREPARED: 5/16/89

SCALE: 1" = 400'
LEGEND:

A. Zone of undisturbed upland vegetation
B. Zone of humo upland and riparian vegetation from natural reseeding or planting if required.
C. 25 yr. storm zone vegetation will consist of natural revegetation of riparian species on all areas above low 25 yr. flow planting will be assisted if required.

NOTES:

1. Ground slopes in area "B" are actually estimated and plotted at 25-35%.
2. Shape of channel bottom inferred from similar areas where gravel has been excavated.

DATE PREPARED: 5/16/89
Reclamation Plan

25. Describe the relationship of the interim uses, other than mining, and the ultimate physical condition to:
   A. Zoning regulations
   B. General Plan and Plan Elements

25. A. RELATIONSHIP OF ULTIMATE PHYSICAL CONDITION TO ZONING REGULATIONS

   The property is in an FR-40 zoning classification. The following is proposed as a list of potential compatible uses permitted in the A-1 District, according to the Nevada County Zoning Ordinances:
   A. Churches
   B. Crop and tree farming.
   C. Fire Stations
   D. Forest stations, including tourist and information centers
   E. Golf courses and country clubs (except a driving range will require a conditional use permit).
   F. Grazing
   G. Picnic areas
   H. Public and private parks and playgrounds
   I. Public and private schools
   J. Riding and hiking trails, stables and corrals
   K. Single-family dwelling
   L. Ski tow facilities

Uses Subject to a Conditional Use Permit:

   A. Campgrounds, public
   B. Development and processing of natural resources, including mines, lumber mills, rock crushers, agricultural processing and stands for the sale of products produced on the premises
   C. Golf driving range
   D. Housing, when established as a dwelling group, provided it does not exceed the density allowed in Sec. L-II 19.2 and L-II 19.7 (1 unit per 10 acres)
   E. Public utility buildings and structures
   F. Religious retreats and organizational camps
   G. Buildings or structures in excess of height limitations
   H. Private Kennel
   I. Any use allowed in the district with 20,000 sq. ft. of gross floor area or more
   J. Cottage housing per Section L-II 3.33.A.
   K. Communications broadcasting and transmitting towers
   L. Woodyards, subject to environmental review
   M. Second unit housing units pursuant to Sec. L-II 3.33.B.
   N. Electrical substations and electrical lines pursuant to the provisions of Sec. L-II 3.39
   O. Power Plants
   P. Private, non-commercial bio-mass, co-generation, and small hydroelectric power plants.
Reclamation Plan

None of the foregoing uses, except parks, would be appropriate for the area because most of it will probably be in a flood plain. The principal future use: Watershed.

25. B. RELATIONSHIP OF THE ULTIMATE PHYSICAL CONDITION TO GENERAL PLAN AND GENERAL PLAN ELEMENTS.

The Land Use element of the General Plan indicates this area as an Existing and Potentially Important Mineral Area. The south half is also in a "Rural Low Density" area requiring 30-40 acres per residence. This category is compatible with mineral extraction. The north half is in a "forest" category requiring 40 ± acre per dwelling. This is also a compatible designation.

The Circulation Element (streets, highways, etc.) shows Red Dog Road as a "Minor Collector" through the property.

As the level of gravel is lowered under this road by mining the top surface the creek channel will probably become narrower. This would cause a slight increase in the depth of the storm flows. At present the Red Dog Crossing of Greenhorn Creek is a ford. Vehicles now must wait until storm flows subside before crossing the stream. This process will continue unchanged after Reclamation. The effect of a narrower channel, however, with deeper flows will result in a small but unknown amount of additional delay after a storm before vehicles could safely cross the stream.

The Mineral Management Element (MME) of the County General Plan, recently adopted by the Board of Supervisors, contains numerous policies designed to indicate the importance of mineral deposits and the need to protect them from urban encroachment so they can continue to supply the minerals (in this case: aggregates) needed by the citizens of the County. This property was recently zoned ME (Mineral Extraction) as prescribed in the MME for properties containing important mineral deposits. This permit is a derivative of the policies of the MME.

At the same time as the MME was adopted a corollary amendment was approved in the Noise Element of the General Plan requiring mining operations to comply with noise standards on properties having existing (as opposed to potential) sensitive uses such as houses.

Mining operations must also comply with County noise standards in connection with future housing, but the County is required to control the location of all new housing to be located on or adjacent to property that is zoned for mineral extraction.

One of the policies of the MME requires new housing within 1000' of any Mineral Extraction or ME zone to be located "as far removed from the area zoned 'ME' as is reasonably
Reclamation Plan

possible". The 1000' rule affects 26 parcels around the gravel deposit in Section 25. It will be administered by the staff.

It is the responsibility of the mine operator, however, to supply staff members with as much information as they need to make appropriate decisions concerning dwelling locations within the 1000' buffer strip. In the case of this use permit information concerning slopes around the deposit and on adjoining properties, soils, ownership boundaries, cross sections and a noise study is a part of the submittal (see Appendix).

The noise study shows that: if aggregate is harvested as proposed in this use permit, a location can be found for a house on each of the adjoining parcels that conforms to the Noise Element and the goals of the MME. That is, noise of the mining operation heard at a building site approved by the planning staff (located out of sensitive areas) will not exceed County standards.

The County's Conservation Plan contains a statement indicating the wisdom of protecting mineral deposits from residential intrusion.

The Seismic Safety Element of the General Plan indicates faults in this area to be older than two million years. The Chico Sheet of the Geologic Map of California by the Division of Mines shows a fault in the vicinity of the plant about a mile south of the project. A maximum intensity of an earthquake expected in this area is a VII on the Modified Mercalli Scale (see appendix).

Since no buildings are involved in the operation, and because it is not labor intensive, the operators do not regard local faulting or the potential for earthquakes as a problem. No other General Plan element appears to affect the mining or Reclamation Plan proposed herein.

26. Provide evidence that all owners of a possessory interest in the land have been notified of the proposed use(s) or potential uses identified in Item 24. Attach copy of notarized statement of acknowledgment, etc. (See next page)
Nevada County Planning Department
950 Maidue Avenue
P.O. Box 6100
Nevada City, California  95959

To Whom It May Concern:

We, the undersigned, acknowledge that we are owners of the surface and mineral rights and have been duly notified of the proposed uses or potential uses identified in the Reclamation Plan and Use Permit submitted by Hansen Bros. Enterprises; for the property identified as AP # 38-380-02,3.5 and 12; 38-370-09 in the Upper Greenhorn Mining Area; being a portion of Section 25, Township 16 North, Range 9 East MDB&K.

Signature

[Signature]

Hansen Bros. Ent.
Reclamation Plan

27. Describe Soil Conditions and Proposed Soil Salvage Plan

Soil, as such, does not exist in the material to be mined (sand and gravel). What little there is is isolated, very thin (0"-8") and was deposited in two side canyons. It will be excavated along with the sand/gravel and sent to the plant for processing and sale.

Placer Diggings "soils" will be left where they are in low spots below the bedrock contour in areas protected from stream erosion. These "soils" will also be left where they are needed for bank protection alongside roads and watercourses (see Recreation Plan Map).

28. Describe methods, sequence, and timing for bringing reclamation of the land to its end state. Indicate on map (Items 22-23) or on diagrams as necessary. Include discussion of the following items:

A. Backfilling and grading
B. Stabilization of slopes
C. Stabilization of permanent waste dumps, tailings, etc.
D. Rehabilitation of pre-mining drainage
E. Removal, disposal or utilization of residual equipment, structures refuse, etc.
F. Control of contaminants, especially with regard to surface runoff and ground water
G. Treatment of streambeds and streambanks to control erosion and sedimentation
H. Removal or minimization of residual hazards
I. Resoiling and revegetation, with evidence that selected plants can survive the specific topography, soil, and climate of the site.

RESPONSE TO ITEM 28: METHODS, SEQUENCE, AND TIMING FOR BRINGING RECLAMATION OF LAND TO ITS END STATE.

A. Backfilling and Grading

No soil salvage or backfilling is contemplated. Aggregate excavation, including that which washes down from upstream, will be stopped when it is down to bedrock. The residual sand/gravel will be graded to a smooth contour and left.

B. Stabilization of slopes

Final slope of the streambed under the gravel is unknown because the bedrock contour has not been explored. We believe it will follow the pattern shown on the Reclamation Plan cross section and will have maximum slope under 35%. This is also
Reclamation Plan

approximately equal to the "angle of repose" of the sand/gravel to be left on it. If canyon walls under the deposit are less than 35% no stabilization other than natural revegetation is planned. Sand and gravel will be left against slopes that turn out to be steeper than 35%.

If natural seeding doesn’t proceed as rapidly as the Department of Fish and Game, or Nevada County, feels it should it will be augmented by Hansen Brothers.

C. Stabilization of Permanent Waste Dumps

There will be no waste dump on Section 25.

D. Rehabilitation of Pre-Mining Drainages

The pre-mining drainage system of the main channel is clogged with sand and gravel transported to the site from upstream deposits by the erosive force of storm runoff. The mining is for the purpose of removing this sand and gravel. Rehabilitation of the post mining drainage channel will be to leave a certain amount of gravel in it as explained in the preceding section on Slope Stabilization.

During mining tributary streams in Arkansas Canyon and the North Bend area will be left in their native state with 100’ and 75’ buffers, respectively (see Exhibit Map). When the gravel in these two side areas is 90 % depleted the beds of these streams will be moved to the area excavated for the new stream bed and gravel in the buffer area will be mined.

E. Removal of Existing Equipment, Structures, Refuse

No permanent structures or equipment is on-site now and none will be left. No refuse is left on the site at any time.

F. Control of Contaminants

Contaminants on the property would consist mainly of drops of oil, or grease falling from the excavating equipment. The amount of oil/grease that might get onto the site this way is too small to be significant. Should an oil pan drop off or a hydraulic line break and spill a few gallons, the loader from the plant would be dispatched to the scene and the saturated sand/gravel would be collected and held at the plant for disposal at an appropriate facility. Fuels are not stored on the site.

G. Treatment of Streambeds and Streambanks: Erosion Control
1) See Item 28 B above for stabilization and 28 D for interim treatment of stream tributaries in Arkansas Canyon and the North Bend area.

2) See item 26 B above for treatment of banks steeper than 35% slope.

3) No other controls of erosion or sedimentation are contemplated. Sedimentation/erosion are natural forces that work in the lower parts of the channel during major storms. Risks posed by these forces at this particular location will become small. No mitigation is planned.

H. Removal of Residual Hazards

No man made hazards are on-site now and none will be left on-site. Natural hazards which may be uncovered in the bedrock stream flow system (big boulders, ponds) will be left as-is unless determined to be hazardous beyond the conditions usually found in streambeds in the Sierra Foothills.

I. Resoiling and Revegetation

As stated before, no resoiling is contemplated. What is proposed is to leave the sand and gravel at the level of the bedrock in place so it averages 18" thick. Natural revegetation is expected to occur in sufficient quantity to cover all but the thread of the stream as it would exist during the five year storm event. If revegetation does not occur on the residual sand/gravel surface as fast as the Department of Fish and Game or Nevada County, for good reason, feels it should Hansen Brothers will augment revegetation by additional planting as required.

29. If applicant plans short-term phasing of reclamation, describe in detail specific reclamation to be accomplished during first phase.

   None proposed.

30. Describe how reclamation of site in this manner may affect future mining at the site and in the surrounding area.

   Reclamation, as proposed, will have no effect on future mining.
APPENDIX
FOR USE PERMIT AND RECLAMATION PLAN

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NOISE REPORT
FOR
HANSEN BROS. ENTERPRISES
FOR OPERATIONS IN SECTION 25, T16N, R9E MDB&M
IN
NEVADA COUNTY, CALIFORNIA

PREPARED BY: Western Planning & Engineering
11860 Kemper Road, Suite 3
Auburn, CA 95603

PREPARED FOR: Hansen Brothers

DATE: May 22, 1989

REVISED: April 6, 1990
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I. BACKGROUND

Terex Corporation secured a use permit from Nevada County to mine gravel on upper Greenhorn Creek. The property on which this mining was allowed was purchased by Hansen Brothers Enterprises in 1973.

In 1975, Hansen Brothers applied for the right to remove sand and gravel from property they owned in Sections 25, 35 & 36 of Township 16 North, Range 9 East, M.D.B.& M. (see original Site Plan Map, page 44). When it was granted in 1978, however, mining was not authorized in Section 25.

The existing use permit contains a noise limitation of 65 decibels, "A" weighted (65 dBA)*. The 65 dBA limit referred to a U.S. Dept. of Housing and Urban Development standard which specified it as a day-night average.

Hours of operation are generally 7:00 AM to 6:00 PM Monday through Friday with some exceptions.

II. REASONS FOR THIS PROPOSAL

The County has recently approved a Mineral Management Element (MME) for inclusion in its General Plan. Hansen Bros. have also secured County approval of an ME (Mineral Extraction) zone on the gravel deposit they own in Sec 25. These two factors, combined, were aimed at protecting the sand and gravel deposits here and making them available for the citizens of Nevada County well into the future.

Because of this and due to the fact that drought-like conditions in recent years have caused natural replenishment of sand/gravel in Greenhorn Creek to slow down, Hansen Brothers feel it is necessary to secure approval of sand/gravel harvesting in Section 25.

To accomplish this they have submitted the attached use permit application and environmental information to the County.

* The "A" weighting approximates the way in which humans hear sound intensities.
SITE PLAN FOR HANSEN BROS. ENTERPRISES
AGGREGATE EXCAVATING, STOCKPILING, TRANSPORTING LOCATIONS
IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF NEVADA, CALIFORNIA
PORTIONS OF SEC. 2, T.15N., R.9E., SEC. 25, 33 & 36,
T.16N., R.9E. AND SEC. 30, T.16N., R.10E., M.D.B.&M.
SCALE: 1" = 1000'  
JANUARY, 1973
SIERRA WESTERN ENGINEERING CO., INC.
GRASS VALLEY, NEVADA COUNTY, CALIFORNIA

SEC. 26
SEC. 25
SEC. 33
SEC. 36
SEC. 2
SEC. 1

SITE OF AGGREGATE PROCESSING PLANT

T.15N., R.9E.
T.16N., R.9E.
III EFFECT OF NOISE ELEMENT AND RECENT AMENDMENTS

Prior to submitting this application Arlie Hansen, Orson Hansen, Bill Goss of Hansen Brothers, Leo Todd, their attorney, and Fred Barber, consultant, met with Tom Parilo, Planning Director and members of his staff to discuss the issue of the Noise Element. At that meeting it was agreed that a noise study was required in order for the staff to determine the conditions under which the harvesting in Sec. 25 would comply with County noise regulations.

At that meeting Tom Parilo advised that the adoption of the MME carried with it a corollary amendment to the Noise Element of the General Plan requiring mining operations to comply with noise standards on properties having existing (rather than potential) sensitive uses such as houses.

He said that mining operations must also comply with County noise standards in connection with future housing, but the County is required to control the location of all new housing to be located on or adjacent to property that is zoned for mineral extraction.

One of the policies of the MME requires new housing within 1000' of any Mineral Extraction or ME zone to be located "as far removed from the area zoned 'ME' as is reasonably possible". Because the Hansen property in Sec. 25 is zoned ME the 1000' rule applies. It affects 26 parcels around the gravel deposit (see Exhibit Map).

Reduction of mining vs residential conflicts are further enhanced by the Open Space section of the zoning ordinance (Sec. L-II 3.28 et seq.). This section designates land that slopes more than 30% as environmentally sensitive and requires that it be kept in its natural state. The slopes abutting the gravel deposit in Sec. 25 are over 30%. This phenomenon, plus the 1000' rule prevents housing from locating too close to the mining operation.

In the case of this use permit data concerning slopes, vegetation, and the location of potential building sites around the gravel deposit is essential to the analysis of noise impacts and required by the County staff for making decisions about proper locations of future homes on adjoining properties. This type of information is included in the study that follows.

The study shows that aggregate can be harvested as proposed and a location can be found for a house on each of the adjoining parcels. Thus, Noise Element goals as well as those of the Mineral Management Element are both satisfied as required by the County.
IV. NATURE OF DEPOSIT AND GENERAL MINING METHOD ANALYZED

The area to be mined is shown in a dot pattern on the Exhibit Map (see Use Permit section Page 5). It consists of sand, gravel and possibly other minerals lying in the bed of Greenhorn Creek. This material comes from the remains of an ancient river that is cut through by the upper reaches of Greenhorn Creek. Major storms loosen sand and gravel from the old riverbed and wash it, annually, into Greenhorn Creek. It drops out of the storm water flow onto the Greenhorn stream bed in places where the gradient is relatively flat such as in Sections 25, 35 & 36. The depth of the deposit is not known and it varies from year to year due to natural deposition and mechanical extraction.

The mining method tested for noise is called "gravel bar skimming". This is the type of mining used in Section 35 and 36. It is conducted from the late Spring or early Summer until the late Fall. It is done during periods of low stream flow when the thread of the stream is only 20 to 30 feet across. During this time an apron of "dry" gravel is exposed in the streambed which is 100 to 800 feet in width. Every year the wet part of the stream is realigned for better organization of the harvesting effort. This is done under permits from the State Department of Fish and Game and the Central Valley Water Quality Control Board.

The equipment to be used for harvesting the gravel presently consists of two paddlewheel scrapers: a Caterpillar 633 and a Caterpillar 633D (or equivalent). They will pick the gravel up from designated self loading areas and haul it about two miles downstream to the gravel plant in Section 2, Township 15 North, Range 9 East, M.D.B.& M. The mining techniques to be used in the future are not limited to "gravel bar skimming", and may include: trucks, loaders, or other mechanical methods as outlined in the proposed use permit application so long as they comply with standards of the Noise Element of the General Plan.

V. METHOD OF NOISE MEASUREMENT

On September 14, 1988, noise levels were measured on the two scrapers, previously mentioned. The weather was clear and the wind was calm. Noise was measured by a Quest 215, type two, meter which was calibrated before and after the measurement period. The measurement site (see Exhibit Map) was about 5' above the gravel deposit. The land behind the measuring site receded into a heavily wooded small canyon. The ambient noise level at the site was 37 dBA.
The scrapers passed, individually, by the front of the measuring site in various modes: unloaded; loading and loaded. The noise they made was logged on a histogram at five second intervals. The noise of their approach and departure was also noted.

Each scraper took 10 minutes to self-load, haul the load to the plant and return to the loading site.

VI. BASIS FOR IMPACT ESTIMATIONS

To estimate impacts from gravel bar skimming, the operation was first broken down into its component parts. After that the affect of each part was summarized. Next, the components were combined in various ways to represent different operational strategies. When the components of a particular plan were added they gave a picture of the overall effect of that particular method of operation.

On the basis of the field data, and assuming a straight run of 1500’ either side of an observer or receptor, the following events and their associated noise levels are predicted as shown in Table 1.

<table>
<thead>
<tr>
<th>EVENT</th>
<th>TIME (Min.)</th>
<th>Leg (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scrapper loading 1500’ downstream</td>
<td>1.57</td>
<td>43.1</td>
</tr>
<tr>
<td>Scrapper loading 1000’ downstream</td>
<td>2.14</td>
<td>53.5</td>
</tr>
<tr>
<td>Scrapper loading 500’ downstream</td>
<td>2.71</td>
<td>62.0</td>
</tr>
<tr>
<td>Scrapper loading opposite observer</td>
<td>3.28</td>
<td>71.7</td>
</tr>
<tr>
<td>Scrapper loading 500’ downstream</td>
<td>3.28</td>
<td>65.7</td>
</tr>
<tr>
<td>Scrapper loading 1000’ upstream &amp; pass by’s</td>
<td>3.28</td>
<td>64.4</td>
</tr>
<tr>
<td>Scrapper loading 1500’ upstream &amp; pass by’s</td>
<td>3.28</td>
<td>64.1</td>
</tr>
<tr>
<td>Scrapper passing by up and down stream</td>
<td>2.28</td>
<td>62.8</td>
</tr>
<tr>
<td>No activity (ie. ambient)</td>
<td>varies</td>
<td>32.0</td>
</tr>
</tbody>
</table>
The scraper circuit at the noise measuring point was a 10 minute round trip. At the south line of Section 25 the round trip would take 11 minutes (the scrapers travel just under 20 miles per hour). To get an idea of the noise "dose" an observer positioned near the driving path of the scrapers would get over a full cycle we must calculate the equivalent level (L eq) that a single scraper would produce while it is in view and add in the ambient noise level during the time the scraper is out of the observer's area and completing the circuit. The results of these calculations are shown in Table 2.

**TABLE 2**

**EQUIVALENT NOISE OF CYCLE**

(100' from route)

<table>
<thead>
<tr>
<th>EVENT</th>
<th>TIME (Min.)</th>
<th>L eq (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scraper loading 1500' downstream</td>
<td>9.29</td>
<td>36.7</td>
</tr>
<tr>
<td>Scraper loading 1000' downstream</td>
<td>9.86</td>
<td>47.0</td>
</tr>
<tr>
<td>Scraper loading 500' downstream</td>
<td>10.43</td>
<td>56.2</td>
</tr>
<tr>
<td>Scraper loading opposite observer</td>
<td>11.00</td>
<td>66.5</td>
</tr>
<tr>
<td>Scraper loading 500' upstream &amp; pass by's</td>
<td>11.57</td>
<td>60.2</td>
</tr>
<tr>
<td>Scraper loading 1000' upstream &amp; pass by's</td>
<td>12.14</td>
<td>58.7</td>
</tr>
<tr>
<td>Scraper loading 1500' upstream &amp; pass by's</td>
<td>12.70</td>
<td>58.2</td>
</tr>
<tr>
<td>Scraper passing by up &amp; down stream</td>
<td>13.3(min)</td>
<td>55.2</td>
</tr>
</tbody>
</table>

Comparing Tables 1 and 2 leads to the conclusion that the addition of quieter time following a noise producing event produces a lower average or equivalent noise level. As an example, let's look at the noisiest operation, loading. When it occurs 100' away over a one minute period it produces an equivalent noise level of 71.7 dBA, but the average, or equivalent level drops to 66.5 dBA when the observer is subjected to only one event like this every 11 minutes.
Another way to reduce noise is to provide additional separation between a noise source and a receptor. For example, a reduction of 6 dBA could be achieved in the values shown in Tables 1 and 2 if the observer were 200' away from the scrapers' route instead of 100'.

The maximum noise level (Lmax) permitted in this area by the Noise Element of the General Plan on any surrounding property at a point that could be occupied by a sensitive receptor (a home) is 75 dBA. Table 3 below gives maximum levels for the two scraper types during various functions.

<table>
<thead>
<tr>
<th>OPERATING MODE</th>
<th>SCRAPPER TYPE</th>
<th>Lmax(dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traveling empty</td>
<td>633</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>633D</td>
<td>76</td>
</tr>
<tr>
<td>Loading</td>
<td>633</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>633D</td>
<td>79</td>
</tr>
<tr>
<td>Traveling full</td>
<td>633</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>633D</td>
<td>73</td>
</tr>
</tbody>
</table>

The scrapers make more noise traveling upstream empty because they're going faster and fighting a slight grade.

The maximum noise level of a 600' long loading pass-by where the observer is near the midpoint of the pass and 25' off the scraper's route gives an Lmax of 92 dBA. If the scraper loads at a speed of 10 feet per second the overall equivalent noise of the event is 85 dBA.

It may be of interest to note, in passing, that an event of 85 dBA lasting one minute would, after 12 hours, have an equivalent value of 56 dBA.
VII. IMPACTS

Exhibit 2 on page 50 shows: the existing 1000' setback from the ME Zone on the Hansen Bros. property in Section 25; the sand and gravel deposit; property lines; slopes under and over 30% in the entire area and the flood plain boundary in Greenhorn Creek.

An inspection of the map shows that 26 parcels are affected by the 1000' setback rule. Each parcel (except the ones owned by Hansen Brothers) contains a suitable place for a building site on high ground with road access. In every case the area for the building site is separated from the gravel deposit by a natural buffer of very steep ground that is well covered with brush, pines and oaks (see air photo page 7). The width of this buffer zone varies from 300' at the narrowest point to over 1000'. It averages about 600'.

Cross sections A-A', B-B', C-C', D-D' and E-B (pages 51-55) were made to show the relationship of the gravel deposit (extraction area) to potential building site locations on parcels abutting the project. The vertical scales of these cross sections are exaggerated as is typical with engineering drawings to allow more precise measurement of vertical elements (ie tree height, receptors, natural barriers). Inspection of the cross sections shows that noise reduction along the paths from the source locations to the receptors is attributable to various combinations of: distance; tree cover, noise path close to ground, natural barriers and (for long distances) air absorption.

Table 4, which follows the cross sections, gives calculated noise levels at the area where homes with septic systems could be built, i.e. land where the cross slope is less than 30%. The figures in the Table were based on a noise source of 80 dBA measured 100' from the equipment (see Table 3).

Basis for calculated attenuation from trees, natural barriers, etc. is in the appendix.
<table>
<thead>
<tr>
<th>Cross Section</th>
<th>Receptor</th>
<th>Noise Source</th>
<th>Leq, with 2 scrapers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-A'</td>
<td>1</td>
<td>East Prop. line</td>
<td>46 dBA</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>East Prop. line</td>
<td>51 dBA</td>
</tr>
<tr>
<td>A-A'</td>
<td>1</td>
<td>Center of Prop.</td>
<td>47 dBA</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>Center of Prop.</td>
<td>49 dBA</td>
</tr>
<tr>
<td>A-A'</td>
<td>1</td>
<td>West Prop. line</td>
<td>49 dBA</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>West Prop. line</td>
<td>35 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>East Prop. line</td>
<td>33 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>East Prop. line</td>
<td>47 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>Center of Prop.</td>
<td>46 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>Center of Prop.</td>
<td>49 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>West Prop. line</td>
<td>48 dBA</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>West Prop. line</td>
<td>34 dBA</td>
</tr>
<tr>
<td>C-C'</td>
<td>1</td>
<td>South Prop. Line</td>
<td>49 dBA</td>
</tr>
<tr>
<td>C-C'</td>
<td>2</td>
<td>North Prop. line</td>
<td>48 dBA</td>
</tr>
<tr>
<td>C-C'</td>
<td>3</td>
<td>Middle of deposit</td>
<td>51 dBA (49)*</td>
</tr>
<tr>
<td>D-D'</td>
<td>1</td>
<td>W'ly Prop. Line</td>
<td>52 dBA</td>
</tr>
<tr>
<td>D-D'</td>
<td>2</td>
<td>E'ly Prop. Line</td>
<td>51 dBA</td>
</tr>
<tr>
<td>E-B</td>
<td>1</td>
<td>N'ly Prop. Line</td>
<td>48 dBA</td>
</tr>
<tr>
<td>E-B</td>
<td>2</td>
<td>S'ly Prop. Line</td>
<td>50 dBA</td>
</tr>
<tr>
<td>E-B</td>
<td>3</td>
<td>Middle of deposit</td>
<td>47 dBA (47)*</td>
</tr>
</tbody>
</table>

* Figures in parentheses represent field test measurements.

The foregoing table indicates that potential home site areas will not be subjected to substantial adverse affects by the noise of mineral extraction using two scrapers operating in tandem 10 hours per day: 7 AM-Noon & 12:30 PM-5:30 PM.
Noise peaks will also be attenuated by natural features of the environment surrounding the mineral deposit. The following table depicts attenuated levels from the loading task which was originally measured at 80 dBA 100' away.

### TABLE 5

<table>
<thead>
<tr>
<th>Cross Section</th>
<th>Receptor</th>
<th>Noise Source</th>
<th>Lmax in dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-A'</td>
<td>1</td>
<td>East Prop. line</td>
<td>53.4</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>East Prop. line</td>
<td>58.0</td>
</tr>
<tr>
<td>A-A'</td>
<td>1</td>
<td>Center of Prop.</td>
<td>54.0</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>Center of Prop.</td>
<td>56.0</td>
</tr>
<tr>
<td>A-A'</td>
<td>1</td>
<td>West Prop. line</td>
<td>57.0</td>
</tr>
<tr>
<td>A-A'</td>
<td>2</td>
<td>West Prop. line</td>
<td>43.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>East Prop. line</td>
<td>40.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>East Prop. line</td>
<td>55.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>Center of Prop.</td>
<td>54.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>Center of Prop.</td>
<td>56.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>3</td>
<td>West Prop. line</td>
<td>55.0</td>
</tr>
<tr>
<td>B-B'</td>
<td>2</td>
<td>West Prop. line</td>
<td>41.0</td>
</tr>
<tr>
<td>C-C'</td>
<td>1</td>
<td>South Prop. Line</td>
<td>49.1</td>
</tr>
<tr>
<td>C-C'</td>
<td>2</td>
<td>North Prop. line</td>
<td>48.0</td>
</tr>
<tr>
<td>C-C'</td>
<td>3</td>
<td>Middle of deposit</td>
<td>54.3</td>
</tr>
<tr>
<td>D-D'</td>
<td>1</td>
<td>W'ly Prop. Line</td>
<td>52.2</td>
</tr>
<tr>
<td>D-D'</td>
<td>2</td>
<td>E'ly Prop. Line</td>
<td>50.5</td>
</tr>
<tr>
<td>E-B</td>
<td>1</td>
<td>N'ly Prop. Line</td>
<td>47.5</td>
</tr>
<tr>
<td>E-B</td>
<td>2</td>
<td>S'ly Prop. Line</td>
<td>50.2</td>
</tr>
<tr>
<td>E-B</td>
<td>3</td>
<td>Middle of deposit</td>
<td>51.2</td>
</tr>
</tbody>
</table>
The foregoing table shows that maximum noise levels expected from the mineral extraction (using the scrapers previously referred to) will not approach the County’s $L_{max}$ level of 75 dBA.

VIII. CONCLUSION

Harvesting gravel as proposed in Sec. 25 will not have a significant adverse effect on surrounding properties or the County on the following grounds.

1) It conforms to criteria established in the Land Use, Conservation, Mineral Management and Noise Elements of the County General Plan.

2) The noise study, herein, outlines a specific method of harvesting aggregate in Section 25. The study shows that: if aggregate is harvested as proposed in this use permit, a location can be found for a house on each of the adjoining parcels that conforms to the Noise Element and the goals of the MME. That is, noise of the mining operation heard at a building site approved by the planning staff (located out of sensitive areas) will not exceed County standards.

3) This particular gravel deposit is well suited for extraction due to topography, vegetation and zoning applicable to the site and its surroundings.
EFFECT OF ATMOSPHERIC ABSORPTION

Because air is not a perfectly elastic medium, during successive compressions and rarefactions several complex irreversible processes occur, all of which are frequency dependent. Sound absorption in quiet, isotropic air is caused by two processes. The first may be thought of as combining the effects of viscosity and the conduction of heat during a single pressure cycle. The attenuation due to this so-called "classical" absorption can be conveniently calculated by the use of Kirchhoff's Laws.

For air at 20°C this has been given as

\[ \alpha = 1.2 \times 10^{-10} f^2 \text{dB/m} \]  

(1)

where \( \alpha \) is the attenuation due to "classical" absorption, and \( f \) is the frequency in Hz.

Thus, at a frequency of 1000 Hz an attenuation of 0.12 dB over 1 km would be expected. Hence the effect at low frequencies is negligible and can be ignored for practical purposes in the audio frequency range.

The second atmospheric effect is known as the "molecular relaxation" and is due to the effect of energy dissipated during rotational and vibration behaviour of the oxygen molecules and is strongly dependent on humidity, temperature and pressure.

Most convenient expression is that given by CREMER (Ref 1) and the "molecular relaxation" attenuation expected at 20°C and for relative humidity greater than 20% is

\[ \alpha_m = 7.4 \frac{f^2}{\beta} \times 10^{-8} \text{dB/m} \]  

(2)

where \( \alpha_m \) = "molecular relaxation" attenuation
\( f \) = frequency in Hz
\( \beta \) = relative humidity, %

Thus, at a frequency of 1000 Hz and relative humidity of 50% an attenuation of 1.48 dB over 1 km would be expected. At high frequencies this can be very important and the tendency is for attenuation to be greater in dryer air.

For other temperatures within ±10°C of 20°C the "molecular relaxation" attenuation may be approximated reasonably from:

\[ \alpha_m = 7.4 \frac{f^2}{\beta(1+4\times10^{-6} \Delta T f)} \times 10^{-8} \text{dB/m} \]  

(3)

where \( \Delta T \) is the temperature difference from 20°C.

Recent theoretical work by PIERCY (Ref 2) and EVANS, BASS and SUTHERLAND (Ref 3) has shown that, whilst oxygen/water- vapour interaction is indeed the major factor for accounting for the observed molecular attenuation, a secondary relaxation effect involving an interaction between nitrogen and water-vapour is not insignificant and may even dominate the absorption at low frequencies and high humidities.
The latest and the most accurate method of predicting atmospheric absorption is that suggested by SUTHERLAND, PIERCY, BASS and EVANS (Ref 4) and it includes the effect of vibration of nitrogen molecules as well. This method has a firm theoretical base and employs simple algorithms which can be handled easily, for example, by a programmable hand calculator. The predictions of this method have been compared with a large assembly of both laboratory and field data from the literature, see report by SUTHERLAND (Ref 5). This report shows that a comparison of over 250 laboratory measurements with predictions indicates that near 20°C the predicted values agree within about 5%, with the average of the measurements throughout the audio frequency range and over a wide range of humidity.

Figure 3 shows the absorption predicted by the above method, in the practical units of dB/100m for a pressure of 1 atmosphere, a temperature of 20°C, and relative humidity of 70%. Note that at 1kHz the attenuation rate is of order 5 dB/km but that by 10 kHz is over 100 dB/km, thus setting a severe limitation on the distance over which high frequency sound can be transmitted through the atmosphere. Note also that the attenuation by absorption is constant for a given difference in propagation path lengths unlike geometrical spreading, where it is constant for a given ratio of propagation path lengths. Thus with increasing distance between the source and the receiver, atmospheric absorption tends to become more important, particularly for sources with appreciable high frequency content, for example, sources such as aircraft landing and take-off noise and impact pile driving noise.

EFFECT OF VEGETATION ON THE GROUND

The presence of taller vegetation such as thick grass, shrubbery or trees has the effect of increasing the excess attenuation due to ground effect, where propagation tends to occur through the medium rather than being reflected from it. Often, particularly in the United States, the use of natural screens is advocated as a means of confining the noise from ground transportation systems. In fact, the influence of trees is only significant where planting and foliage are dense and even then there are large differences between reported results (Ref 13). In 1946, EYRING (Ref 27) studied propagation through Panamanian jungle, WINTNER and KEAST (Ref 28) propagation through dense evergreen forests, EMSLETON (Ref 29) propagation through homogenous deciduous and evergreen woods, whilst AYLER (Ref 30) has reported data relating to dense hemlock and red-pine plantations and to hardwood brush. KURZE and BERANEK (Ref 13) reviewed all the reported data and presented an empirical equation which estimates the attenuation of sound propagating through shrubbery or over thick grass as:

$$\alpha_{\text{shrubbery or grass}} = 0.18 \log f - 0.31 \text{ dB/m}$$

where \( f \) is the band centre frequency.

Equation (7) implies that 7.0 dB attenuation at 1 kHz and 5.4 dB at 500 Hz over 100m.
EYRING's data was also mentioned by PARKIN and SCHLOES (Ref 26) who suggest that the above excess attenuation rate will be reduced by a factor of 3 when propagation is over soft ground. They also note that sound below 300 Hz is largely insensitive to the type of terrain over which it propagates.

An average value of the attenuation of sound propagating through all types of forests is given by the expression (Ref 13):

\[ \alpha_{\text{forest}} = 0.01 r^{1/3} \text{ dB/m} \]

(8)

This implies that only 10.0 dB attenuation at 1000 Hz is expected over 100m, so that a rather thick belt of trees would be required to achieve effective noise screening.

For bare deciduous trees (Ref 31) values should be reduced to

\[ (0.01 r^{1/3} - 0.10) \text{ dB/m} \]

(9)

Finally, one must bear in mind that the majority of work on sound propagation was performed outside Europe. The typical tree growth of indigenous varieties in Europe is relatively sparse on a trunk with few branches reaching ground level, and these are different from trees grown in North and South America. In Europe the undergrowth too is on a different scale from that in the United States, with relatively slight cover, even in our forest areas.

Irrespective of these large differences, the data used in Britain is that of researchers in America who measured transmission through various types of jungles. Therefore, perhaps Equation (8) is likely to over-estimate the attenuation values in some cases. In the case of trees with bare trunks and minor undergrowth, the use of Equation (9), is likely to give better estimates. Further, it must be noted that hedges and bushes provide almost negligible attenuation unless extremely dense, with branches reaching the ground. Even then their application is limited, for unless the hedge is extremely tall the sound is propagated over, rather than through it.
SECTION 2

SIMPLE PROCEDURE TO
EVALUATE A GIVEN BARRIER

1. Get, by any convenient means, the values of the following quantities: h, the height of the barrier above the line-of-sight from source to observer (feet); \( R \) and \( D \), the slant distances, along the line-of-sight, from the barrier to the source and observer, respectively.*

2. Enter Chart A of Figure 1 with the value of \( h \) on the left-hand scale; move right to intersect the curve corresponding to \( R \) (or \( D \), whichever is smaller).

3. Move down to Chart B, to intersect the curve corresponding to the value of \( D/R \) (or \( R/D \), whichever is larger).

4. Move right to intersect the scale of Chart C, to find the value for the barrier shielding in decibels.

Note: Use a source height of 2' above the roadway for autos, 8' for trucks and 15' for diesel locomotives. The effective distance from the source to the receiver may be calculated by entering Figure 2.

* Specifically, \( R \) and \( D \) are the two segments into which \( h \) breaks the line-of-sight.
NOMOGRAM FOR CALCULATING BARRIER ATTENUATION

Figure 1A
tubular pores; many thick clay films on ped faces and in pores; medium acid; clear, wavy boundary.

B2*—60 to 80 inches, red (2.5YR 7/6) heavy clay loam, red (2.5YR 4/6) when moist; massive; hard, firm, sticky and plastic; very few fine and very fine and few medium and coarse roots; few very fine and fine tubular pores; common moderately thick clay films in pores and as bridges; medium acid; clear, wavy boundary.

B3—60 to 90 inches, variegated reddish-yellow (7.5YR 5/6) and yellow (10YR 7/4), yellowish red (5YR 4/6) when moist; massive; slightly hard, firm, nonsticky and nonplastic; very few very fine and fine and few medium and coarse roots; few very fine and fine tubular pores; slightly acid; clear, wavy boundary.

C—90 inches, variegated very pale brown, yellow, and light yellowish-brown (10YR 7/4, 7/6, and 6/4) weathered granodiorite, strong brown (7.5YR 5/6) when moist; massive; slightly acid.

The A horizon ranges from brown or yellowish-brown to reddish-brown sand loam or loam. The B2 horizon ranges from red or reddish yellow to yellow. It is medium acid or strongly acid. The B3 horizon is variegated very pale brown, light yellowish brown, reddish yellow, or yellow. It is slightly acid or medium acid. A small amount of course gravel or cobblestones is in the soil material in places. Reaction generally decreases with depth. Hard rock is rarely encountered, except as outcrop or in very deep cuts. Depth to weathered granodiorite ranges from 40 to 60 inches or more.

Musick sandy loam, 5 to 15 percent slopes [Mc].—This soil is gently sloping to strongly sloping. Rock outcrops cover less than 2 percent to as much as 10 percent of the surface area.

Included with this soil in mapping are small areas of Hoda sandy loam, Chaix sandy loam, Josephine loam, and Sites loam. Also included are areas of Musick soils that have slopes of 2 to 9 percent.

Runoff is medium on this soil. The hazard of erosion is moderate.

This Musick soil is used mostly for timber production. Some areas are used for limited grazing and irrigated pasture. Capability unit V1e-1 (22).

Musick sandy loam, 15 to 50 percent slopes [Mc].—This moderately steep to step soil is on mountainous uplands. Rock outcrops cover as much as 10 percent of the surface area in places. This soil has the profile described as representative for the series.

Included with this soil in mapping are small areas of Hoda sandy loam, Chaix sandy loam, Josephine loam, and Sites loam.

Runoff is medium to rapid on this soil. The hazard of erosion is high.

This Musick soil is used mostly for timber production. Some areas are used for grazing. Capability unit V1e-1 (22).

Musick-Rock outcrop complex, 5 to 50 percent slopes [Mc].—The Musick soil in this complex is moderately sloping to steep. About 10 to 25 percent of this complex is Rock outcrop and areas that are very stony or extremely stony and that have .1 to 15 percent stones on the surface. About 25 percent of this complex has lost between 25 and 50 percent of the surface layer. Parts of this complex are moderately eroded, and here the stones are 2½ to 6 feet apart. Other areas are less than 40 inches deep.

Included in mapping are small areas of Musick sandy loam, Hoda sandy loam, and Chaix sandy loam.

Runoff is medium to rapid. The hazard of erosion is moderate to high. This complex is used mostly for timber production. Some areas are used for limited grazing. Capability unit V1e-1 (22).

Placer Diggings

Placer diggings (Pr) is a miscellaneous land type consisting of remnants of tertiary river deposits. These are hydraulically mined areas, placer-mined areas along stream channels, and areas of natural deposits along the stream channels. The hydraulically mined areas are in association with areas of Aiken, Cohasset, Josephine, Mariposa, Sites, Horseshoe, Hoda, Chaix, Iron Mountain, and Musick soils. The hydraulic mining has commonly formed steep cliff-like sides that are as high as 100 feet. Slopes range from 2 to 76 percent.

In places this land type is 90 to 100 percent stones, cobblestones, or gravel. In 50 to 76 percent of the areas there is a mixture of stones, cobblestones, gravel, and enough soil material to support brush, some grasses, some trees along the stream channels, and poor to moderately good stands of ponderosa pine (fig. 8). In places bedrock is exposed along stream channels. This land type ranges from less than 6 inches to more than 10 feet in depth. Reaction generally is variable, but, in places in the hydraulically mined areas, it is strongly acid to very strongly acid. Seep or wet areas are present in places.

In areas of hydraulic or placer mining, the debris left by these operations commonly consists of irregular mounds. The areas along stream channels are commonly subject to inundation during periods of high water.

This land type is generally unsuitable for most agricultural uses, except for limited timber production or grazing in the areas that support stands of ponderosa pine and grass. Capability unit VIIa-1 (18, 22).

Rescue Series

The Rescue series consists of well-drained soils underlain by weathered basic rocks. These soils are gently rolling to hilly and are on mountainous uplands of the lower and middle part of foothills. Slopes are 5 to 30 percent. The vegetation is annual grasses and forbs, and blue oak, live oak, poison oak, digger pine, and scattered ponderosa pine. Elevation ranges from 500 to 2,000 feet. The annual rainfall is 28 to 45 inches, and the average annual temperature is about 60° F. The frost-free season is 225 to 260 days.

In a representative profile the surface layer is about 3 inches of brown loam. Reaction is slightly acid. The subsoil is about 30 inches of brown heavy clay loam and reddish-brown clay loam. Reaction in the subsoil is medium acid. This horizon is underlain by brownish-yellow heavy loam that is slightly acid. Slightly weathered or fractured diabase is at a depth of about 60 inches.

Permeability is moderately slow. Effective rooting depth is 40 to 60 inches or more. Available water holding capacity is 6 to 10 inches.
### Table 5 — Estimated Soil Properties

<table>
<thead>
<tr>
<th>Soil series and map symbols</th>
<th>Depth to bedrock</th>
<th>Depth from surface to typical profile</th>
<th>Classification</th>
<th>USDA texture</th>
<th>Unified</th>
<th>AASHO</th>
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<tbody>
<tr>
<td></td>
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<td>18-48</td>
<td>Clay</td>
<td>MN or CH</td>
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<td>48-60</td>
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<td>SM-SC</td>
<td>A-9</td>
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<tr>
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<td>&gt; 5</td>
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<td>A-4</td>
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<tr>
<td></td>
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<td>0-0</td>
<td>Very gravelly loam and gravel</td>
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<td>A-9 or A-1</td>
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<td>A-2 or A-4</td>
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<td>Clay</td>
<td>SC</td>
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<td>&gt; 5</td>
<td>Sandy and gravel rocks</td>
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<td>18-70</td>
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<td>Metabasalt rock</td>
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#### Significant in engineering—Continued

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### Notes
- **Generic soil types**: Sandy loam, Clay, Gravelly clay loam.
- **Unified Soil Classification**: Sandy loam, Clay, Gravelly clay loam.
- **AASHO Classification**: Sandy loam, Clay, Gravelly clay loam.
- **Significant Engineering Properties**: 10% of 5 inches, 20% of 5 inches, 30% of 5 inches, 40% of 5 inches, 50% of 5 inches, 60% of 5 inches, 70% of 5 inches, 80% of 5 inches, 90% of 5 inches, 100% of 5 inches.

### Soil Survey

- **NEVADA COUNTY AREA, CALIFORNIA**
- **Available soil information**: Details on soil types and their engineering properties.
- **Data Source**: Soil Survey Report.
### Soil Survey

#### Table 5—Estimated soil properties

<table>
<thead>
<tr>
<th>Soil series and map symbols</th>
<th>Depth to bedrock (ft)</th>
<th>Classification</th>
<th>USDA texture</th>
<th>Unified</th>
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<td>Clay and light clay loam</td>
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<td>Trinity</td>
<td>2-3</td>
<td>Heavy loam</td>
<td>ML</td>
<td>A-4</td>
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</tbody>
</table>

#### Irrigation

Irrigation features are important for the construction, operation, or maintenance of the structure or practice indicated.

Hydrologic soil groups are used for estimating the drainable potential of soils. Groupings are based on potential runoff at the end of a long storm and after prior wetting and opportunity for swelling. The absence of a protective vegetative cover is assumed. Four groupings are used: A, B, C, and D. Group A has the least runoff and highest infiltration potential. Group D has the highest runoff and lowest infiltration potential. Group B and C are intermediate. Hydrologic soil groups are based on such soil properties as texture, the presence of restrictive layers, depth, subsoil permeability, and natural drainage class.

#### Use of the Soils for Community Development

This section describes and lists interpretations of the soils of the Nevada County Area for residential, recreational, industrial, and related nonfarm purposes. It was prepared for people interested in use of the soils of the Nevada County Area for purposes other than farming (Fig. 14), but is most useful to planners, developers, landscape architects, builders, zoning officials, realtors, and potential landowners.

The Nevada County Area is close enough to large population centers, such as Sacramento and the San Francisco Bay Area, so that greater demands for nonfarm uses are being made. Although the population is not growing rapidly, areas not suited for nonfarm uses are expanding into sections previously used wholly for grazing and timber production. This trend has resulted in requests for information about soil and land conditions that affect the nonfarm use of the land.

In selecting a location for a home, industry, highway route, recreational use, or other nonfarm purpose, the limitations of the soil at such site for the projective use must be determined. Some of the more common properties and qualities affecting the nonfarm use of soils are soil texture, reaction, depth, shrink-swell potential, steepness of slopes, permeability, and depth to hard rock. On the basis of these interrelated characteristics, soil scientists and engineers have rated the soils of the Nevada County Area for specific nonfarm uses. The most urgent needs are for information about the limitations of soils for the disposal of sewage effluent from septic tanks and on-site waste disposal systems.
### THE MERCALLI INTENSITY SCALE

(As modified by Charles F. Richter in 1956 and rearranged)

<table>
<thead>
<tr>
<th>If most of these effects are observed</th>
<th>then the intensity is:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly. Effect on people: Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.</td>
<td>I</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> Shaking felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks. <strong>Other effects:</strong> Hanging objects swing. <strong>Structural effects:</strong> Windows or doors rattle. Wooden walls and frames creak.</td>
<td>II</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls. <strong>Other effects:</strong> Hanging objects swing. Standing article rock. Crockery crashes, dishes rattle or glasses clink. <strong>Structural effects:</strong> Doors close, open or swing. Windows rattle.</td>
<td>III</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers wakened. <strong>Other effects:</strong> Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery crashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset. <strong>Structural effects:</strong> Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.</td>
<td>IV</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> Felt by everyone. Many are frightened and run outdoors. People walk unsteadily. <strong>Other effects:</strong> Small church or school bells ring. Pictures thrown off walls, knocknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle. <strong>Structural effects:</strong> Masonry D* damaged: some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.</td>
<td>V</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> Difficult to stand. Shaking noticed by auto drivers. <strong>Other effects:</strong> Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver. <strong>Structural effects:</strong> Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, minarets, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.</td>
<td>VI</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> General fright. People thrown to ground. <strong>Other effects:</strong> Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees. <strong>Structural effects:</strong> Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations, Frame structures, if not bolted, shifted off foundations, Frames racked, Reservoirs seriously damaged. Underground pipes broken.</td>
<td>VII</td>
</tr>
<tr>
<td><strong>Effect on people:</strong> General panic. <strong>Other effects:</strong> Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed. <strong>Structural effects:</strong> Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.</td>
<td>VIII</td>
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<tr>
<td><strong>Effect on people:</strong> General panic. <strong>Other effects:</strong> Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. <strong>Structural effects:</strong> General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.</td>
<td>IX</td>
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<tr>
<td><strong>Effect on people:</strong> General panic. <strong>Other effects:</strong> Same as for intensity X. <strong>Structural effects:</strong> Damage nearly total, the ultimate catastrophe. <strong>Other effects:</strong> Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.</td>
<td>X</td>
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<tr>
<td>Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces. Masonry B: Good workmanship and mortar, reinforced. Masonry C: Good workmanship and mortar, unreinforced. Masonry D: Poor workmanship and mortar and weak materials, like adobe.</td>
<td>XI</td>
</tr>
<tr>
<td>VII</td>
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Table 3. Modified Mercalli scale of earthquake intensities.

69
LEGAL DESCRIPTION

ALL THAT REAL PROPERTY CONVEYED TO HANSEN BROS. ENTERPRISES BY DEEDS RECORDED IN BOOK 663 AT PAGE 272 AND ON DOCUMENT NO. 909242.
<table>
<thead>
<tr>
<th>LAND USE CATEGORY</th>
<th>COMMUNITY NOISE EXPOSURE $L_{dn}$ OR $C_NEL$, $dBA$</th>
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<tr>
<td>RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES</td>
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<td>RESIDENTIAL - MULTI-FAMILY</td>
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<td>TRANSIENT LODGING - MOTELS, HOTELS</td>
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<td>SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES</td>
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<td>AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES</td>
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<td>SPORTS ARENA, OUTDOOR SPECTATOR SPORTS</td>
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<td>PLAYGROUNDS, NEIGHBORHOOD PARKS</td>
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<td>GOLF COURSES; RIDING STABLES, WATER RECREATION, CEMETERIES</td>
<td>85</td>
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<td>OFFICE BUILDINGS, COMMERCIAL RETAIL</td>
<td>90</td>
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<td>INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE</td>
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</tbody>
</table>

**CLEARLY ACCEPTABLE**

The activities associated with the specified land use may be carried out with essentially no interference from the noise exposure.

**NORMALLY ACCEPTABLE**

Noise should be considered in proposed land use plans, but under most circumstances conventional construction, without any special noise insulation requirements, is satisfactory.

**CONDITIONALLY ACCEPTABLE**

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, with closed windows and fresh air supply systems or air conditioning will normally suffice.

**NORMALLY UNACCEPTABLE**

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

**CLEARLY UNACCEPTABLE**

New construction or development should generally not be undertaken.

**AIRPORT/LAND USE NOISE COMPATIBILITY CRITERIA**

*Figure 1*
PROJECT MAP AND PUBLIC NOTICE MAP 1
(SEE ALSO PUBLIC NOTICE MAP 2)

GREENHORN MINING AREA

PORTION OF SECTION 2 OF T. 18 N. R. 8 E. AND
SECTIONS 25, 26 & 28 OF T. 18 N. R. 8 E.M.D.B.M.

LEGEND:

LAND INCLUDED IN USE PERMIT #1195
AND APPROVED FOR GRAVEL MINING,
ETC.

PROPOSED MINERAL EXTRACTION
AREA.

NOTE:
THE PURPOSE OF THIS APPLICATION IS TO ALLOW GRAVEL
MINING ON HANSEN BROS. PROPERTY IN SEC. 25, T.18N.,
R.8E., M.D.B.M.

DATE PREPARED: JAN. 3, 1981
PROJECT MAP AND PUBLIC NOTICE MAP -2

THIS MAP DEPICTS IN GREATER DETAIL THE AREA IN SECTION 25 WHERE
GRAVEL HARVESTING IS PROPOSED TO BE EXTENDED
PORTION OF SECTIONS 25, 26, 36, 38 OF T. 15 N. R. 9 E. AND
SECTION 30 OF T. 15 N. R. 10 E. M.D.B.&M.

LEGEND:

- Hansen Brothers Proposed Project
- Hansen Brothers Existing Project
- Both Projects in Mineral Extraction Zone
- Existing Roads
- Limits of 300' Zone

ASSessor's Parcel Number (Project)
ASSessor's Parcel Number (Outside Project)
ASSessor's Book and Page Number
ASSessor's Page Limits

GRAPHIC SCALE IN FEET

WESTERN PLANNING
AND ENGINEERING
11590 KERNER RD., SUITE S
AURORA, CA 92526
(F) (714) 730-9017
<table>
<thead>
<tr>
<th>ASSESSOR'S PARCEL</th>
<th>ABUTTING PROPERTY OWNERS</th>
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<td></td>
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<td>San Bruno, CA 94066</td>
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<td>12-270-24</td>
<td>Wemhaner, Donald C &amp; Sharron L</td>
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<td>Randall, Bruce A. Trust</td>
<td>130 Bradford St.</td>
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<tr>
<td>12-710-27</td>
<td>Young, Thomas W.</td>
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<tr>
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<td>12-710-38</td>
<td>Sanders, Clifford H. &amp; Judy A.</td>
<td>13304 Mulberry Lane</td>
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<td>12-710-39</td>
<td>Dick, Edward &amp; Harriette R.</td>
<td>P.O. Box 434</td>
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<tr>
<td>12-710-46</td>
<td>Cabral, David M. &amp; Jeraldine V.</td>
<td>P.O. Box 363</td>
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<td>12-710-47</td>
<td>Saltsman, Gregory L. &amp; Norma M.</td>
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<tr>
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<tr>
<td>12-710-50</td>
<td>Woodington, Robert K. &amp; Jutta E.</td>
<td>10777 Cement Hill Road</td>
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<td>12-710-52</td>
<td>Patterson, Milo J. Jr. &amp; Lori J.</td>
<td>15930 You Bet Road</td>
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<td>12-710-53</td>
<td>Corporation Poms</td>
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12-710-58  Netz, Joyce R. ETAL  
P.O. Box 614  
Cedar Ridge, CA  95924  

12-710-59  Miller, Pamela  
15379 Little Valley Rd. #20  
Grass Valley, CA  95945  

12-710-60  Domgaard, Morse J. & Annette L.  
P.O. Box 7964  
Auburn, CA  95604-7964  

12-720-14  Hague, Jewell A  
18778 Sandy Road  
Castro Valley, CA  94576  

12-720-15  Wagner, Mitchell A. & Janie E.  
P.O. Box 2234  
Grass Valley, CA  95945  

12-720-17  Priley, Stephen A ETAL  
703 Belle Lane  
Roseville, CA  95678  

12-720-18  Divine, Lyndell & Verna F.  
P.O. Box 2654  
Hesperia, CA  92345  

12-720-24  Smith, Lonnie L. & Odena W.  
1300 E. Cimmaron Rd.  
Hobbs, N.M.  88240  

12-720-26  Potter, Allen H.  
12865 Wildlife Lane  
Grass Valley, CA  95945  

12-720-27  Same as 12-720-24  

12-720-31  Roach, William J. & Janet B.  
11207 Marjon Dr.  
Nevada City, CA  95959  

12-720-33  Armintrout, Ernest  
P.O. Box 707  
Forest Falls, CA  92339  

12-720-34  Levine, Jeffrey & Mary J.  
3419 Sagewood Ln.  
San Jose, Ca  95132  

75
12-720-35  Burris, Virginia L.
P.O. Box 444
Cedar Ridge, CA  95924

12-720-36  Alexzander, Robert
455 Camelback Rd.
Pleasant Hill, CA  94523

12-720-37  Weidinger, Warren H.
250 Evelyn Way
San Francisco, CA  94127

12-720-38  Priley, Stephan A. etal
703 Belle Lane
Roseville, CA  95678

12-720-41  Hall, Michael
1450 Grass Valley Highway
Auburn, CA  95603

12-720-44  Fuxjager, Richard F. Jr.
P.O. Box 296
Grass Valley, CA  95945

12-720-45  Brown, Charles H.
P.O. Box 296
Grass Valley, CA  95945

12-720-46  Crismon, Carl etal
13187 No Meadow View Dr.
Grass Valley, CA  95945

12-720-47  Wimminhan, Bill Sr. & Cherry A.
23162 Hey. 20 E.
Nevada City, CA  95959

12-720-48  Same as 12-720-47

12-720-49  Lindsey, Laurence L. III & T.W. etal
P.O. Box LL
Tahoe City, CA  95730

12-730-10  Kitts, Dorothey E.
1930 Grande Cr. #79
Fairfield, CA  94533

12-730-16  Gomes, Jetta I.
13841 Gomes Gulch
Grass Valley, CA  95945

12-730-19  Brown, Gary N& C Page
16876 You Bet Road
Grass Valley, CA  95945
12-730-20  Sleeth, Marc, C. & Penny A.H.
16594 You Bet Rd.
Grass Valley, CA 95945

12-730-21  Ferguson, Anne
126 W. Berryhill Dr. #315
Grass Valley, CA 95945

12-730-23  Foster, Robert H. & Helen R.
16459 You Bet Rd.
Grass Valley, CA 95945

12-730-24  Brokaw, Robert D & Marie L
16890 You Bet Road
Grass Valley, CA 95945

12-730-25  Crane, Timothy L & Barbara L
16882 You Bet Road
Grass Valley, CA 95945

12-730-26  Adcock, Loren N. & Katherine B.
949 Oddstad Blvd.
Pacifica, CA 94044

12-730-27  Kerr, Wm. L.
2016 Quesada Ct.
Antioch, CA 94509

12-730-33  Kennedy, Richard A. & Tina W. ETAL
16776 You Bet Rd.
grass Valley, CA 95945

12-730-34  France, Vivian E.
41308 Trenouth St.
Fremont, CA 94538

12-730-35  Nettles, Clayton D. ETAL
16746 You Bet Rd.
Grass Valley, CA 95945

12-730-36  Wilmot, James D.
76 Parrott
Vallejo, CA 94590

12-730-45  Thomas, Larry
1938 Palm Ave.
San Mateo, CA 94403

12-730-47  Howard, Beverly J. ETAL
614 Winship Road
Yuba City, CA 95991
12-730-48  Spurgeon, Creobelle K.
           98 Regency Dr.
           Clayton, CA  94517

12-730-55  Yates, George & Viki
           16781 Robert Lane
           Huntington Beach, CA  92647

12-730-56  Teschke, Kurt & Herta
           28016 Sandlewood Dr.
           Hayward, CA  94545

12-730-57  Klein, Duane A. & Melvetta J
           14031 Fifield Rd.
           Grass Valley, CA  95945

12-740-25  Liu Chieh-Ping
           6041 No. Walnut Ave.
           San Gabriel, CA  91175

12-740-30  Gossar, Jack W. & Kim L
           15575 Kit Kildizzie Dr.
           Grass Valley, CA  95945

12-740-31  Wasilko, Michael & Elizabeth A.
           7890 Robendell Way
           Cupertino, CA  95014

12-740-37  Holst, Perry V. & Rosa A.
           14159 Sontag Rd.
           Grass Valley, CA  95945

12-740-38  Huddleston, John & Christina
           144477 Makikuja Dr.
           Grass Valley, CA  95945

12-750-18  Benner, Bruce W. ETAL
           14585 Fifield Dr.
           Grass Valley, CA  95945

12-750-20  Conroy, John F. & Patricia L.
           14340 Dandee Hill Lane
           Grass Valley, CA  95945

12-750-21  Same as 12-750-20

12-750-22  Conroy, Patricia R.
           14340 Dandee Hill Lane
           Grass Valley, CA  95945

12-750-23  Bouchard, Elroy D.
           P.O. Box 250
           Wilsonville, OR  97070
12-750-24  Allen, Garey L. & Diana T.  
            14425 Gomes Gulch Drive  
            Grass Valley, CA  95945

12-750-25  Aspelin, Beverly  
            14663 Gomes Gulch Dr.  
            Grass Valley, CA  95945

12-750-26  Wiles, Dana  
            P.O. Box 2921  
            Grass Valley, CA  95945

12-750-27  Ellinwood, Timothy  
            P.O. Box 232  
            Chicago Park, CA  95712

12-750-31  Boettcher, Scott & Linda  
            295 Estates Dr.  
            Ben Lomond, CA  95005

12-750-32  Fussell, Norris, ETAL  
            14384 Gomes Gulch Rd.  
            Grass Valley, CA  95945

12-750-33  Toelkes, Mark J. & Lynda A.  
            14788 Gomes Gulch Dr.  
            Grass Valley, CA  95945

12-750-34  Lake, Patrick M.  
            217 S. Royce Place  
            Anaheim, CA  92804

12-750-35  Salisbury, Robert  
            615 Old Grass Valley Road  
            Colfax, CA  95713

12-750-36  Geortz, Lorna B.  
            1402 Caddo St.  
            Ruston, LA  71270

12-750-37  Hassell, Sime & VaNita K.  
            380 Mill St.  
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12-750-38  Todd, Gary D. & Penelope L.  
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12-750-39  Oller, Wm. C.  
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28-150-44 Radabaugh, Karen S
19077 Hwy 174
Chicago Park, CA 95712

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20360 Callon Dr.
Topanga, CA 90290

28-150-49 Kilbo, Betty
1000 Everglades Dr.
Pacific, CA 94044

28-150-50 Tishlarich, George
15734 You Win Court
Grass Valley, CA 95945

28-150-53 Ralston, Ron & Susan
15565 You Win Court
Grass Valley, CA 95945

28-150-54 Plazola, Betty A.
241 Breuner Drive, #4
Roseville, CA 95678

28-150-55 Waschkowsky, Fredrick M. & Lois
3441 McKean Drive
Concord, CA 94518

28-150-64 Henderson, J. Collinsworth
7610 Auburn Blvd., Ste. #4
Citrus Heights, CA 95610

28-150-65 Davies, Gene
2214 #A Manzanita
Antioch, CA 94509

28-150-66 Radosevich, Jack K.
P.O. Box 489
Chicago Park, CA 95712

28-410-19 Marshall, Roger W & Judy A
6785 Riptide Way
Sacramento, CA 95831

28-410-20 Peterson, H Dennis & Barbara
2211 Lady Muir Ct.
San Jose, CA 95131

28-410-21 Granger, Harvey T Trste ETAL
40 Hacienda Rd.
Orinda, CA 94563

28-410-22 Same as 28-410-21
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28-410-24  Same as 28-410-21
28-410-25  Donald & Dorothy Shapland
            18785 Louis Rd.
            Grass Valley, CA 95945
28-410-26  Howe, Don C & Loretta
            714 Kirkwall Pl
            Milpitas, CA 95035
28-410-27  Wisegarver, Willard J & Katherine F
            1737 Vasicili Ln
            Beaumont, CA 92223
28-410-28  Geckler, Ernst E & Deanna J
            11448 Madrone Ct.
            Auburn, CA 95603
28-410-29  Crews/Turner Construction
            6150 Reba Dr.
            Roseville, CA 95661
28-410-30  James & Shirley Salisbury
            1884 College Cr.
            Long Beach, CA 90815
28-410-31  Gregory Madson
            P.O. Box 1673
            Grass Valley, CA 95945
28-410-32  Same as 28-410-31
28-410-33  Richard & Ardith Dietrich
            14325 Frederick Way
            Grass Valley, CA 95945
28-410-34  Byron Rabin
            450 W. 4th
            Santa Ana, CA 92701
28-410-35  Salisbury, James D. & Shirley
            1884 College Cr.
            Long Beach, CA 90815
38-320-18  USA Unpatented
            Tahoe N F
38-320-20  Solano Gold Mines Inc
            Ada St.
38-341-65  W-M-D Partnership
           P.O. Box 1307
           Grass Valley, CA  95945

38-350-23  Rice, Howard & Lucile
           10235 Country Downs
           Rough & Ready, CA  95975

38-350-25  Carman, Robert N & Donna J ETAL
           10155 So Ponderosa Way
           Rough & Ready, CA  95975

38-360-08  USA Unpat BLM

38-360-24  Tucker, John & Sophia
           11654 Gettysburg Dr.
           Norwalk, CA  90650

38-360-25  Christopherson, Marc & Linda
           11211 Walup Way
           Grass Valley, CA  95945

38-360-26  Dodge, Bradley S.
           826 E Meadow Ave.
           Pinole, CA  94564

38-360-27  Lunsford, Mark S. ETAL
           6233 Samoa Way
           Carmichael, CA  95608

38-360-28  Jamison, David C & Mary L
           11323 Walup Way
           Grass Valley, CA  95945

38-360-30  Chin Pak Kwong & Moi Yong
           127 Alder St.
           Rodeo, CA  94587

38-360-34  Ramsey, Brint E ETAL
           16571 Meadow Way
           Grass Valley, CA  95945

38-360-35  Abney, Deborah K ETAL
           1230 Aspen Dr.
           Concord, CA  94520

38-360-39  Regevig, Kenneth A. & Mary L.
           25629 West Camino Vista
           Hayward, CA  94541

38-360-40  Jamison, David C. & Mary L.
           1132 Walup Way
           Grass Valley, CA  95945

83
<table>
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<tr>
<th>Number</th>
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</table>
| 38-370-01 | Peterson, Dan F. & Geri J.  
206 Sacramento St., Suite 205  
Nevada City, CA 95959 |
| 38-370-02 | Ryan, Michael & Laura  
11434 Forest View Dr.  
Nevada City, CA 95959 |
| 38-370-09 | Hansen Bros. Enterprises Inc.  
P.O. Box 1599  
Grass Valley, CA 95945 |
| 38-370-11 | USA Unpat BLM |
| 38-370-13 | Mitchell, Joy  
P.O. Box 1362  
Nevada City, CA 95959 |
| 38-370-14 | Same as 38-370-13 |
| 38-370-15 | Same as 38-370-13 |
| 38-370-16 | Same as 38-370-13 |
| 38-370-17 | Garrett, Donald L. Trustee etal  
6220 S. Shingle Rd.  
Shingle Springs, CA 95682 |
| 38-370-18 | Lampinen, Walter E. & Deborah V.  
P.O. Box 1571  
Woodland, CA 95695 |
| 38-380-04 | USA Unpat  
Tahoe National Forest |
| 38-380-07 | Same as 38-380-04 |
| 38-380-11 | Lampinen, Walter E. & Deborah V.  
P.O. Box 1571  
Woodland, CA 95695 |
| 38-380-12 | Toney, Michael W. & Virginia ETAL  
15053 Lake Lane  
Nevada City, CA 95959 |
| 38-380-15 | Hubbs Family Trust  
13223 Gracie Rd.  
Nevada City, CA 95959 |
| 38-380-16 | Same as 38-380-15 |
38-380-17  Jules, D. David  
            237 Randolph St.  
            San Francisco, CA  94132

38-380-19  Porter, Kenneth ETAL  
            1431 Madeline Rd.  
            San Pablo, CA  94806

38-380-20  Nevada County Cemetary Dist.  
            (No address shown)

38-390-02  USA Unpat BLM

38-390-04  Rubin, Francy L ETAL  
            100 Fern Rock Way  
            Boulder Creek, CA  95006

38-390-06  Brown, Thomas T ETAL  
            240 Madrone Ave.  
            Boulder Creek, CA  95006

38-390-07  USA Unpat BLM

38-390-12  You Bet Placer County  
            761 West Bullard  
            Fresno, CA  93704

38-390-13  Same as 38-390-12

38-390-14  USA Unpat BLM

38-390-15  USA Unpat BLM

38-390-16  You Bet Placer Co  
            761 West Bullard  
            Fresno, CA  93704

38-390-17  USA Unpat BLM

38-390-18  You Bet Placer Co.  
            761 West Bullard  
            Fresno, CA  93704

38-390-19  USA Unpat BLM

38-430-02  Elliott, Dennis L.  
            11255 Cawema Ln  
            Grass Valley, CA  95945

38-430-05  Smith, Wendell C. ETAL  
            26206 Grass Valley Ln  
            Grass Valley, CA  95945
38-430-06  Steudemaun, Wendy  
26206 Grass Valley Ln  
Grass Valley, CA  95945

38-430-07  Giannetto, John and Dorothy  
P.O. Box 6  
Millbrae, CA  94030

38-430-08  Kaleb, John & Rose  
1088 Fairfield Ave.  
Santa Clara, CA  95050

38-430-09  Donald, Percy & Roaslne  
1422 Belmont Ave.  
San Carlos, CA  94070

38-430-11  Suarez, Grace L. etal  
563 Liberty St.  
San Francisco, CA  94114

38-430-15  Lodato, Jack & Kathleen, etal  
5181 Independence Dr.  
Pleasanton, CA  94566

38-430-16  Same as 38-430-15

38-440-06  Same as 38-430-15

38-440-08  Callan, Michael C.  
82 Isabella Ave.  
Menlo Park, CA  94025

38-440-14  Crocker, Donald & Betty  
5336 Pacific Palm Ct.  
Fair Oaks, CA  95628

38-440-16  Mulford, Stephen etal  
1758 Knoll Top Dr.  
Grass Valley, CA  95945

38-440-19  Gill, Lila E.  
P.O. Box 646  
Dayton, NV  89403

38-440-24  Plunket, Carl A. & Linda J.  
19028 Greenhorn Rd. Ext.  
Grass Valley, CA  95945

38-440-25  Restad, Carol A.  
P.O. Box 639  
Penn Valley, CA  95946
38-440-26 Ellenburg, Eugene S.
11159 Squann River Ct.
Rancho Cordova, CA 95670

38-440-27 Gardner, Gilbert A. etal
2534 Garfield Ave.
Carmichael, CA 95608

38-440-29 Galster, Rollin M. & Marilyn M.
1213 Macaulay Cr.
Carmichael, CA 95608

38-440-30 Ames, Arman A. & Janis
19218 Greenhorn Rd. Ext.
Grass Valley, CA 95945

38-450-02 Christiansen, Harold A.
531 E. Spring St.
Napa, CA 94558

38-450-05 Arch, John Jr. & Valeria
828 Bryte Ave.
Broderick, CA 95605

38-450-06 Noto, Anatoineette
828 Silliman Way
Sacramento, CA 95831

38-450-10 Ittner, Donald A
P.O. Box 195
El Granada Cal, CA 94018

38-450-12 Hassfeld, Kelly & Deborah
437 Perkins St.
Hayward, CA 94541

38-450-13 Nave, Elizabeth etal
16604 Lawton Way
Grass Valley, CA 95945

38-450-19 Frerichs, Melvin & Dolores
1609 Cameron Way
Stockton, CA 95207

38-450-20 Te Beau, James D
19501 Manaznita Dr
Los Gatos, CA 95030

38-450-22 Hunt, Dean W ETAL
P.O. Box 411
Tahoe City, CA 95730
<table>
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<tr>
<td>38-450-23</td>
<td>Erikson, Charles W. &amp; Cheryl L</td>
<td>18072 Greenhorn Rd.</td>
<td>Grass Valley, CA 95945</td>
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<td>38-450-24</td>
<td>Costello, Sonjia</td>
<td>2995 Woodside Road #400</td>
<td>Woodside, CA 94602</td>
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<td>38-460-02</td>
<td>Kasser, Gertrude K. etal</td>
<td>P.O. Box 981</td>
<td>Zephyr Cove, NV 89448</td>
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<td>38-460-03</td>
<td>McCrea O'Connor, R. Grant</td>
<td>26206 Grass View Lane</td>
<td>Grass Valley, CA 95945</td>
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<td>38-460-11</td>
<td>Johnson, Albert &amp; Leone</td>
<td>Family Trust</td>
<td>Irvine, CA 92715</td>
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<td>38-460-12</td>
<td>Krause, Harold E. &amp; Marie L</td>
<td>16871 Autumn Oak Rd.</td>
<td>Grass Valley, CA 95945</td>
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<td>38-460-18</td>
<td>Doty, Jack E. &amp; Grace W. Etal</td>
<td>P.O. Box 26</td>
<td>Rough &amp; Ready, CA 95975</td>
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<td>38-460-19</td>
<td>Serrano, Carmella L.</td>
<td>7 Binnacle Lane</td>
<td>Foster City, CA 94404</td>
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<td>38-460-22</td>
<td>Santino, Mathew &amp; Karen</td>
<td>P.O. Box 1555</td>
<td>Cedar Ridge, CA 95924</td>
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<tr>
<td>38-460-23</td>
<td>Ortwein, Kenneth H., Etal</td>
<td>33779 Syracuse Avenue</td>
<td>Union City, CA 94587</td>
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PROPOSED PARCEL NUMBERS

SECTION 25 - AREA WHERE GRAVEL HARVEST IS PROPOSED TO BE EXTENDED

38-370-09 Hansen Bros. Enterprises
P.O. Box 1599
Grass Valley, CA 95945

38-380-02 Hansen Bros. Enterprises

38-380-03 Hansen Bros. Enterprises

38-380-05 Hansen Bros. Enterprises

38-380-12 Hansen Bros. Enterprises

EXISTING APPROVED CONDITIONAL USE PERMIT AREA

28-150-69 Nevada Irrigation Dist. (N.I.D.)

28-150-71 N.I.D.

28-150-72(por) N.I.D.

28-150-73(por) N.I.D.

12-710-33 N.I.D.

12-710-48 N.I.D.

12-710-49 N.I.D.

12-710-57 N.I.D.

12-730-58 N.I.D.

12-730-59 N.I.D.

12-750-41 N.I.D.

12-750-42 N.I.D.

12-800-03 Hansen Bros. Enterprises

12-800-04 Same as 12-800-03

12-800-05 Same as 12-800-03

12-800-06 Same as 12-800-03

38-380-10 Hansen Bros. Enterprises

38-430-04 Hansen Bros. Enterprises
38-430-14 Hansen Bros. Enterprises Inc.
38-440-07 Hansen Bros. Enterprises Inc.
38-450-03 Hansen Bros. Enterprises Inc.
38-450-07 Hansen Bros. Enterprises Inc.
38-450-08 Hansen Bros. Enterprises Inc.
38-460-07 Hansen Bros. Enterprises Inc.
PRELIMINARY
SURFACE MINING RECLAMATION PLAN
FOR
THE HANSEN BROS. ENTERPRISES GRAVEL CRUSHING OPERATION

FEBRUARY 1978
OWNER, OPERATOR, AND AGENT

1. Applicant: Hansen Bros. Enterprises  
   Route #5, Box 37  
   Grass Valley, California 95945  
   (916) 273-3381

2. Name of Mineral Property: Greenhorn Creek

   Route #5, Box 37  
   Grass Valley, California 95945  
   (916) 273-3381  
   Nevada Irrigation District  
   P. O. Box 1019  
   Grass Valley, California 95945  
   (916) 273-6185

   Route #5, Box 37  
   Grass Valley, California 95945  
   (916) 273-3381  
   Nevada Irrigation District  
   P. O. Box 1019  
   Grass Valley, California 95945  
   (916) 273-6185

5. Lessee of Nevada Irrigation District Property: Hansen Bros. Enterprises  
   Route #5, Box 37  
   Grass Valley, California 95945  
   (916) 273-3381

   Route #5, Box 37  
   Grass Valley, California 95945  
   (916) 273-3381

7. Agent of Process: Peter Chamberlin  
   331 French Avenue  
   Grass Valley, California 95945  
   (916) 273-6791
LOCATION

8. Total acreage of this project amounts to 321.45 ± acres.

The legal description of the project is as follows:
Sections 2 and 11, Township 15 North, Range 9 East, Mount Diablo Meridian
Sections 25, 30, 35 and 36, Township 16 North, Range 9 East, Mount Diablo Meridian
Complete legal descriptions are on the following pages.

9. Access to the project from Grass Valley or Colfax is by State Highway 174 to You Bet Road. After You Bet Road crosses Greenhorn Creek turn north (upstream) on private road to plant site.

10. Location and vicinity maps are on the following pages.

DESCRIPTION

11. This project will crush mining waste in the streambed into gravel for construction aggregate.

GEOLOGIC DESCRIPTION

12. The gravel now found in Greenhorn Creek is the remains of coarse gravels and boulders that were originally deposited in a tertiary channel of the Yuba River. These tertiary gravels were 30 to 40 feet thick and capped by finer gravels, clay, and sand up to 350 feet thick. The gravels contain a high concentration of quartz. Later in geologic time the downcutting of Greenhorn Creek exposed the tertiary gravels.

The tertiary gravels with a high quartz content were known to contain gold by the early miners. The outwash from the hydraulically mined gravel now indicates the Greenhorn Creek streambed.

Most of the finer materials in the original gravels have been lost, leaving only poorly sorted gravels, cobbles and boulders.

When Greenhorn Creek floods during the winter rainy season, the stream is able to move large amounts of gravel ultimately into Rollins Reservoir, causing a loss of water storage space.

The project is located in the You Bet - Red Dog Gold District about eight miles southwest of Grass Valley/Nevada City. The major hydraulic mines in the District include: Red Dog - You Bet Diggins, Buckeye Diggins and Little York Diggings. An estimated 20 million yards of gravel remain at Red Dog at the head of Missouri Canyon, a tributary of Greenhorn Creek.
All that real property situate in the County of Nevada, State of California, described as follows:

PARCEL NO. 1:

Lot 47, embracing a portion of Township 16 North, Range 9 East, Mount Diablo Base and Meridian, and Lot 77, embracing a portion of Township 16 North, Range 10 East, Mount Diablo Base and Meridian, MISSOURI CANYON PLACER MINE, containing 19.51 acres, more or less, and more fully described in the patent dated March 13, 1876, recorded March 8, 1877, in Book 1 of Patents, at page 344, executed by the United States of America to William Kistle.

EXCEPTING THEREFROM any veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper or other valuable deposits within the land above described which may have been discovered or known to exist on or prior to March 13, 1876.

ALSO EXCEPTING THEREFROM all that portion thereof within Township 16 North, Range 10 East.

PARCEL NO. 2:

Lot 46 and Lot 75, embracing a portion of Township 16 North, Range 9 East, and 10 East, Mount Diablo Base and Meridian, ARKANSAS and GREENHORN PLACER MINE, containing 35.60 acres, more or less, and more fully described in the patent dated August 11, 1876, recorded June 30, 1880, in Book 1 of Patents, at page 617, executed by the United States of America to Daniel E. Bush.

EXCEPTING THEREFROM any veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits within the land above described which may have been discovered or known to exist on or prior to August 11, 1876.

ALSO EXCEPTING THEREFROM all that portion thereof within Township 16 North, Range 10 East.

PARCEL NO. 3:

Lot 39, embracing a portion of Township 15 North, Range 9 East, Mount Diablo Base and Meridian, Palmyra Pluming and Mining Company’s Claim, containing 69.79 acres, more or less, and more fully described in the patent dated March 16, 1875, recorded March 24, 1875, in Book 1 of Patents, at page 516, granted by the United States of America to D. D. Shattuck.

EXCEPTING THEREFROM all that portion thereof described as Parcel F in the Final order of Condemnation entered September 11, 1955, in Suit No. 13621, in the Superior Court of the State of California, in and for the County of Nevada, entitled "Nevada Irrigation District, a public corporation, plaintiff vs Alpha Stores, Ltd., a California corporation, Rich-Kiss Placer Company, a Nevada corporation, You Eet

(Continued Page 2, Description)
Placer Company, a Nevada corporation, Deeds, d Powers, a certified copy of which was recorded on September 17, 1965, in Book 387 of Official Records, at page 130, Nevada County Records.

ALSO EXCEPTING THEREFROM any veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits within the land above described which may have been discovered or known to exist on or prior to March 16, 1873.

PARCEL NO. 4:

Lots 40 and 53, Newark Fluming and Mining Company's Placer Claim, embracing a portion of Townships 15 and 16, Range 9 East, Mount Diablo Base and Meridian, and described in the Patent issued by the United States of America to D. D. Shattuck, General Land Office No. 2773, Mineral Certificate No. 547, dated March 16, 1878, recorded in Volume 34, at page 24 to 33, inclusive of the General Land Office Records at Washington, D. C., and also recorded on March 24, 1879, in Book 1 of Patents, at pages 524 and 529, inclusive, of Nevada County Records, State of California.

EXCEPTING THEREFROM any veins or lodes of quartz or other rock in place bearing gold, silver, cinnabar, lead, tin, copper, or other valuable deposits within the land above described which may have been discovered or known to exist on or prior to March 16, 1873.

PARCEL NO. 5:

Lot 7 of the Northeast quarter of Section 2, Township 15 North, Range 9 East, M.D.B. & M., according to the official plat thereof.
NEVADA IRRIGATION DISTRICT LANDS

Leased to

HANSEN BROS. ENTERPRISES

Those certain parcels of land situate in the West Half of Section 2, and in the Northwest Quarter of Section 11, Township 15 North, Range 9 East, M.D.B.&M., all within the County of Nevada, State of California, more particularly described as follows:

Beginning at a point in said Section 11 from which the Northwest corner thereof bears North 10° 14' West 382.49 feet; North 19° 55' East 618.47 feet, and North 86° 50' West 376.18 feet distant and running thence from said point of beginning North 10° 14' West 382.49 feet; thence North 19° 55' East 993.80 feet; thence North 41° 56' West 252.69 feet; thence North 55° 33' East 267.60 feet; thence North 47° 12' East 249.08 feet; thence North 28° 45' East 238.16 feet; thence North 21° 13' West 213.86 feet; thence North 35° 22' West 55.10 feet; thence North 35° 22' West 190.49 feet; thence North 20° 30' West 406.20 feet; thence North 05° 46' East 305.26 feet; thence North 37° 43' East 208.87 feet; thence North 67° 57' East 121.31 feet; thence North 80° 18' West 138.08 feet; thence North 26° 16' West 400.90 feet; thence North 14° 03' East 265.01 feet; thence North 17° 57' East 444.28 feet; thence North 50° 03' East 381.39 feet; thence North 54° 10' East 131.93 feet; thence North 16° 57' East 204.67 feet; thence South 86° 51' East 27.05 feet; thence North 02° 29' East 49.26 feet; thence North 20° 29' East 259.28 feet; thence North 17° 59' East 708.97 feet; thence North 42° 59' East 485.89 feet; thence North 33° 44' East 174.04 feet; thence North 54° 04' East 11.11 feet; thence South 58° 14' East 133.72 feet; thence South 34° 02' West 185.19 feet; thence South 20° 26' West 96.43 feet; thence South 50° 56' West 78.00 feet; thence South 34° 02' West 62.94 feet; thence South 40° 57' 40' West 351.70 feet; thence South 03° 01' East 507.17 feet; thence South 05° 27' West 434.81 feet; thence South 32° 44' West 309.08 feet; thence South 56° 02' West 200.81 feet; thence South 52° 11' West 321.40 feet; thence South 10° 45' 14' West 531.04 feet; thence South 61° 25' East 114.98 feet; thence South 86° 41' 28' East 499.13 feet; thence South 01° 20' 13' West 1178.11 feet; thence South 88° 26' 2.37 feet; thence South 84° 42' East 413.94 feet; thence South 88° 40' East 146.42 feet; thence North 71° 02' East 153.04 feet; thence North 35° 03' East 133.12 feet; thence South 88° 09' East 172.15 feet; thence South 01° 00' West 89.55 feet; thence South 28° 34' West 294.49 feet; thence South 47° 29' West 215.39 feet; thence South 62° 21' East 275.36 feet; thence South 20° 49' West 348.03 feet; thence South 10° 29' West 261.78 feet; thence North 73° 25' West 166.35 feet; thence North 84° 42' West 64.17 feet; thence South 01° 20' 13' West 291.46 feet; thence North 86° 50' West 425.65 feet; thence South 20° 47' West 323.81 feet; thence South 14° 08' East 166.15 feet; thence South 28° 34' West 121.27 feet; thence South 00° 24' East 503.30 feet; thence Northwesterly 595.00 feet, more or less, to the point of beginning. Containing 93.00 acres, more or less.
The regional geologic setting includes rocks of the Pliocene volcanic unit, Eocene non-marine unit, Jura-Trias metavolcanic unit and the Paleozoic marine unit. Important rock types within these units are andesite, Eocene auriferous gravel deposits, amphibolite, slate and chert.

ENVIRONMENTAL SETTING

13. Topography - The project is located in the western Sierra Nevada Foothills at elevations of between 2,600 and 2,120 feet. The project is sited in the streambed of Greenhorn Creek and Rollins Reservoir.

Greenhorn Creek has formed a narrow, steep-sided canyon that trends northeast-southwest. The numerous ridges rising from the canyon reach elevations of 3,600 feet.

Soils - The Soil Conservation Service indicates that the project site is covered with mine tailings. The mine tailings are composed of stones, cobblestones, silt/sand and gravel. The Nevada Irrigation District (N.I.D.) leased lands are indicated as a water surface (Rollins Reservoir).

Vegetation and Wildlife - The project is located in the Sierra Nevada Transition Life Zone. The streambed of Greenhorn Creek is mostly devoid of any vegetation except for locations along the edge of the channel. Willow and alder grow near the Greenhorn streamcourse. Some trees have been killed by the influx of stream gravels.

The three wildlife habitat types for the project are aquatic, riparian and man disturbed. Blacktailed deer, raccoon, and otter inhabit the project area. Greenhorn Creek contains rainbow and brown trout upstream from Rollins Reservoir to the You Bet Road Bridge.

The area surrounding the project is in the same life zone as the project. Here the mixed yellow-pine forest and oak woodlands prevail. The vegetation in recent times has been affected by logging, fires and bark beetle disease.

The wildlife in the region is more abundant and diversified than the project site.

Surface Water - The project is astride Greenhorn Creek. During the winter, Greenhorn Creek moves large amounts of gravel with large flows of water. The dry summer months cause the creek to flow under the gravels and in poorly defined braided channels. The creek may flow over any part of its streambed and not have a clearly defined long standing channel.

The 50 year peak flow in the creek could amount to an estimated 4,800 cfs. The average annual peak flow is 360 cfs.
Greenhorn Creek flows into and forms the northwestern arm of Rollins Reservoir. Important tributaries of Greenhorn Creek are Little Greenhorn Creek and Missouri Canyon.

Groundwater - Groundwater resources will not be used by this project. This project should not affect groundwater.

Climate - The weather station nearest to the project is in Nevada City, about 8 miles northeast. At Nevada City the mean annual temperature is 53.2°F, and the seasonal precipitation is 53.01 inches.

Most of the precipitation falls in the winter as rain and snow; the summers are warm and dry.

Land Use - Project lands are used as a source of rock to be crushed or hauled out uncrushed. A processing plant is located on-site.

Surrounding the lower canyon reaches, the land is used for low density single family hojmes. Rollins Reservoir and Greenhorn Creek are used for recreational purposes.

Environmental Impacts - The major impacts are:

(1) Noise generation.
(2) Increased traffic.
(3) Increased particulate emissions.

The primary receptors in the project region of the noise are residents of single family dwellings. All of the people are living far enough away and there is enough topographic relief and vegetation to reduce noise levels to below federal noise level standards (70 dB).

The applicant is paying the Nevada County Public Works Department $30,000 for the improvement of You Bet Road. This money will be paid over a five year period at the rate of $0.05 per ton up to 100,000 tons of rock removed and $0.08 per ton for each ton of material removed over 100,000 tons. The payment is based upon the tonnage removed in any one year period.

Particulate emissions will be controlled by keeping the crushed rock moist with water sprayers. The water will be applied by nozzles mounted above the conveyor belts that will automatically apply a fine spray over the rock material to reduce dust emissions. Dirt roads will be kept moist by spraying with a water truck.

EXISTING SURFACE MINING OPERATION

14. This project has been in operation since 1973. New rock crushers will be added by June, 1978.
The estimated life of this operation is 200 years.

This operation will have no phases.

15. The aggregate processing plant will operate continuously throughout the year. The portable aggregate processing plant will operate on a seasonal basis.

This operation is developed and in operation. The portable cone crusher will be added after the granting of a use permit by Nevada County.

16. The operation will crush 150,000 to 350,000 tons of rock per year.

TOTAL ANTICIPATED PRODUCTION

17. Mineral commodities to be removed are estimated at 30 million tons over the next 200 years.

No rock wastes will be retained or disposed of on or off site.

Maximum anticipated depth of rock material to be removed is 70 feet.

MINING METHOD

18. This operation is a gravel removing operation.

A dragline and scraper will be used to provide gravel for the crushers. Crushed and uncrushed rock will be trucked out of the area.

Settling ponds will be used as necessary.

19a. Mine wastes will be crushed on site with a jaw and cone rock crusher. There will be no rock waste resulting from this project. All crushed and uncrushed rock material will be hauled and sold offsite.

19b. The anticipated water demand (600 gpm) would be supplied by water pumped from Greenhorn Creek. Water would be used to control dust emissions and for an on-site washing operation. A water tanker - truck hauls water to be sprayed over the site to control dust on access roads and the crushing sites.

The water quality of Greenhorn Creek is probably typical of surface water flows in the foothill area. Hardrock and surface mines, not related to this project, may contribute water with higher than usual concentrations of iron, arsenic, manganese and hydrogen sulfide. The water is of sufficient quality to be used for dust control and gravel washing.
20. The nature of the deposit will not allow concurrent reclamation. Each year the project lowers the streambed gravels by about four feet. Each year the flooding water of the creek moves in an equal or greater amount of materials. All of the gravels should be removed before reclamation can take place. The removing of the gravels in itself is reclaiming the channel of Greenhorn Creek.

SITE PLANS

21. See preceding pages.

RECLAMATION PLAN

22. The area to be reclaimed is the streambed of Greenhorn Creek. See the site plans on preceding pages. Acreage is 321.45 ± acres.

ELEMENTS OF RECLAMATION PLAN

23. (a) 1) Shaping of the ground when all of the gravel is removed into a "V" shape with Greenhorn Creek flowing in the "V".

2) The removal of gravel will not include the bedrock of the banks or stream channel.

3) The stream channel will be made to be of sufficient size to pass the 100 year peak flow. This cannot take place until all or most of the gravel is removed.

4) A blanket of gravel could be left to cover the stream banks and streambed.

5) Any soil encountered under the gravel will be left alone.

6) The stream profile will be cut to the proper angle of repose.

7) A deliberate channel for the creek to flow in will be created.

(b) The proposed ultimate physical condition of the site would be a "V" shaped stream channel with Greenhorn Creek flowing in it.

(c) The potential use of the reclaimed streambed would be for the channel of Greenhorn Creek. The reclaimed channel may be developed into a recreational fishing area.

(d) The proposed uses of the reclaimed lands are for recreational use, watershed, and the stream channel of Greenhorn Creek.

(e) The alternate reclaimed site conditions should return the channel of Greenhorn Creek to its pre-mining condition. This whole project will remove gravels from the channel with the end result being a return to pre-mining era channel characteristics.
24. **Zoning Regulations** - The current zoning of the project is "unclassified".

**General Plan** - The General Plan classification is "General Forest Environment" and "Special Study Corridor".

The "unclassified zoning district" is consistent for surface mining if the zoning district is located in an area that the General Plan classifies as "General Forest Environment" or "Special Study Corridor".

It is not known if the area will retain its present zoning and general plan classification 200 years hence.

**EVIDENCE OF POSSESSORY INTEREST IN RECLAMATION PLAN**

25. The applicant is the owner of 228.45+ acres of the project. The other 93+ acres are owned by Nevada Irrigation District. N.I.D. has granted the applicant a 10 year lease with options for unlimited renewing in 10 year intervals. See lease agreement on following pages.

26. The mine waste gravels contain no soils, thus no soil salvage plan is proposed.

**ULTIMATE RESULTS OF THE RECLAMATION PLAN**

27. (a) All of the operations in reclaiming lands in this project will have to wait until enough gravel is removed to prevent the destruction of reclamation objectives. The banks of the stream would be graded with dragline or bulldozer or the equivalent in use 200 years hence. The banks would be graded to the proper angle of repose.

(b) The slopes of the channel would be stabilized by leaving a sufficient thickness of gravel in place. The gravel would form a natural rip-rap.

(d) The pre-mining stream channel would be cut into a "Y" shape with the creek flowing in the bottom.

(e) The existing crushers, screens, scales, and building would be removed in order to take the gravels they are sited on.

(g) The streambed and banks would be graded and shaped with a blanket of gravel left in place to control erosion and sedimentation.

(i) Resoiling would not be practical since the project is an actively flowing and dynamic stream. Alder and willow could move into the streambed and bank through a process of natural propagation.

28. No short term phasing of reclamation is practical for this project.
LEASE AGREEMENT

THIS AGREEMENT made and entered into as of the day of ________, 1977, by and between NEVADA IRRIGATION DISTRICT (Lessor) and HANSEN BROS. ENTERPRISES, INC. (Lessee).

RECITALS

THIS AGREEMENT is made with reference to the following facts:

The Lessor, NEVADA IRRIGATION DISTRICT, owns certain property located on Greenhorn Creek, extending from a reservoir known as "ROLLING LAKE", County of Nevada, to a point upstream where the said creek is bridged by a county road commonly known as You Bet-Red Dog Road. The Lessee, HANSEN BROS. ENTERPRISES, INC. is engaged in the business of excavating, processing and marketing sands, gravels and aggregate materials, and has facilities situated in vicinity of Greenhorn Creek for this purpose. Lessor and Lessee desire to enter into an agreement by which sands, gravels and aggregate materials on Lessor's said property may be sold to, and removed by Lessee.

AGREEMENT

NOW THEREFORE, in consideration of the mutual premises, covenants and conditions hereinafter set forth, it is agreed between Lessor and Lessee as follows:

1. Lease: This lease supersedes in its entirety a pre-existing agreement between the parties and Holscott Corporation, dated January 16, 1974. Lessor hereby grants to Lessee the exclusive right during this lease to excavate, process and remove sands, gravels and aggregate materials from that portion of Greenhorn Creek designated as the Area of Removal in Exhibit "A" attached hereto and incorporated by reference herein. This lease does not convey any rights with respect to gold or any other precious metals or minerals.
2. Term: The term of this lease shall be ten (10) years, commencing January 1, 1977 and terminating December 31, 1986.

3. Consideration: Minimum Royalties: Lessee shall pay to Lessor a royalty for all sands, gravels and aggregate materials removed from the said property, in the sum of fifteen cents (15¢) per ton, provided however that the minimum royalty shall be Three Thousand Dollars ($3,000.00) per year, payable upon the execution of this lease, with a like amount to be paid on each anniversary, subject to adjustments as follows:

(a) Removals and Credits: It is the intention of the parties that at least the minimum royalty tonnage be removed each year. It is the further intention of the parties that the Lessee have incentives to remove amounts in excess of the minimum tonnage, said incentives being in the form of credits against the minimum royalty amounts.

(b) Removals in Excess of Minimum: At the end of any contract year in which the royalties payable by reason of actual removals exceed the minimum royalty of $3,000.00, the amount paid in excess of $3,000.00 shall be carried forward as a credit against the minimum royalty payments for the following year(s).

(c) Removals Less than the Minimum: At the end of any contract year in which the royalties payable by reason of actual removals are less than the minimum royalty payment of $3,000.00 the minimum royalty due shall nonetheless be paid, but the portion thereof which exceed the contract value of the removed material shall be carried over as a credit against future years removals in excess of the minimum for those years.
4. **Plant Site:** It is understood and acknowledged that Lessee has a processing plant for aggregate materials, upstream on Greenhorn Creek, beyond the boundaries of the leased premises. It is the intention of the parties hereto that materials removed under this lease will be transported to that plant for processing. However, if in the future Lessee desires to establish a plant site within the leased premises to process materials extracted from said premises, Lessor will consent to such a plant, provided that it is of reasonable size, design and location. If in the judgment of Lessor, the proposed plant cannot be established without unreasonable harm or risk to Lessor's operation of the premises for Lessor's purposes, then consent may be withheld by Lessor, without invalidating this Agreement or any other terms hereof.

5. **Access:** The Lessee shall have the right of ingress and egress to the property set forth herein at reasonable times and places for the purpose of installing any equipment referred to in the preceding paragraph and the removal of aggregate from said property. Such access shall include a non-exclusive right of way for road purposes over and across undeveloped lands of Lessor above the 2160 foot elevation line as shown on Exhibit "A". The exact location of the said road shall be fixed by agreement of Lessee and Lessor, and shall be reasonably suited to carrying out the purposes of this Lease, without undue interference with operations of Lessor. Once fixed, the location shall not be changed except upon further agreement between Lessee and Lessor.

6. **Lessor's Agreements with State and Federal Governments and Other Persons:** Recreation Area: This Lease is subject to all agreements in effect at the time of its execution which affect the rights and duties of Lessor and Lessee. The agreements referred to herein shall specifically include those between the Lessor and the Department of Water Resources of the
State of California, and the Bureau of Reclamation of the Department of the Interior of the United States of America. It is understood and acknowledged that the said property is within the "Recreation Area" described in the "Davis-Crunkly" contract with the Department of Water Resources. Lessee agrees to conduct its operations so as not to interfere unnecessarily or unreasonably with on-going recreational use of the recreation area, or with existing aesthetic or environmental conditions therein. In particular, Lessee agrees not to obstruct or interfere with the beach area along the shoreline of Lake Rollins, or the immediate vicinity thereof. Lessee acknowledges the right of Lessor to enter into a concession agreement with any person or corporation for the purpose of managing, operating and maintaining the recreation area on terms consistent with this Lease Agreement.

7. Permits: Prior to conducting any operations hereunder, the Lessee agrees to secure at Lessee's sole cost and expense all necessary permits, and reviews from the County of Nevada, State of California, or any other agency having jurisdiction, for the excavation of aggregate from the real property described herein or any other activity contemplated by this Agreement. In the event the said permits cannot be obtained, or in the event said permits can be obtained only on conditions which would clearly render this Lease unprofitable to Lessee, then in such event, this Lease may be cancelled at the election of Lessee promptly exercised. It is understood and acknowledged that the exercise of Lessee's rights hereunder may also be affected by any judgment which may be entered in the case of Robert W. Lawton et al vs. Hansen Bros. Enterprises, Inc., et al, Nevada County Superior Court No. 18982.

8. Compliance with Government Rules and Regulations: The Lessee agrees to conduct said aggregate operations in compliance with government rules and regulations, and laws of
the federal government, state government and County of Nevada.

9. **Utilities**: No utilities are presently furnished to the real property described herein, and in the event the Lessee finds it necessary to utilize utilities on said property, the Lessee agrees to pay the costs of extending all utilities to said area and to pay for all utilities used in connection with the Lessee’s occupation of said property.

10. **Insurance**: Lessee agrees, at its sole expense, to purchase and maintain a policy, or policies, of liability insurance covering the activities contemplated by this Lease, with limits of liability of not less than $ per person and $ per occurrence for personal injuries, and $ for property damage. Lessee agrees to furnish the Lessor with a certificate of insurance designating Lessor as "additional insured", and agrees to indemnify the Lessor from any loss, damage, injury or judgment the Lessor may suffer by reason of the Lessee’s operation of said property.

11. **Reservoir Enlargement**: In the event Lessor should undertake the enlargement of Rollins Dam and reservoir so as to inundate the said property, this Lease shall be terminated, by notice given to Lessee in writing at least sixty (60) days prior to said termination. Upon such termination, Lessee shall render an accounting of all sands, gravels and aggregate materials theretofore removed, and all royalty payments theretofore made, and a final payment shall be made to Lessor, or to Lessee, as the case may be, so that the total royalties paid may equal the amounts due for materials actually removed. Said payment shall be the sole remedy of Lessee, and no relocation payments, land acquisition payments or other compensation in eminent domain proceedings or otherwise shall be payable by Lessor.

12. **Taxes**: The Lessee shall pay all taxes levied against the personal property owned by the Lessee and located on the real property described herein, and any possessory interest taxes that
13. **Liens:** The Lessee shall conduct its business in such a manner to insure that no liens, stop notices, attachments, executions or judgments shall in any manner be placed upon the real property described herein.

14. **Assignment:** This Lease cannot be assigned by the Lessee without the written consent of the Lessor. As the term is used herein, "assignment" shall include a sale or transfer of controlling interest in Lessee corporation.

15. **Books and Records:** Lessee shall maintain complete books and records of its removal operations and related transaction and such books and records shall be made available for inspection by Lessor, or either of them at Lessee’s usual place of business upon request at any reasonable time.

16. **Arbitration:** In the event of a dispute as to the interpretation of any of the terms, covenants and conditions set forth herein which cannot be reconciled by the parties, the parties agree to submit same to arbitration and each party will appoint an arbitrator, and if the two arbitrators cannot agree, then they shall appoint a third arbitrator and the majority finding by the arbitrators shall be binding upon both parties. Costs of arbitration shall be shared equally by each party.

17. **Default:** Should the Lessee be in default of any of the terms, covenants and conditions of this Lease and fail to correct same after sixty (60) days written notice of said default, the Lessor, without further notice shall have the right to terminate this Agreement and repossess said property in its entirety. The Lessee shall have sixty (60) days from the date of termination to remove all equipment from said property and shall restore the terrain to its natural condition insofar as reasonably possible.
18. Notices: All notices, statements, remittances, approvals, disapprovals, objections and submissions which either of the parties is required or may desire to serve upon the other party in connection with this Agreement, unless specifically provided to the contrary, shall be in writing to the other party, by mail or telegraph addressed to the respective parties:

To: Hansen Bros. Enterprises  
Rt. 4 Box 276  
Grass Valley, California 95945

Nevada Irrigation District  
P. O. Box 1019  
Grass Valley, California 95945

19. Option: The Lessee shall have the right to extend this Lease for an additional term of ten (10) years. The Lessee may elect to exercise this option by giving the Lessor thirty (30) days written notice prior to the expiration of the present term. All terms and conditions of this Lease shall remain in full force and effect for the new term, provided, however, that the Lessor may, at its election, require renegotiation of the price per ton, and minimum royalty, as a condition of the exercise of the option. In such event, the renegotiated terms shall be fair and reasonable to both parties.

IN WITNESS WHEREOF, the parties hereto have executed this lease this day of , 1977.

NEVADA IRRIGATION DISTRICT

By

Lessor

HANSEN BROS. ENTERPRISES, INC.

By

Lessee
29. Reclamation of the site as indicated above will end mining for gravel in the streambed of Greenhorn Creek. The reclaimed site cannot be mined without destroying the reclamation efforts. Mining in the surrounding area will be unaffected by reclaims this site.

The applicant hereby accepts total responsibility for reclaiming the mined lands in accordance with the Reclamation Plan.

Name

Title President

Date February 10, 1978