

MINUTE ITEM

This Calendar Item No. C84  
was approved as Minute Item  
No. 84 by the State Land  
Commission by a vote of 3  
to 0 at its 7/6/95  
meeting.

CALENDAR ITEM  
C84

A 8

S 4

07/06/95  
W 40676 PRC 7845  
Willard  
Kruger

APPROVE A NEGOTIATED SUBSURFACE (NO SURFACE USE)  
GEOTHERMAL RESOURCES LEASE,  
THE GEYSERS STEAM FIELD,  
LAKE COUNTY

APPLICANT:

Santa Fe Geothermal, Inc.  
Attention: Mr. James Horne, Sr. Project Engineer  
Two Lincoln Centre, Suite 1100  
5420 LBJ Freeway  
Dallas, Texas 75240-2648

AREA, TYPE LAND AND LOCATION:

Approximately 440 acres of State fee-owned school land in  
the eastern portion of The Geysers Geothermal Steam Field in  
Lake County (see Exhibits "A" and "B" for land description  
and location map).

LAND USE:

The State has 7,329 acres currently under lease at The  
Geysers. These lands are a portion of the School Lands  
received by the State in a grant from the federal government  
to support public schools. Revenue received from the use of  
school land is for the benefit of the State Teachers'  
Retirement System.

LEASE TERMS:

1. The form of lease provides for "Subsurface Only - No  
Surface Use".
2. The primary term is ten years and for so long as

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geothermal resources are being produced or utilized, or are capable of being produced or utilized, in commercial quantities from the leased land or from lands unitized with the leased land, unless sooner terminated as provided in this lease.

3. Royalty of 12 1/2 percent of the value of steam produced from the leased land less an overriding royalty not to exceed one percent (1%), associated with the surface location of wells on other lands. The value of the steam shall be based on the higher of (1) the price posted by Pacific Gas and Electric Company (or successor in ownership) for production utilized by its Unit 13 and Unit 16 powerplants, or (2) the price utilized in the valuation by Lessee of production utilized by its Santa Fe Unit 1 power plant. In the absence of either (1) or (2), the value shall be based on the average negotiated price (or, if no negotiated price, the average of posted prices) paid by other purchasers in The Geysers for steam of like kind and character.
4. Rent of \$1.00 per acre per year, payable in advance.
5. Initial drilling requirement is three years. The drilling requirement may be extended by the State for a period of up to two years based on information provided by Lessee justifying the need for an extension.
6. Bond or other security is in the amount of \$50,000 in favor of the State.

**BACKGROUND:**

Santa Fe Geothermal, Inc. (Santa Fe) has submitted an application for a negotiated subsurface geothermal resources lease on approximately 440 acres of State fee-owned land not previously leased. All drilling and production operations

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will be conducted by Santa Fe on adjacent privately-owned leased lands as these operations will not be permitted on the surface of the State leased land.

**PREREQUISITE CONDITIONS, FEES AND EXPENSES:**

Filing fee, processing costs and the first year's rental have been received from the Applicant.

**STATUTORY AND OTHER REFERENCES:**

- A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.
- B. Cal. Code Regs.: Title 3, Div. 3; Title 14, Div. 6.

AB 884:

N/A

**OTHER PERTINENT INFORMATION:**

1. CEQA Guidelines Section 15378(a)(3) identifies the issuance of a lease as a "project". However, there will be no surface use of the State leased land for any purpose. As such, the site of any environmental impact from a geothermal resource development project will occur on Santa Fe's adjacent privately-owned leased lands within Lake County. Therefore, Lake County functioned as the Lead Agency for the project pursuant to State CEQA Guidelines Section 15366.

The Lake County Planning Commission approved Amended Use Permit #UP93-16 on October 27, 1994, determining that this project will not have a significant effect on the environment. An Initial Study, #IS93-30, was completed and the County prepared and adopted a Mitigated Negative Declaration for this project. The Lake County Geothermal Resource and Transmission Element (SCH #87120112) was utilized as the principal CEQA document reference. A copy of these documents is on file in the offices of the State Lands Commission.

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2. Geothermal development within the subsurface of the State leased land, including directional drilling from adjacent private lands, shall have prior written approval by the State. Any development shall be performed subject to the provisions of this lease, the P.R.C. and applicable State regulations. This lease, and operations under it, shall be consistent with the principle of multiple use of public lands and resources as provided in Section 6906 of the P.R.C.
3. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C 6370, et.seq., but will not affect those significant lands.

**EXHIBITS:**

- A. Land Description
- B. Location Map
- C. Lake County CEQA Findings and Use Permit

**IT IS RECOMMENDED THAT THE COMMISSION:**

1. FIND THAT THE COUNTY OF LAKE, AS THE CEQA LEAD AGENCY, HAS PREPARED INITIAL STUDY #IS93-30, AND ADOPTED A SUBSEQUENTLY PREPARED MITIGATED NEGATIVE DECLARATION PURSUANT TO THE REQUIREMENTS OF CEQA, AND THAT THE STATE LANDS COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION THEREIN.
2. FIND THAT THIS ACTIVITY WILL INVOLVE LANDS IDENTIFIED AS POSSESSING SIGNIFICANT ENVIRONMENTAL VALUES PURSUANT TO P.R.C. 6370, ET SEQ., BUT THAT SUCH ACTIVITY WILL HAVE NO DIRECT OR INDIRECT EFFECT ON SUCH LANDS.
3. AUTHORIZE THE ISSUANCE OF A NEGOTIATED SUBSURFACE (NO SURFACE USE) GEOTHERMAL RESOURCES LEASE TO SANTA FE GEOTHERMAL, INC. OF DALLAS, TEXAS, FOR A PRIMARY TERM OF TEN YEARS, EFFECTIVE JULY 1, 1995, IN ACCORDANCE WITH P.R.C. SECTIONS 6901 AND 6905.

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W 40676

**EXHIBIT "A"**

**LAND DESCRIPTION**

S1/2, W1/2 of NE1/4, and SE1/4 of NE1/4, all in Section 15, T11N, R8W, MDB&M, Lake County containing 440 acres more or less.

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Please address any correspondence or questions related to environmental issues to me and any questions related to policy/design issues to Don Chapin.

**Attachments**

**\*Site Plan Enclosed**

**TA:hm 57491**

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**W40676**  
**EXHIBIT "B"**  
**LOCATION MAP**

**GEYSERS**  
**GEOTHERMAL AREA**

STATE LANDS COMMISSION LONG BEACH CALIFORNIA

1 MILE SCALE

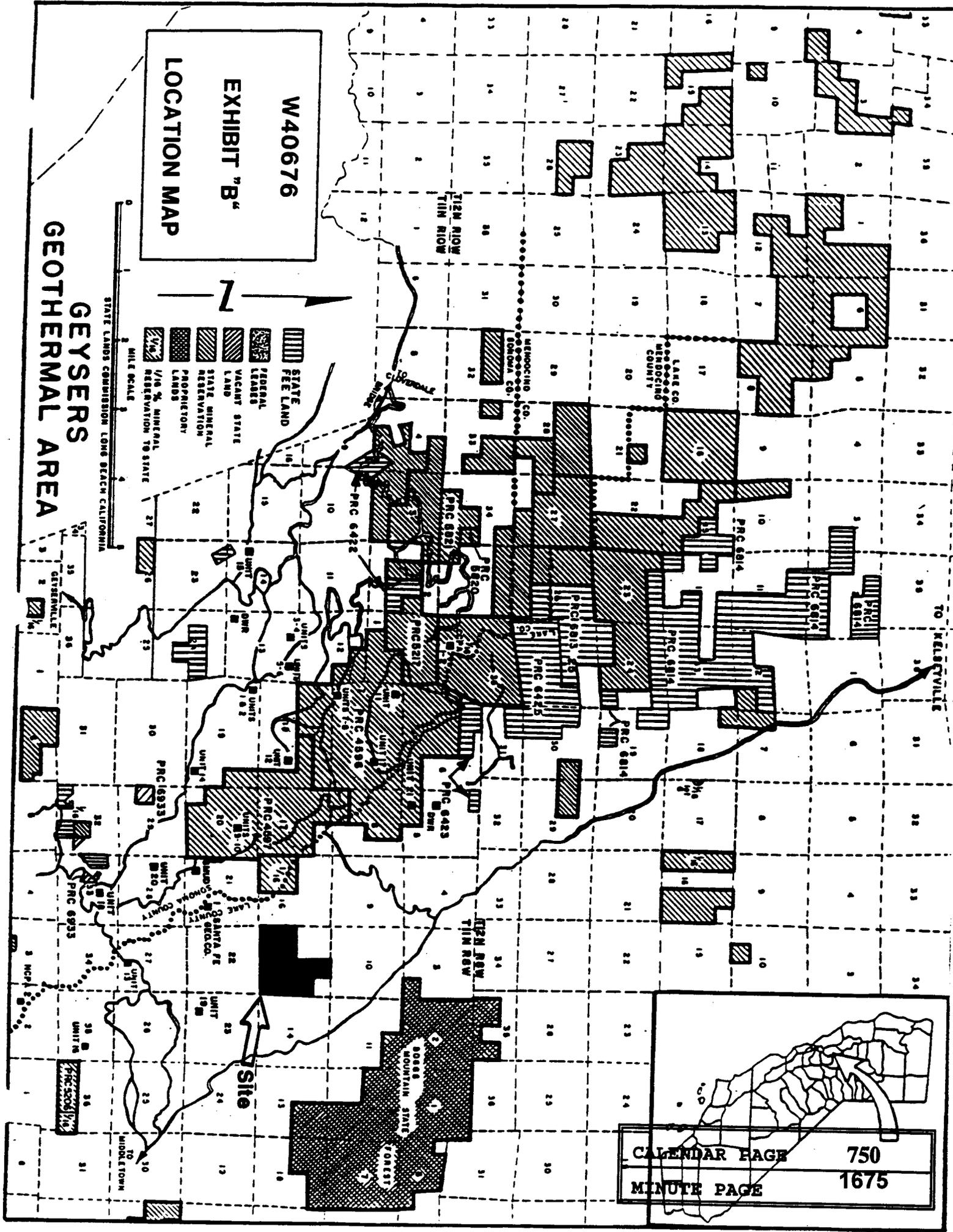
STATE FEE LAND  
 FEDERAL LEASES  
 VACANT STATE LAND  
 STATE MINERAL RESERVATION  
 PROPRIETARY LANDS  
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**Site**

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# EXHIBIT "C"

RECEIVED

NOV 16 1994

GEOTHERMAL

COUNTY OF LAKE

AMENDED USE PERMIT 93-16  
FORMERLY USE PERMIT 92-8  
SANTA FE GEOTHERMAL PLAN OF DEVELOPMENT  
LEASE UNITS CA-5636 & 5637

Pursuant to the approval of the Lake County Planning Commission on October 27, 1994, there is hereby granted to Santa Fe Geothermal, Inc., P.O. Box 1009, Middletown, CA 95461, an amended use permit for the production of geothermal resources from leaseholdings on 710 acres near the Lake-Sonoma County line approximately 2 miles northwest of the community of Anderson Springs, located in Sections 16, 21 and 22, T11N, R8W, MDB&M, being APN 013-004-03, 12, 13 & 013-005-06. Thirty-three geothermal production wells (including six previously permitted exploratory wells) are proposed from well pads A, B, C, D, E and F. An equal number of replacement wells on the same well pads would be authorized over the life of the project. Seven hundred (700) feet of steam supply pipeline would be constructed in addition to the existing pipeline, connecting the wells to the Santa Fe Geothermal Power Plant #1. A cuttings disposal area (CDA) to be located near Pad C is allowed under the conditions of this use permit. In addition, increased capacity for sumps on A, B, C, E and CDA II and sumpless drilling are allowed by this use permit.

The Planning Commission has caused to be prepared initial studies 81-31, 85-67, 90-16, 92-24 and 93-30 and negative declarations on the project application and has held public hearings thereon and has carefully considered this matter pursuant to the County of Lake Environmental Protection Guidelines, California Environmental Quality Act and the Guidelines of the Resources Agency, State of California, pertaining thereto. The U.S. Geological Survey, Bureau of Land Management and the California Energy Commission also caused to be prepared environmental documents pertaining to this project.

The project includes many facilities constructed prior to the October 27, 1994 amendment of this use permit, including but not limited to pad sites A, B, C, D, and E, steamfield access roads, steam and condensate pipelines, cuttings disposal areas, cut and fill banks and related facilities. These previously constructed facilities (excluding the sump and berms required in conditions B.7 and C.1-3) shall be governed by the use permit conditions in effect at the time of construction.

I. APPROVAL IS SUBJECT TO THE FOLLOWING GENERAL CONDITIONS:

1. This use permit has been approved by the Planning Commission subject to being issued after the expiration of the mandatory appeal period and after compliance with any conditions precedent. This permit replaces use permit 92-8. The use permit shall be valid for thirty (30) years from date of approval (October 27, 1994). The Planning Commission may, at its discretion, approve time extensions.
2. The Planning Commission may, after public hearing, modify or revoke this use permit any time during its term if it is determined that the use herein permitted is creating a nuisance or a condition hazardous or detrimental to the general public, to the environment, or to property in the vicinity of the use.
3. This permit shall be reviewed by the Planning Commission every five years or as necessary.
4. The permit holder shall permit the County of Lake or its representative(s) or designee(s) to make periodic inspections at any reasonable time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions

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prescribed herein. The permit holder shall provide current access information and keys, key cards or other materials necessary for the Planning Department to gain access.

5. This use permit grants approval for those uses and improvements as described in use permit 85-35, including amendments, as discussed on pages 1-22 of the Environmental Assessment entitled Santa Fe Geothermal, Inc., Cuttings Disposal Area near Pad C, September 1986, by Nolte and Associates, and pages 1-17 of the Environmental Assessment entitled Santa Fe Geothermal, Inc., Modification to Existing Sumps and Drill Cuttings Disposal Area, May 24, 1990, by LSA Associates, Inc., the project description dated March 4, 1992 by Santa Fe, and pages 1-24 of the Environmental Analysis entitled "Santa Fe Geothermal, Inc. Amendment of Use Permit 92-8 by Leonard Charles and Associates, July 1994.
6. The mitigation measures contained in the Environmental Assessments (E.A.'s) as described in Exhibits "A" and "B" for this project are incorporated herein by reference as conditions of approval of this project.
7. Days and hours of operation for project facilities shall be twenty-four (24) hours per day, seven (7) days per week, except as specifically amended by conditions herein.
8. The Community Development Director may approve minor amendments to the project which do not result in increased environmental impacts. Such alterations may be requested by the permit holder or the Planning Department, and approved, modified or denied by the Community Development Director in writing.
9. This use permit shall not become effective, operative, vested or final until the California Department of Fish and Game filing fee required or authorized by Section 711.4 of the Public Resources Code is submitted by the property owner to the County Clerk. Said fee shall be paid by the permit holder within thirty days of approval of this use permit. Failure to pay said fee by the specified deadline shall result in this use permit automatically becoming null and void.
10. In the event that permit holder confirms adequate geothermal resources on F Pad for energy production, additional access roads and spoils disposal area will be necessary. These additional components will require subsequent environmental review and permits from all applicable agencies.

**II. APPROVAL IS SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:**

**A. VEGETATION ASSOCIATIONS:**

1. Each specific pad, road, spoils site, borrow site, steamline or other area of soil disturbance shall be evaluated by a qualified landscape architect, registered forester, plant ecologist or qualified person acceptable to the Planning Department and permit holder, to select and program the re-establishment of ground cover and vegetation with indigenous forage and habitat and provide maximum erosion control. The permit holder shall comply with the suggested mitigation measures listed in the E.A., pages 19-21 (entitled Drill Site E, by Nolte and Associates, dated December 1985), as included in Exhibit "A" and in the E.A., pages 13 and 15 (entitled Santa Fe Geothermal, Inc., Modification to Existing Sumps and Cuttings Disposal Area, by LSA Associates, dated May 1990), as included in Exhibit "B".

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2. Cut slopes on the roads and pads shall be constructed as agreed upon by permit holder's engineers and Department of Public Works, consistent with an erosion/sedimentation control plan to be submitted for approval by the Public Works and Planning Departments at least thirty (30) days prior to continuation of construction activities. Stepped benches on fill slopes shall be used and top soil shall be stockpiled for later respreading over the disturbed areas prior to reseeding when determined to be desirable by the qualified person in Condition A-1. The revegetation plans shall be submitted at least thirty (30) days prior to construction activities, and shall incorporate the recommendations on pages 19-21 of the E.A. and included in Exhibit "A" (entitled Drill Site E, Sec. 1985, by Nolte and Associates) and in the E.A., pages 13 and 15 (entitled Santa Fe Geothermal, Inc., Modification to Existing Sumps and Cuttings Disposal Area, by LSA Associates, dated May 1990), as included in Exhibit "B". Construction shall not begin until the revegetation and erosion/sedimentation control plans have been approved.
3. When construction of each road and pad site has been completed, the revegetation program developed in A-1 shall commence, not later than the following fall. The revegetation program shall be directed by the landscape architect, registered forester, plant ecologist or other qualified person acceptable to the Planning Department and permit holder. Revegetating the pipeline corridor should begin promptly as soon as welding is completed. The revegetation shall be specified in the plan required in the erosion and sedimentation plan. particular attention shall be paid to the portion of the route that crosses the main ravine.
4. The entire revegetation program shall be re-evaluated during the spring following initial planting by the qualified person listed in section A-1. Unless waived in writing by the Planning Department, a written statement indicating which planting techniques were successful or unsuccessful shall be provided by the permit holder. If deemed by the Planning Department to be unsuccessful, additional revegetation will be required not later than the immediately succeeding fall season. The revegetation program shall include periodic inspection and upgrading as necessary for the life of the project.
5. Except for large stumps, vegetation removed during construction shall be chipped and respread as recommended by the person in section A-1, or burned under the permits required by the Lake County Air Quality Management District (LCAQMD). Stumps may be buried outside of engineered fill and embankments, or vegetation may be loosely piled to provide wildlife cover.
6. Vegetation beyond the construction perimeter shall not be disturbed. The clearing limits for pads and roads shall be specified in engineering plans and specifications. These plans are to be submitted for approval to the Planning Department prior to the specific construction for which they are required, and may not be changed without Planning Department approval.
7. Steam discharges (including bleed lines) shall be directed away from pines, firs and other woody vegetation. If the Planning Department determines that construction activities significantly reduce water

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supplies to vegetation, the permit holder shall provide supplemental watering.

8. Vegetation within the "fall-out" range of bleeding wells shall be assessed for damage or growth impedance by a plant pathologist or other qualified professional as approved by the Community Development Director. If vegetation damage has occurred, mitigation measures shall be enacted according to direction from the Planning Department.
9. All improvements shall be designed and constructed to minimize the loss of vegetation, especially trees. Pad F should be sensitively sited to minimize the loss of large sugar pine trees. The pipeline should be constructed with the smallest width possible and avoid pine trees and snags wherever feasible. All large snags should be preserved wherever feasible.
10. To offset the loss of vegetation and wildlife habitat, cooperate with California Department of Forestry, Department of Fish and Game, Lake County Air Quality Management Division and other geothermal operators in an on-going program of controlled burns for wildlife habitat enhancement.

**B. SOIL EROSION, INDUCED LANDSLIDES AND SURFACE GEOLOGIC HAZARDS:**

1. Design plans and construction specifications for all project facilities and grading (access roads, drill pads, sumps, pond, steam transmission/condensate lines) shall be submitted at least thirty (30) days prior to construction, and shall be prepared by a registered civil engineer with assistance from a registered engineering geologist. All plans must be approved prior to construction. Topographic mapping by photogrammetric methods shall be used for design and be supplemented as necessary with ground surveys and soil test bores. Road and pad locations shall be staked on the ground and adjusted as necessary before completion of final plans. Plans shall include a separate drainage plan using five foot contour intervals and supporting calculations for culvert sizes using acceptable engineering methods. Plans shall show specific provisions for erosion protection at culverts and cut and fill slopes. Detailed specifications for construction should be prepared in a manner similar to applicable portions of "Forest Service General Provisions and Standard Specifications for Construction of Roads and Bridges 1977" and "Regional Standard Specifications". Ground locations shall be approved by the Public Works and Planning Departments prior to continuation of construction activities.
2. The drainage plan to be submitted will distribute storm runoff and channel it to existing natural waterways only to the extent that it will not increase water head to the point of unnatural channel abrasion, nor carry excessive siltation which might adversely impact water quality. Energy dissipaters and collection devices to reduce the erosion force of unnatural runoff will be required where determined by county or state agency representatives.
3. A geotechnical investigation for the pipeline alignments, access road re-routing and well site "E" shall be conducted in accordance with

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condition B.1 of this use permit and the description on pages 8-16 in the E.A. entitled "Drill Site E", as included in Exhibit "A".

4. Drill pad and road fills shall be compacted to at least 90% relative (ASTM-D-1557-70) to minimize erosion. If the Planning Department determines that significant erosion occurs as a result of any part of this project, the permit holder shall take prompt remedial action.
5. Filled slope banks for construction of well pad E shall not exceed a gradient of 2:1 unless approved otherwise by a registered engineering geologist and Public Works Department. Toes of all fills shall be stabilized with rock and gravel or keyed into stable soil and placed to reduce erosion potential to an absolute minimum on all fill slope banks. Cut slopes shall not exceed a gradient of 1-1/2:1, unless approved by a registered engineering geologist, and the Public Works and Planning Departments.
6. Subdrains shall be provided under all fills where natural drainage courses and seepage are evident, when determined to be necessary by an engineering geologist per condition B-1.
7. Buffer zones of undisturbed vegetation shall be maintained 500 ft. on either side of streams except for the specific exceptions listed for Drill Site E, and the Site "B" and Site "D" use permits, and the pipeline route as described in the Initial Study. No geothermal related construction shall take place within this buffer zone without specific approval from the Lake County Planning Commission.
8. A retaining levee constructed of suitable material of not less than eighteen (18) inches in height and three (3) feet in base thickness, or an equivalent measure, shall be placed on the perimeter of all areas containing potentially hazardous materials including equipment service, fuel transfer, drill rig, and all fill areas including access road fills, and reserve pit sites to prevent spillage and storm runoff accumulation from random discharge. If levees are not maintained at all times in accordance with this condition, the permit holder shall place ramps of rigid construction over levees to minimize damage from trucks. These ramps shall be installed within thirty (30) days if required by the Lake County Planning Department. Drilling mud and cuttings shall be placed directly into the sump and not be allowed to intentionally flow onto the drill pad.  

All areas of the drill pad containing potentially hazardous materials, including the equipment service and fuel transfer areas, and the area occupied by the drilling rig, shall drain into the sump or cuttings storage area (CSA), or steel tanks.
9. All grading activity shall be completed by October 10 of any year. All drainage structures shall be in place and operational by September 30 of any year. Grading and excavation activity may not be permitted during the consecutive period from October 10 to May 1. (It is understood that this is a general time frame. Extensions for short term grading activities prior to May 1 or beyond October 10 may be allowed by the Lake County Public Works Director, in writing, weather permitting).
10. The permit holder shall agree to contract with the County of Lake for engineering and inspection services, as required, to completion date

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agreed upon by the permit holder and the County, to insure compliance with the above stated conditions.

11. Excavated materials shall not be sidecast or pushed over the edge of the drill pad and roads during construction and final grading. Excess earthen materials (rocks, boulders and dirt) shall be removed from the site and disposed of in an approved disposal site. Balanced cut and fill operations are encouraged, and all such operations shall be carried out so that the down slope roll of rocks, boulders and/or earthen material is prevented.

**C. SUMP CONSTRUCTION, OPERATION AND MAINTENANCE:**

1. The sumps and pads shall be designed by a registered civil engineer, and approved by a registered engineering geologist. Design of the sump fill shall be to a specification to withstand both static loads and dynamic loads (imposed by credible seismic events) with safety factors of 1.5 and 1.3 respectively. The sump shall be constructed of material compacted to at least 95% relative (ASTM-D-1557-70), which may be reduced to 90% compaction if approved by the CVRWQCB and Community Development Director, and demonstrated by soils reports as a hardship. If used for a period of eight (8) months or less, the sump shall be lined with at least two (2) feet of clay having permeability not to exceed  $1 \times 10^{-6}$  cm/sec. or an equivalent impermeable membrane. If used for a period of between eight (8) and twelve (12) months, the sump shall be lined with at least three (3) feet of clay. Sumps used for more than one (1) year shall be double-lined with leachate collection systems as required by the CVRWQCB pursuant to Subchapter 15, Chapter 3, Title 23, California Administrative Code, unless otherwise approved by CVRWQCB and the Lake County Planning and Health Departments.
2. Volume of the sump shall be sufficient to accommodate the drilling mud, all fluid produced during drilling and testing, and the anticipated amount of precipitation from a one hundred year, 24 hour storm.
3. The sump shall be operated in such a manner as to preclude overtopping of the sump. Three (3) feet of freeboard shall be maintained at all times, and freeboard line clearly marked. All active sumps shall be equipped with measuring devices and self-contained alarms that indicate when freeboard level has been met.
4. If drilling or testing operations are not scheduled during winter months, the sump shall be winterized by methods approved by the CVRWQCB.
5. If a drill pad is to be used following a period of deactivation, it shall first be inspected by a civil engineer or engineering geologist to evaluate its condition and to recommend repairs as necessary. Particular care shall be given to the waste sump liner to ensure that it is repaired or replaced as necessary.
6. If sumps are used for a total time period of one year or more to store liquid waste materials requiring disposal in a Class I or Class II waste management unit, the permit holder shall immediately inform the County Health Department and CVRWQCB of this occurrence. If hazardous or biologically sensitive materials are present, and if directed by the Planning Department (in consultation with the Lake

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County Health Department) or CVRWQCB, the applicant shall remove sump materials, modify the sump, and/or monitor groundwater consistent with Lake County and CVRWQCB permit conditions.

7. The "D" pad sump/cuttings disposal site shall be constructed with the following specifications:
  - A. Fill grades shall extend no higher than necessary above the existing grade of the upper portion of the well pad to maintain positive drainage away from slope faces (12 feet maximum depth of new fill).
  - B. The toe of the new fill shall be set back at least 15 feet from the top of the existing slope.
  - C. The new fill slope shall be no steeper than 2 horizontal to 1 vertical (2H:IV).
  - D. Subsurface drainage shall be provided to collect and direct ground water seepage within the fill and volcanic sand underlying the well pad site.
  - E. All recommendations of Section "A". "Site Preparation and Grading", on pages 8-10 and Section "B". Subdrainage and trenching, on pages 10-11 of the report titled "Geotechnical Slope Stability Investigation Report Steam Well Pad D Santa Fe Geothermal, Inc., Lake County California, prepared by Kleinfelder, Inc., shall be adhered to. All uses of the term "should" in the above referenced Section shall be replaced by the term "shall".

**D. CUTTINGS STORAGE AREA (CSA) CONSTRUCTION AND SUMPLESS DRILLING, OPERATION AND MAINTENANCE:**

1. Sumpless drilling may replace the sump if used in conjunction with a cuttings storage area (CSA) and a solids separation system used to process drilling wastes (refer to the project description dated 3/4/92, and included as Exhibit C to this permit, with maps submitted by Santa Fe). The CSA shall meet all permeability tests requires of sumps to allow for environmentally safe operation of the Solids Separation System and CSA .
2. The CSA shall be designed by a Registered Civil Engineer, with the assistance of a Registered Engineering Geologist. Design plans and construction specifications for the CSA shall be submitted at least thirty (30) days prior to construction, and shall be approved by the Public Works and Planning Departments, and CVRWQCB before construction can begin. Design of the fill shall be to a specification to withstand both static loads and dynamic loads (imposed by credible seismic events) with safety factors of 1.5 and 1.3 respectively. The CSA shall be constructed of material compacted to at least 95% relative (ASTM D-1557-70). If used for a period of eight (8) months or less, the CSA shall be lined with at least two (2) feet of clay having permeability not to exceed  $1 \times 10^{-6}$  cm/sec. or an equivalent impermeable membrane. If used for a period of between eight (8) and twelve (12) months, the CSA shall be lined with at least three (3) feet of clay. If liquids remain in the CSA more than one (1) year, they

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shall comply with the requirements of the CVRWQCB pursuant to Subchapter 15, Chapter 3, Title 23, California Administrative Code.

3. Volume of the CSA shall be sufficient to accommodate the drilling mud, fluid produced during the drilling and testing, and precipitation and fluids which are not reinjected.
4. The CSA shall be operated in such a manner as to preclude overtopping. Three (3) feet of free board shall be maintained at all times.
5. During winter months the CSA shall be winterized in accord with accepted engineering practice. Coverings placed over cuttings or an approved alternative shall be used for protection from rain and snow. The winterizing technique shall be approved by the Lake County Planning Department (in consultation with the Lake County Health Department) and CVRWQCB prior to winterizing the CSA.
6. During winter sumpless drilling operations, all drilling solids and liquids shall be contained in impermeable covered steel tanks. Uncovered impermeable steel tanks may be used only between April 10 and September 30 (this time frame may be reduced or extended by the Planning Department, in writing, in consultation with the Lake County Health Department).
7. Steel tanks used to hold drilling solids or liquids shall be designed by a Registered Civil Engineer. Design plans and construction specifications for sumpless drilling operations shall be submitted at least thirty (30) days prior to construction, and shall be approved by the Public Works and Planning Departments, and CVRWQCB before construction can begin.
8. Volume of steel tanks shall be sufficient to accommodate the drilling solids produced during the drilling and testing, precipitation and fluids which are not reinjected, and other potentially hazardous materials draining into the tank consistent with condition B.8 of this use permit.
9. The impermeable steel tanks shall be operated in such a manner as to preclude overtopping.
10. The permit holder shall comply with "community right-to-know" reporting requirements and amend the Business Plan for each site as required.
11. The permit holder shall identify the specific location and type of all equipment available in case of containment berm failure. Vacuum trucks shall be on-call when rains are expected. The spill contingency plan identified in condition L.10 of this permit shall be amended prior to drilling and shall include all aspects of the sumpless drilling and site inspection activities.
12. The permit holder shall assign personnel or require its contractors to assign at least one responsible person to patrol the containment berm and inspect for breaches.
13. Blowout prevention equipment shall be installed in compliance with requirements of the California Division of Oil, Gas and Geothermal Resources.

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**E. WASTE DISPOSAL:**

1. Prior to removal or burial of drill cuttings, muds and similar materials or within ninety (90) days of the removal of drilling equipment, or as directed by the CVRWQCB, County or State Health Department Officials, drill fluids (both mud and supernatant liquids) shall be chemically analyzed for type and quantity of biologically sensitive materials, especially hazardous materials, heavy metals and acids unless waived in writing by the Community Development Director upon written consultation with the CVRWQCB and Lake County Environmental Health Department.

Sampling and testing parameters, and procedures shall be submitted to the Planning Department for review and approval, consistent with CVRWQCB standards. Additional sampling and testing may be required if requested in writing by the Lake County Planning and County Health Departments, or the CVRWQCB.

Such testing shall be performed by a licensed water quality testing laboratory. The chemical analysis shall be sent to the CVRWQCB, Planning Department and Lake County Health Department for review. If said analysis does not indicate quantities in excess of allowable limits for either human or other important biological elements, especially those of the aquatic ecosystem, these materials shall be solidified, dried, mixed with native soil and buried. If hazardous or biologically sensitive materials as specified by Section 66300 of Title 22, California Administrative Code are found, such materials shall be removed within sixty (60) days to an off-site Class I or Class II waste management unit which is in compliance with all local, state and federal regulations, in a timely manner as directed by the County or appropriate State agency.

2. The use of the cuttings disposal area near pad C as described in the E.A. (entitled Cuttings Disposal Area Near Pad C, November 1986, by Nolte and Associates) is approved subject to the mitigation measures listed under "Cuttings Disposal Area" in Exhibit "A". Seasonal closing of the cuttings disposal area shall occur only within the time frame identified in condition D-1 of this use permit. Only drill cuttings originating from this leasehold shall be placed in this disposal area.
3. Specific mitigation measures governing the enlargement of sumps on pads A, B, C, E and Cuttings Disposal Area II are listed in Exhibit "B" of this use permit.
4. No hydrocarbon base cleaning agent, no waste oils or greases, and no liquid fuel shall intentionally be released directly onto the surface of a drill pad. All such liquids shall be containerized and removed from the site. Any accidental discharge of the materials mentioned above shall be immediately removed and properly disposed of by the permit holder, and promptly reported to the Lake County Environmental Health Department.
5. All liquids produced during testing which cannot be injected into wells shall be securely containerized and removed to a Class I or II waste management unit.
6. All solid waste material other than chemically acceptable material (D-1) shall be removed from the site in a timely manner.

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7. Upon completion of each drilling operation, all equipment and materials unnecessary to the operation of the well shall be removed. No equipment or material shall be stockpiled at the site, other than said equipment required for on-site operations.
8. All hazardous and designated wastes are to be taken to a facility permitted by the California Department of Health Services to accept such wastes.
9. The permit holder shall require by contract that any hazardous material hauler employed has a certificate of registration from the California Department of Health Services (DHS), Hazardous Materials Management Section. Use of haulers without such certification shall constitute a violation of this permit.

**F. WATER QUALITY:**

1. In order to preserve the hydrologic integrity of this area, permit holder shall obtain by right, purchase or agreement, all water used in association with this project. A copy of such agreement shall be submitted to the Planning Department upon request. Cost figures for said agreement shall remain proprietary.
2. Any water needed for construction or maintenance of the wells, well site, pipeline routes or roads shall be from a source other than Anderson or Gunning Creeks, their tributaries, or springs in the area unless such water can be obtained without hazard to the biota or to the drinking supplies of Anderson Springs. These sources shall not be used without first obtaining approval from the Anderson Springs Community Services District, the Bureau of Land Management and the Lake County Planning Department.
3. The permit holder shall monitor water in Anderson Creek and Gunning Creek and affected tributaries at locations above and below any project construction. Locations and frequency of testing shall be described in a water quality monitoring plan to be submitted to the Planning Department and CVRWQCB for approval. Said plan shall be submitted to the Lake County Planning Department within sixty (60) days of approval of this permit and be approved prior to construction of Drill Site E or the Cuttings Disposal Area.
4. In the event a watershed or Regional Water Quality monitoring program is adopted in the future, it may be substituted for the requirements of F-3.
5. No pad, CSA or sumpless drilling runoff shall be discharged to Anderson or Gunning Creeks. (However, it is understood that during winter months, heavy rainfall may result in some runoff from portions of the pad which do not drain into the sump or CSA.) All muds, chemicals, fluids, and other materials used in drilling and production operations shall be so isolated on the pad so as to prevent potential inclusion should winter pad runoff occur. A berm shall be constructed around the edge of the pad to direct runoff into the CSA. After the CSA has been filled in and graded (post drilling) the runoff shall be diverted away from the creek through culverts and energy dissipaters (designed to BLM and Lake County standards).

6. The reinjection of steam condensate and drilling fluid and waste effluent is approved. The injection of surface and ground water from on- or off-site sources is specifically disallowed without specific approval of the Lake County Planning Commission.
7. The permit holder shall obtain a permit from and comply with all permit regulations of the Central Valley Regional Water Quality Board. All conditions of the permit holder's waste discharge requirements are herein referenced and incorporated into this use permit.
8. All drilling on pad F will be performed during the period between April 15 and October 15. The drill rig platform will sit on level ground.
9. Before construction begins on the drill pad and the pipeline, an erosion/sedimentation control plan must be submitted for review to the State Department of Fish and Game, the CVRWQCB, and the Lake County Planning Division. The plan shall include such measures as, but not limited to: hydromulching, seeding and applying jute netting to cut and fill slopes. After construction, additional erosion control measures may be required at specific locations as determined by the consulting agencies. These measures will be implemented to stabilize soil surface, impede surface runoff, stop the movement of sediment, and control or divert surface runoff. This mitigation recognizes that problem areas, especially on the pipeline corridor, may not be apparent until several rainy seasons have elapsed.
10. Material from excavation of pipeline piers to support pad F construction shall be deposited where they cannot wash into Anderson Creek.

**G. AIR QUALITY:**

1. The permit holder shall meet all regulations and standards set by the LCAQMD and shall utilize the state of the art H<sub>2</sub>S abatement technology necessary to comply. All conditions of the LCAQMD Authority to Construct and Permit to Operate are herein referenced and made part of this use permit. This use permit does not supersede the authority of said District in any way.
2. After completion of each drilling and testing operation the wells will be limited to maximum bleed rate consistent with the emissions limitation determined by the LCAQMD.
3. The permit holder shall minimize vehicular and fugitive dust from unpaved roads, construction sites and during on-going operations, by use of water, paving or other acceptable dust retardant. The permit holder shall not equal or exceed a limit of Ringelmann two (2) for an aggregate of three (3) minutes duration in any one (1) hour period. Exhibit "B" of this use permit contains mitigation measures for dust emissions from asbestos-containing materials and these are incorporated into this use permit.
4. The permit holder and/or any subsequent successor or assignee shall obtain and maintain an active Authority to Construct Permit(s) or Permit(s) to Operate from the LCAQMD prior to commencement of any construction of pad "E".

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5. This permit and the conditions included herein are expressly designed to insure that the facilities and uses authorized by this permit will not result in the creation of any odor nuisance. Should an odor nuisance develop as a result of this project, the permit holder shall immediately take corrective action to eliminate nuisance.

**H. NOISE:**

1. The permit holder shall meet a noise standard of Ldn 55 dBA with a 10 db penalty between the hours of 10:00 p.m. and 7:00 a.m. of the following day at residences.
2. If measurements by the Noise Control Officer indicate a possible violation of H.1, a measurement of the source noise in an appropriate location in the immediate well pad vicinity shall be made to determine if the source noise is sufficient to cause the level measured at H.1 to exceed 55 Ldn using the inverse square law.
3. It is stipulated that the Noise Control Officer has jurisdiction over noise investigation and enforcement procedures and will be spot monitoring noise levels in the vicinity of the proposed land use. Findings resulting from said monitoring may require the permit holder, his contractors or agents to provide continuous noise level monitorings and readings as may be directed by the LCAQMD. Violations of noise standards will require immediate correction of practices causing the violation or cessation of operation until noise source is reduced to an acceptable level.
4. If traffic noise complaints are received for traffic related to the Santa Fe project, the hours of heavy truck traffic to and from the site may be restricted to the hours between daylight and sunset only, except in cases of emergency.
5. Drill pipes shall not be laid in bins between the hours of 8:00 p.m. and 7:00 a.m. the following day.
6. The permit holder agrees that the Planning Commission shall have the right to substitute the conditions of a General Noise Control Ordinance for conditions of this section when adopted by the Board of Supervisors.
7. Pipeline venting through condensate drain valves and pipeline commissioning shall normally be accomplished during daylight working hours. Prior notification should be given to the LCAQMD and to nearby residences prior to pipeline venting and commissioning. Steam or high pressure air venting capable of generating adverse noise impacts shall be muffled whenever possible.

**I. PIPELINES/CORRIDOR:**

1. Pipeline coverings must be non-reflective and of a color that blends with the environment.
2. The pipeline shall be placed to take advantage of the most stable terrain available. Where potentially unstable terrain must be traversed, rigid anchors shall be placed in the ms, and free-floating or sliding type supports shall be used on the less stable areas.

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3. The permit holder shall prepare a viable contingency plan for emergencies due to breaks or unexpected deformation of the pipeline or its supports. The plan shall show who is responsible and what equipment and manpower is available to respond to such an emergency. The plan shall be submitted to the Lake County Planning Department for approval within sixty (60) days of approval of this use permit and updated as necessary.
4. In the event of a casing or pipeline rupture or other uncontrolled venting, the permit holder shall move immediately to control the vent. No more than two (2) days shall elapse from the date of the uncontrolled vent to the date of equipment relocation to secure it.

**J. VISUAL INTRUSIONS AND AESTHETICS:**

1. The permit holder shall design pads and roads so as to present the least visual intrusion on views from populated areas. This design shall incorporate measures deemed appropriate by the revegetation consultant and the Lake County Planning Department. The Planning Commission may review the visual aesthetics of this project at any later date and may require appropriate mitigation.
2. All lights shall be shielded or directed away from view and consistent with OSHA and FAA requirements. Illumination shall be adequate to provide suitable light for safe working conditions.
3. Any trees that will shield pads from view shall be left in place, unless they must be removed for safe operations.

**K. ARCHAEOLOGICAL RESOURCES:**

1. If archaeological sites are encountered during excavation of the site, roads or pipeline routes, all construction activity in the immediate area shall cease until mitigation measures can be determined by the Lake County Planning Department.

**L. PUBLIC HEALTH AND SAFETY:**

1. All unattended drilling equipment, well heads, cuttings storage areas, sumps, ponds, shall be protected from access by livestock and unauthorized persons.
2. Sanitary and hand washing facilities shall be provided at the drill site and as specified by the Lake County Health Department.
3. The permit holder shall comply with the requirements of the fire prevention practices and measures as may be prescribed by the California Division of Forestry and/or County of Lake.
4. The permit holder shall inform all of its contractors that extra-wide vehicles shall be preceded by a pilot car while on public roadways. The California Highway Patrol shall be notified of geothermal waste generated by permit holder and transported on public roads at least four (4) hours prior to occurrence of each activity unless amended in writing by the local California Highway Patrol.

The permit holder shall provide all truck drivers, prior to entering the leasehold, with a map of the area they are traversing. The map shall

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include: a) all major curves and elevations, b) speed limits/reduced limits depicted on the map, c) safe locations for vehicle inspections, and d) a warning clause/penalties if drivers violate any safety procedures while travelling on leasehold roads.

The permit holder shall notify all trucking contractors in writing that they shall require each truck driver to conduct a vehicle inspection prior to leaving the leasehold. The inspection shall include brakes, vehicle connection, wheels/tires, valves, tanks, etc. and other equipment as outlined in Title 13 CAC. After loading, a material inspection for leaks in the system shall be conducted. All inspection shall be logged for verification by agency staff.

If a Geysers area waste transport safety program is approved in writing by the California Highway Patrol (Kelseyville Commander) in the future, it shall satisfy the requirements of this condition.

5. Santa Fe Geothermal, Inc. will be responsible for any damage or deterioration that the company's operations may cause to the public roadways.
6. The permit holder agrees to continued participation in the Socrates Mine Road Extraordinary Maintenance Agreement.
7. Pipeline components which have an exposed temperature of 140 degrees fahrenheit or higher, where accessible to human reach, shall be designed to prevent inadvertent human burn injury.
8. It is understood that the permit holder's activities under this use permit are covered by an area-wide fee schedule (ordinance #1888).
9. A financial assurance agreement, Certificate of Deposit or bond, satisfactory in form and content to the Lake County Counsel, shall be provided by the permit holder prior to construction of Drill Site "E" or the cuttings disposal area to insure cleanup in case of spills, landslides, mishaps and site restoration. Said financial agreement shall make available up to \$228,000.00 (in 1990 dollars to be adjusted every two years according to the Consumer Price Index: San Francisco Bay-Oakland area) for this purpose and shall be payable to the County of Lake and require County approval to terminate.
10. The permit holder shall prepare a viable contingency plan for all spills, including emergency pumping of the sump in the event of heavy, unexpected rainfall or if excessive geothermal fluids are encountered. Directions for preparation of this plan, as well as applications for plan processing, can be obtained from the Lake County Environmental Health Department. The plan shall show who is responsible and what equipment and manpower is available to respond to such an emergency. The plan shall be submitted within sixty (60) days of the approval of this use permit, and shall be kept current. This plan shall be approved prior to well drilling on drill site E and shall be reviewed every two years and revised, if deemed necessary by the Planning and Environmental Health Departments.

**M. STANDBY WELLS:**

1. If any geothermal well encounters steam and is subsequently bled to the atmosphere awaiting connection to a power plant, H<sub>2</sub>S emissions

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shall be abated if the LCAQMD finds that the bleeding well is a nuisance or in violation of District standards or if substantial damage to vegetation occurs.

**N. RE-ENTRY OF PRODUCTION OR SUSPENDED WELL BORES:**

1. The permit holder may redrill or otherwise re-enter the same well bore of any well authorized under this use permit during the life of this project as long as all conditions of the use permit in effect at that time are met.

**O. PROJECT ABANDONMENT:**

1. The permit holder shall abandon any well in accord with USGS or Division of Oil and Gas regulations.
2. The permit holder shall abandon any well site, road, pump station, spoil site or other project facility by regrading to reasonably restore a natural ground contour unless an alternative is approved by the Community Development Director.
3. The permit holder shall revegetate the disturbed areas with native grasses and woody vegetation that can be tolerantly sustained in accord with recommendations per the revegetation consultant utilizing the procedure given in Condition A-1.
4. The permit holder shall submit a reclamation plan at least thirty (30) days prior to the time of abandonment of any project facility for review and approval by the Community Development Director. The plan shall include revegetation, grading, drainage and maintenance.
5. All project pipelines, wellheads, and equipment shall be removed prior to project abandonment.

**P. THIS USE PERMIT SHALL BE SUBJECT TO REVOCATION OR MODIFICATION BY THE PLANNING COMMISSION OF LAKE COUNTY IF:**

1. The Planning Commission finds that there has been non-compliance with any of the foregoing conditions, or
2. The Planning Commission finds that the use for which this use permit is granted is so exercised as to constitute a nuisance or to be substantially detrimental to the general public or to property in the vicinity of the use.

Any such revocation shall be taken pursuant to Section 21-84 of the Ordinance Code of the County of Lake.

**III. IN GRANTING THIS USE PERMIT, THE LAKE COUNTY PLANNING COMMISSION MAKES THE FOLLOWING FINDINGS:**

1. The Planning Commission finds that the establishment, maintenance or operation of the use for which application is made will not, under the circumstances of this particular case, be detrimental to the health, safety, peace, morals, comfort and general welfare of persons residing or working in the neighborhood of such use, or be detrimental to the general welfare of the County.

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2. That this use permit does not abridge or supersede the regulatory powers or permit requirements of any state or federal agency or any special district or other Lake County department or division which may retain an advisory or regulatory function as specified by statute or ordinance, nor does this use permit grant any title or other real property solely to this permit holder or his assigns.
3. The granting of this use permit is in the general public interest and environmental and performance parameters conditioning the proposed activity as specified in this use permit and as contained in that document entitled "Conditions, Procedures and Performance Standards for Geothermal Regulations, County of Lake" now referenced and made a part hereof, will allow the proposed activity with adequate safeguards to the welfare of the people of Lake County at large and to the people residing in the vicinity of said activity.
4. Noise levels from drilling operations will be muffled and times of other operations limited so as not to constitute a public nuisance or significant environmental impact.
5. All significant adverse impacts will be mitigated to insignificant levels by measures incorporated in the negative declaration, Environmental Assessments (dated Dec. 1985 and supplement dated Nov. 1986, May 1990, and July 1994), and use permit.
6. Costs directly attributable to ongoing inspection and monitoring of this project shall be reimbursed by the permit holder to the County.
7. The bond required by this use permit provides funding to address mishaps, site restoration, spills and landslides.
8. The granting of this use permit is in conformance with project zoning and the general plan.
9. Use of the cuttings storage area in conjunction with the solids separation system will result in a reduction of wastes generated from geothermal production well drilling and further reduce waste hauling transportation.
10. The use of the cuttings disposal area (CDA) will be operated in an environmentally safe manner with adherence to use permit conditions. Impacts on surface and groundwater will be mitigated to insignificant levels by using a three foot compacted clay liner, conducting cuttings analysis to insure disposal of only non-hazardous cuttings and implementation of a water quality monitoring program.
11. The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.
12. The project does not have the potential to achieve short-term, to the disadvantage of long-term environmental goals.
13. The project does not have impacts which are individually limited, but cumulatively considerable.

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14. The project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.
15. Impacts from pipeline and pad construction will be mitigated to levels of insignificance through enforcement of and adherence to the conditions of Sections A - Vegetation Associations and B - Soil Erosion, increased Landslides and Geologic Hazards, of this use permit.
16. While not considered a significant adverse impact, this project will result in a potential for cumulative adverse effect on wildlife and therefore is subject to the State Fish and Game fee.

Expiration Date: May 14, 2022

KIM SEIDLER  
Community Development Director

By: Irene L. McCarley  
Irene L. McCarley, Secretary

ACCEPTANCE

I have read and understand the foregoing use permit and agree to each and every condition thereof.

Nov. 16, 1994  
Date

[Signature]  
Owner or Authorized Agent

SZ/dls

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# COUNTY OF LAKE

Planning Department

Courthouse — 255 N. Forbes Street  
Lancaster, California 93543  
Telephone 707/283-2221

ITEM # 8  
11:30 A.M. ITEM  
27 OCTOBER 1994

## STAFF REPORT

**TO:** Planning Commission  
**FROM:** Steve Zalusky, Environmental Officer  
**RE:** Santa Fe Geothermal Use Permit UP 93-16; IS 93-30  
**ATTACHMENTS:**

1. Agency Comments
2. Proposed Use Permit UP 93-16
3. Initial Study and Project Description

### I. SUMMARY

The applicant is proposing to modify an existing use permit for geothermal field development to add an additional area for a new well pad and wells. Based on an extensive initial study staff is recommending adoption of a negative declaration and approval of a modified use permit.

### II. PROJECT DESCRIPTION

**Applicant/Owner:** Santa Fe Geothermal, Inc. 13455 Noel Rd.  
Suite 1100, Two Galleria Tower, Dallas,  
Texas 75240-6620

**Location:** On the Lake-Sonoma County Line approx-  
imately 2 miles northwest of the  
community of Anderson Springs

**A.P. #:** 13-004-03, 12, 13 & 013-005-06

**General Plan:** Rural Lands

**Zoning:** RL-BF

**Proposal:** Santa Fe proposes to expand their 550 acre steamfield northward to incorporate an additional 160 acres (approximate). It would accommodate a new pad (F pad) and the drilling of up to five new production wells. The pad itself would cover approximately 2.75 acres. The additional land is needed because Santa Fe would directionally drill and use forked well (wells with more than one bore) completions to access all portions of the newly leased 160 acres. The

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proposal also includes a cuttings disposal area/sump on the drill pad and construction of about 1500 feet of steam pipeline. The currently proposed project is shown on Figure 3, Site Plan, in the Environmental Analysis (Attachment 3).

Santa Fe considers these new wells to be confirmation wells because of the uncertainty of their success. As a result, one well would be drilled initially. If it proves capable of production the other wells will be drilled. If all the other wells are to be drilled, an access road would be needed along with a spoils disposal area. The road and spoils disposal area would be subject to additional environmental analysis and permits from appropriate agencies.

Because a portion of the access road would be in Sonoma County, that county would also be involved in the environmental review process and likely issue permits. The Environmental Analysis being reviewed by the Planning Commission covers only Pad F with Cuttings Disposal Area (cda)/sump, five wells and the steam pipeline connecting Pad F to the power plant.

### III. ENVIRONMENTAL ANALYSIS

**Background:** Santa Fe Geothermal, Inc. currently operates a 550 acre geothermal steamfield and 80 megawatt power plant on the southwest edge of Cobb Mountain in Lake County's portion of the Geysers and a small portion of Sonoma County. The steamfield includes approximately 23 geothermal production wells from 5 well pads, steam pipelines, condensate collection system and associated facilities.

Since development on this leasehold began in 1982, Santa Fe has implemented a number of innovative well drilling, production, and generation techniques into their operations. Several of these have resulted in amendments to the use permit. The leasehold has been the subject of two EIR's, one California Energy Commission power plant certification process, four environmental analyses sponsored by the County, and several other environmental assessments sponsored by the U.S. Bureau of Land Management. This previous work is summarized on pages 2 and 3 of the initial study (Attachment 3).

**Analysis:** The Initial Study (Attachment 3) has identified seven categories of potentially significant environmental impacts associated with the proposed project. These are discussed on pages 7 - 24 of the initial study. They consist

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of the following issues:

Soils and Geology	Public Health and Safety
Hydrology and Water Quality	Land Use
Wildlife and Vegetation	Cumulative Impacts
Archaeology	

Potential environmental impacts are described only for the new components of the project (pad F, wells, and pipeline). In most cases, the impacts are mitigated by conditions in the existing use permit (UP 92-8). Conditions have been added to the new proposed use permit (UP 93-16) only where mitigation was not already provided in the former permit.

**Soils and Geology:** The project has a potential to result in unstable slopes, landsliding, soil erosion, and seismic events. These are discussed on pages 7-9 of the Initial Study (Attachment 3).

**Mitigation:** Pad F will be built on gentle slopes with a negligible potential for slope failure. Typical geotechnical standards should be implemented. All structures should be constructed to withstand maximum credible seismic events. Potential soil erosion can be mitigated through implementation of an erosion control plan.

**Permit Conditions:** Mitigation is provided by existing use permit conditions B.1.- B.2.

**Hydrology and Water Quality:** Project construction will create bare soils at well pad F, and the pipeline corridor that could erode in the surrounding surface waters. During well drilling operations, there is a potential for spilled drilling lubricants to enter surface waters.

**Mitigation:** A complete erosion control plan should be submitted prior to construction. Drilling will be sumplless, significantly reducing the potential for spills. Additionally, the pad will be designed for zero discharge with potential runoff collected on-site.

**Permit Conditions:** Mitigation is provided by conditions C.1-C.6; D.1-D.12; E.1-E9; and F1-F7. In addition, 8 new mitigation measures are listed on page 12 of the initial study (Attachment 3). These are incorporated in the following manner:

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Mitigation Measure	Location in Use Permit
1.	Not included in permit. Winter operations reduce noise and air quality impacts. Extensive water quality mitigation is incorporated in the permit as discussed in this section.
2.	Condition H.2
3.	Condition H.2
4.	Condition E.1
5.	Condition F.9
6.	Condition F.10
7.	Condition A.3
8.	Condition F.7

**Wildlife and Vegetation:** Construction for the drill pad and pipeline will eliminate all of the vegetation and wildlife habitat from these sites. However, no rare, threatened, or endangered species will be impacted.

**Mitigation:** The pipeline should be routed to minimize the loss of sugar pine. The loss of wildlife habitat will not be of a sufficient scale to require specific mitigation.

**Permit Conditions:** In addition to existing conditions A.1-A.8, 6 new mitigation measures have been recommended on pages 15-16 of the initial study (Attachment 3).

Mitigation Measure	Location in Use Permit
1.	Condition A.9
2.	Determined to be inappropriate. Revegetation of the pad surface would preclude its use for drilling.
3.	Added to Condition A.9
4.	Conditions B.11, C.1-C.6, D.1-D.12, E.1-E.9, and F.1-F.7

- 5. Included in Revegetation Plan
- 6. Condition A.10

**Archaeology:** While no archaeological resources have been identified at the project site, there is a potential to impact undiscovered, subsurface resources.

**Mitigation:** If archaeological resources are uncovered during construction, construction activities should be halted until the resource can be evaluated by a qualified individual.

**Permit Conditions:** Condition K.1

**Public Health and Safety:** Potential health hazards include mishaps from well blowouts, sump failure, wildfire, pipeline rupture, and spills of hazardous materials.

**Mitigation:** The project will include the use of modern drilling, casing and blowout prevention equipment to minimize the potential for these impacts. The sump will be operated with a specified freeboard to reduce the potential for overtopping and will be constructed on a zero discharge pad. The potential for wildfire should be significantly reduced through a program of controlled burns and fire fighting implements should be on-hand during welding operations. The pipeline will be constructed to minimize the potential for rupture and a spill contingency plan shall be completed prior to operation. Spills of hazardous materials will be minimized by storing these materials pursuant to State requirements, removal of such materials when not in use, and construction of a zero discharge well pad.

**Permit Conditions:** Page 19 of the initial study (Attachment 3) lists 8 mitigation measures which have been incorporated into the permit.

Mitigation Measure	Location in Permit
1.	Condition D.13
2.	Condition L.3
3.	Condition L.3
4.	Conditions C.1-C.6

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Use Permit UP 93-16; IS 93-30

- 5. Conditions E.1-E.9
- 6. Conditions I.2-I.4
- 7. Conditions L.1-L.10
- 8. Condition A.10

**Land Use:** The project will result in geothermal field development in an area not formerly developed for geothermal use.

**Mitigation:** This project is consistent with the County General Plan and Geothermal Element of the General Plan. No additional mitigation for land use issues is necessary beyond those already incorporated into the proposed use permit.

**Permit Conditions:** None

**Cumulative Impacts:** This project will result in the addition of 160 acres of geothermal development to the existing extensive development in the Geysers. While the project will add to the cumulative impacts of existing geothermal development, it should not result in a significant cumulative impact as mitigated by the conditions of the proposed use permit.

**Mitigation:** No additional mitigation is required beyond that already incorporated into the proposed use permit.

**Permit Conditions:** None

#### IV. PLAN AND CODE REQUIREMENTS

##### 1. Applicable Plans and Codes:

- a). Lake County General Plan and Geothermal Element of the General Plan      Consistent
- b). Lake County Code, Chapter 21      Consistent

- 2. California Environmental Quality Act      A negative declaration has been prepared based on initial study IS 93-30

V. RECOMMENDATIONS

Staff recommends that the Planning Commission take the following actions:

- A. Adopt a negative declaration for the proposed project, with the following findings and those listed on pages 15 through 17 of the proposed use permit.
  - 1. Potential environmental impacts relating to soils and geology, hydrology and water quality, wildlife and vegetation, archaeology, public health and safety, land use, and cumulative impacts will be mitigated to insignificant levels by conditions of the use permit.
  - 2. This project is consistent with the Lake County Zoning Ordinance and Geothermal Element of the General Plan, and the Middletown Area Plan.
  - 3. This project as mitigated will not result in any significant adverse environmental impacts.
  
- C. Approve Use Permit UP 93-16 for Well Pad F, five wells and a steam pipeline with the findings listed on pages 15 through 17.

Sample Motions:

Negative Declaration (Mitigations Incorporated):

I move that the Planning Commission find on the basis of Initial Study IS 93-30 prepared by the Planning Division and the mitigation measures which have been added to the project, that the use permit for expansion of a geothermal steam field including well pad, wells and steam pipeline as applied for by Santa Fe Geothermal Incorporated, Two Galleria Tower, 13455 Noel Rd., Suite 1100, Dallas, TX 75240-6600, on property located approximately 1 1/2 miles north-northwest of Anderson Springs, Middletown, CA will not have a significant effect on the environment and therefore a negative declaration shall be issued with the findings listed on Pages 15 through 17 of the use permit dated October 27, 1994.

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Use Permit:

I move that the Planning Commission find that the Use Permit applied for by Santa Fe Geothermal Incorporated, on property located approximately 1 1/2 miles north-northwest of Anderson Springs, Middletown does meet the requirements of Section 51.4 of the Lake County Zoning Ordinance and that the Planning Commission has reviewed and considered the Negative Declaration which was adopted for this project and the use permit be granted subject to the conditions and with the findings listed in the use permit dated October 27, 1994.

Reviewed by: \_\_\_\_\_

CALENDAR PAGE	775
MINUTE PAGE	1700



COUNTY OF LAKE

PLANNING DEPARTMENT

Resource Management Division
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Telephone 707/263-2221

DISTRIBUTION DATE: 06/30/93

REQUEST FOR REVIEW

AG. COMMISSIONER
AIR QUALITY MGMT
BUILDING INSPECTOR
CALTRANS
DPW
FARM BUREAU
PG&E
PACIFIC BELL
ARMY CORPS
CDF
BLM
OTHER: Central Valley Reg. Water Quality
OTHER: Friends of Cobb Mountain
OTHER: Anderson Springs Community Ser. Dist.
FIRE DISTRICT:
South Lake County
FISH & GAME
FLOOD CONTROL
HEALTH DEPARTMENT
LAKEBED MANAGEMENT
OFFICE OF EDUCATION
CULTURAL RESOURCES
STATE DEPT. HEALTH
FISH & WILDLIFE
YOLO CO. FLOOD
PARKS/RECREATION
SOIL CONS. SVC.
SONOMA STATE
SPECIAL DISTRICTS
SURVEYOR
TRAFFIC ADV. COMM.
WATER COMPANY:
LAKEPORT CITY
CLEARLAKE CITY
SOLANO CO. WATER

RECEIVED

JUL 15 1993

LAKE COUNTY PLANNING DEPT

FROM: Mark Dellinger, Energy & Resource Manager
REQUEST: Initial Study, IS 93-030; Use Permit, UP 93-016
APPLICANT: Santa Fe Geothermal, Inc.
A.P.#: 013-004-03, 013-004-12 & 13
LOCATION: 1/2 mile NW of Anderson Springs, Middletown
ZONING: "RL-BF" (Rural Lands-Frozen) GENERAL PLAN: Rural Lands
PROPOSAL: Amend use permit 92-8 to include Cobb Mountain Estates lease in the SE/4 of Section 16, T-11-N, R-8-W, MDB&M being AP#13-004-03, 13-004-12 & 13 as part of the area being developed for geothermal production by Santa Fe Geothermal, Inc. under this proposal. The proposed activities include construction of a well pad, access road, steam transmission line, spoil disposal area, and drilling of several geothermal production wells.

Please advise us if additional information is needed, which permits are required from your agency, your environmental concerns, and whether you recommend that a Negative Declaration or an Environmental Impact Report be prepared. Due to the provisions of state law, it is essential that we receive your comments as soon as possible but in no case later than July 16, 1993.

COMMENTS: Friends of Cobb Mountain met with officials of Santa Fe Geothermal for an informational meeting and a site visit of the proposed project area. We were impressed with Santa Fe's cooperative attitude and we believe that the project can be completed without undue impact, although a EIR will be necessary to accomplish this. See comments on attached.
BY: Hamilton Hess, Vice-Chairman
DATE: 14 July 1993

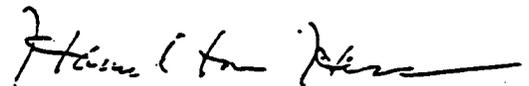
MD:dls

ATTACHMENT #1

Table with 2 columns: CALENDAR PAGE (776), MINUTE RESPONSES TO REQUESTS FOR REVIEW (1701)

Friends of Cobb Mountain comments on Santa Fe Geothermal's  
responses on Planning Department Supplemental Data Form

- Item 13 -- The project will indeed be substantially different in character from surrounding uses. There is presently no geothermal development on the upper slopes of Cobb Mountain, and this will constitute an industrial facility, together with access road, in a designated and recognized Area of Natural Value which has not heretofore known such development.
- Item 17 -- There is risk of an explosion and release of hazardous substances in the event of a blowout or a fire.
- Item 21 -- The project will involve the use of flammable and hazardous substances in the form of diesel fuel and other petroleum products, and possibly other chemicals.
- Item 25 -- It is our impression that an archaeological survey has not yet been undertaken at the site, and that this question cannot be answered.



Hamilton Hess  
14 July 1993



DEPARTMENT OF FORESTRY  
AND FIRE PROTECTION

Date 7-6-93

File/AP # 13-004-03 12, 13

Project Information

Type of Request

Applicant SANTA FE CREDITORS

Building Permit

Project Address 13455 NOEL RD SUITE 1100

Parcel Map

City DALLAS, TEXAS 75240-6620

Subdivision Map

Cross Street                     

Use Permit

Phone # (214) 701-7300

Other                     

Applicant shall comply with the following subsections of Public Resources Code 4290. Requirements shall be met prior to: the issuance of a use permit; certificate of occupancy; the recording of a parcel or final map; filing of a notice of completion; or the final inspection of any building permit.

- |                                  |                                  |                                  |                                  |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <input type="checkbox"/> 1273.01 | <input type="checkbox"/> 1273.08 | <input type="checkbox"/> 1274.04 | <input type="checkbox"/> 1275.10 |
| <input type="checkbox"/> 1273.02 | <input type="checkbox"/> 1273.09 | <input type="checkbox"/> 1274.05 | <input type="checkbox"/> 1275.15 |
| <input type="checkbox"/> 1273.03 | <input type="checkbox"/> 1273.10 | <input type="checkbox"/> 1274.06 | <input type="checkbox"/> 1275.20 |
| <input type="checkbox"/> 1273.04 | <input type="checkbox"/> 1273.11 | <input type="checkbox"/> 1274.07 | <input type="checkbox"/> 1276.01 |
| <input type="checkbox"/> 1273.05 | <input type="checkbox"/> 1274.01 | <input type="checkbox"/> 1274.08 | <input type="checkbox"/> 1276.02 |
| <input type="checkbox"/> 1273.06 | <input type="checkbox"/> 1274.02 | <input type="checkbox"/> 1274.09 | <input type="checkbox"/> 1276.03 |
| <input type="checkbox"/> 1273.07 | <input type="checkbox"/> 1274.03 | <input type="checkbox"/> 1274.10 |                                  |

Remarks/Mitigations/Exceptions allowed:

SECTIONS OF THE PUBLIC RESOURCES CODE AS FOLLOWS SHALL APPLY:  
4291 4443  
4423  
4429  
4428  
4431  
4442

Any future expansions or modifications may require additional fire protection requirements. Other agencies may impose more stringent requirements for this project.

For any further information pertaining to this request contact Battalion Chief RON LINDGREN at (707) 987-3122.

FINAL INSPECTION COMPLETED  
Inspector \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

BYRON J. CARNIGLIA  
Ranger Unit Chief

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CALENDAR PAGE - 7199778  
MINUTE PAGE 1703  
LAKE COUNTY PLANNING DEPT



# LAKE COUNTY AIR QUALITY Management District

883 Lakeport Blvd Phone: (707) 263-7000  
Lakeport, California 95453 Fax: (707) 263-1052

Robert L. Reynolds  
Air Pollution Control Officer  
Noise Control Officer

July 13, 1993

**To:** Mark Dellinger, Resources Manager  
Lake County Planning Dept.

**From:** Ross Kauper, Deputy APCO

**Subject:** Amend Use Permit to construct additional geothermal well pad, road, steam line, spoils area and geothermal wells.  
Santa Fe Geothermal / IS 93-030, UP 93-016 / 013-004-03, 12,

Construction of geothermal wells and the associated steam line will require submittal of application and issuance of LCAQMD permits. The applicant needs to more fully describe the project estimating the anticipated number of wells to be constructed. Construction should utilize adequate dust suppression palliatives and or adequate water applications to limit the generation of fugitive dusts. Should construction involve serpentine rock or soils containing greater than 1% asbestos, a dust mitigation plan is required and dust suppression measures shall be used to achieve no visible emissions. Serpentine rock shall not be allowed as an exposed surface subject to wear and shall be adequately covered and maintained to prevent exposure. Access roads should be surfaced and adequately maintained to limit the generation of fugitive dust. The burning of vegetation removed during the construction of the project shall be as permitted and approved by the local Fire and Air Quality Management District.

Construction and operation of the geothermal wells in accordance with requirements of issued District permits should adequately minimize impacts from air emissions. The operator has a good record of compliance in this regard. The location of the proposed project minimizes noise concerns provided standard noise mitigation measures are imposed and complied with. The applicant has previously demonstrated the ability conduct operations within the specified requirements.

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COUNTY OF LAKE

PLANNING DEPARTMENT
Resource Management Division
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Telephone 707/263-2221

DISTRIBUTION DATE: 06/30/93

REQUEST FOR REVIEW

AG. COMMISSIONER
AIR QUALITY MGMT
BUILDING INSPECTOR
CALTRANS
DPW
FARM BUREAU
PG&E
PACIFIC BELL
ARMY CORPS
CDF
BLM
OTHER: Central Valley Reg. Water Quality
OTHER: Friends of Cobb Mountain
OTHER: Anderson Springs Community Ser. Dist.

FIRE DISTRICT:
South Lake County
FISH & GAME
FLOOD CONTROL
HEALTH DEPARTMENT
LAKEBED MANAGEMENT
OFFICE OF EDUCATION
CULTURAL RESOURCES
STATE DEPT. HEALTH
FISH & WILDLIFE
YOLO CO. FLOOD

PARKS/RECREATION
SOIL CONS. SVC.
SONOMA STATE
SPECIAL DISTRICTS
SURVEYOR
TRAFFIC ADV. COMM.
WATER COMPANY:
LAKEPORT CITY
CLEARLAKE CITY
SOLANO CO. WATER

FROM: TO: Mark Dellinger, Energy & Resource Manager

Lake Co. Planning Dept

REQUEST: Initial Study, IS 93-030; Use Permit, UP 93-016

APPLICANT: Santa Fe Geothermal, Inc.

JUL 16 1993

A.P.#: 013-004-03, 013-004-12 & 13

LOCATION: 1/2 mile NW of Anderson Springs, Middletown

RECEIVED

ZONING: "RL-RF" (Rural Lands-Frozen) GENERAL PLAN: Rural Lands

PROPOSAL: Amend use permit 92-8 to include Cobb Mountain Estates lease in the SE/4 of Section 16, T-11-N, R-8-W, MDB&M being AP#13-004-03, 13-004-12 & 13 as part of the area being developed for geothermal production by Santa Fe Geothermal, Inc. under this proposal.

Please advise us if additional information is needed, which permits are required from your agency, your environmental concerns, and whether you recommend that a Negative Declaration or an Environmental Impact Report be prepared.

COMMENTS: REFER TO THE CONDITIONS OF U.P. 92-8 FOR CONDITIONS INVOLVING DPW REVIEW + MODIFY AS SHOWN FOR USE ON THIS AMENDED USE PERMIT

BY: [Signature]

DATE: 7/16/93

RECEIVED JUL 2 1993

MD:dls

Table with 2 columns: Description and Page Number. Includes 'CALENDAR PAGE 780' and 'MINUTE PAGE 1705'.



COUNTY OF LAKE

PLANNING DEPARTMENT

Resource Management Division
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Telephone 707/263-2221

Lake Co. Planning Dept

JUL 02 1993

DISTRIBUTION DATE: 06/30/93

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REQUEST FOR REVIEW

- AG. COMMISSIONER
AIR QUALITY MGMT
BUILDING INSPECTOR
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FLOOD CONTROL
HEALTH DEPARTMENT
LAKEBED MANAGEMENT
OFFICE OF EDUCATION
CULTURAL RESOURCES
STATE DEPT. HEALTH
FISH & WILDLIFE
YOLO CO. FLOOD
PARKS/RECREATION
SOIL CONS. SVC.
SONOMA STATE
SPECIAL DISTRICTS
SURVEYOR
TRAFFIC ADV. COMM.
WATER COMPANY: LAKEPORT CITY
CLEARLAKE CITY
SOLANO CO. WATER

RECEIVED

JUL 1 1993

LAKE COUNTY BUILDING & SAFETY DEPT.

FROM: Mark Dellinger, Energy & Resource Manager
REQUEST: Initial Study, IS 93-030; Use Permit, UP 93-016
APPLICANT: Santa Fe Geothermal, Inc.
A.P.#: 013-004-03, 013-004-12 & 13
LOCATION: 1/2 mile NW of Anderson Springs, Middletown
ZONING: "RL-BF" (Rural Lands-Frozen) GENERAL PLAN: Rural Lands
PROPOSAL: Amend use permit 92-8 to include Cobb Mountain Estates lease in the SE/4 of Section 16, T-11-N, R-8-W, MDB&M being AP#13-004-03, 13-004-12 & 13 as part of the area being developed for geothermal production by Santa Fe Geothermal, Inc. under this proposal. The proposed activities include construction of a well pad, access road, steam transmission line, spoil disposal area, and drilling of several geothermal production wells.

Please advise us if additional information is needed, which permits are required from your agency, your environmental concerns, and whether you recommend that a Negative Declaration or an Environmental Impact Report be prepared. Due to the provisions of state law, it is essential that we receive your comments as soon as possible but in no case later than July 16, 1993.

COMMENTS: Lake Co. Build. Dept. will need a grading plan with drainage plan, etc. Plans and Specs

BY: J. Kennedy DATE: 7-1-93

MD:dls

Table with 2 columns: CALENDAR PAGE (781), MINUTE PAGE (1706)

Historical  
Resources  
File System



COLUSA  
CONTRA COSTA  
DEL NORTE  
HUMBOLDT  
LAKE

MARIN  
MENDOCINO  
MONTEREY  
NAPA  
SAN BENITO  
SAN FRANCISCO

SAN MATEO  
SANTA CLARA  
SANTA CRUZ  
SOLANO  
SONOMA  
YOLO

Northwest Information Center  
Foundation Center, Bldg. 300  
Sonoma State University  
Rohnert Park, California 94928  
(707) 664-2494 • Fax (707) 664-3947

11 March 1994

File No.: 94-LA-11

Steve Zaluský  
County of Lake Planning Department  
Courthouse - 255 N. Forbes Street  
Lakeport CA 95453

re: IS 93-030, UP 93-016; Santa Fe Geothermal, Inc.

Dear Mr. Dellinger:

Records at this office were reviewed to determine if this project could adversely affect historical resources. The review for possible historic structures, however, was limited to references currently in our office. The Office of Historic Preservation has determined that any building or structure 45 years or older may be of historic value. Therefore, if the project area contains such properties they should be evaluated prior to commencement of project activities.

\_\_\_ The proposed project area contains or is adjacent to the archaeological resource(s) ( ). A study is recommended prior to commencement of project activities.

\_\_\_ The proposed project area has the possibility of containing archaeological resources. A study is recommended prior to commencement of project activities.

\_\_\_ The proposed project area contains a listed historic structure ( ). See recommendations in the comments section below.

\_\_\_ Study # identified one or more historical resources. The recommendations from the report are attached.

\_\_\_ Study # identified no historical resources. Further study for historical resources is not recommended.

\_\_\_ There is a low possibility of archaeological sites. Further study for archaeological resources is not recommended.

✓ Comments: The proposed project area contains or is adjacent to the archaeological resource, CA-LAK-711. Based on the results of analysis from a test program (S-1168), this site has been evaluated as significant and has been placed on the National Register of Historic Places based on criterion (d) of 36 CFR 60.6. Mitigation of adverse impacts to this National Register Property is required. Recommendations from the report are attached.

If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 664-2494.

Sincerely,

*Levy Jordan*  
Levy Jordan

Assistant

RECEIVED  
CALENDAR PAGE MAR 782 1994  
MINUTE PAGE 1707

# **ENVIRONMENTAL ANALYSIS**

## **SANTA FE GEOTHERMAL, INC. AMENDMENT OF USE PERMIT UP 92-8**

**July, 1994**

**Prepared for:** Lake County Planning Department  
255 N. Forbes Street  
Lakeport, California 95453

**Prepared to:** Leonard Charles and Associates  
7 Roble Court  
San Anselmo, California 94960  
(415) 454-4575

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## INTRODUCTION

This expanded Initial Study has been prepared by Leonard Charles and Associates under contract to the County of Lake. The purpose of this Initial Study is to evaluate the potentially significant effects of two specific projects which are components of the Santa Fe Geothermal, Inc. proposal to expand its steamfield operations.

Santa Fe Geothermal, Inc. (hereafter called Santa Fe) has submitted an application to the County of Lake to amend its current Use Permit (UP 92-8) to allow geothermal field expansion. The proposed expansion will result in a new drill pad where five wells will be drilled and construction of a steam transmission line to route steam to Santa Fe's existing power generating plant.

Based on a preliminary review conducted by the County of Lake, it was determined that seven environmental issues require further evaluation in order to determine if a Negative Declaration or an EIR would be required prior to making a decision on the project.

### 1.1 CEQA PROCESS

This document has been prepared in accordance with the California Environmental Quality Act (CEQA), pursuant to the requirements of Sections 15063 through 15070. The intent of this report is to provide an informational document to decision-makers and the public as to the intensity of the significant effects associated with those concerns identified by the County, and whether or not those effects can be avoided or reduced to a level of insignificance through project modification or mitigation.

An Initial Study Checklist was completed for the proposed project and is included in the third chapter of this report. Based on that Checklist, seven areas of potential impact were identified for more detailed analysis. The following are the specific areas of concern addressed in this report:

1. Land use
2. Biology
3. Public health and safety
4. Cultural resources
5. Soil stability and erosion
6. Water quality
7. Cumulative impacts.

This document will provide a thorough evaluation of these specific issues that were considered to have potentially significant effects. Although there was not clear evidence that a significant effect would occur, there was sufficient concern to determine the need for additional environmental review. This report also includes an environmental checklist and an explanation of why other potential areas of impact were determined not to be significant.

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As required by CEQA, the process should provide an opportunity to the applicant or the Lead Agency to modify a project and mitigate adverse impacts before an EIR is prepared. This process permits a project to qualify for a Negative Declaration if impacts are mitigated to a level below significance. The information developed should also be used to support the factual basis for the findings that the project will not have a significant adverse impact on the environment.

This document has been prepared in compliance with State and County CEQA Guidelines. A large number of previous studies of projects on the Santa Fe leasehold or adjacent leaseholds have been prepared. The project site is an "island" amidst areas previously assessed and developed for geothermal uses. This report relies heavily on these previous analyses, and they are all incorporated by reference herein. The referenced documents include the following:

1. VTN Consolidated, Inc.  
*Final Environmental Impact Report for Cobb Mountain Estates Geothermal Exploratory Project*, January, 1978.
2. Gennis & Associates  
*Draft EIR - Aminoil USA, Inc. East Ford Flat Geothermal Project*, December, 1978.
3. Gennis & Associates  
*Final EIR - Aminoil USA, Inc. East Ford Flat Geothermal Project*, April, 1979.
4. Atlantis Scientific  
*Cultural and Biological Resources Study, Occidental Geothermal Exploratory Well Project, Federal Mine Block D, Lake County, California, Lease Serial Nos. CA 5636 and 5637*, 1979.
5. Occidental Geothermal, Inc.  
*OXY Geothermal Plant No. 1 Application for Certification*, submitted to the State Energy Resources Conservation and Development Commission, June 12, 1981.
6. Gennis and Associates  
*Initial Study for Plan of Development, Occidental Geothermal, Inc. Lease Units CA-5636 and CA-5637, The Geysers KGRA, Lake County, California*, July 31, 1981.
7. California Energy Commission  
*Occidental Geothermal, Inc. OXY Geothermal Plant No. 1, Final Environmental Impact Report*, December, 1981.
8. California Energy Commission  
*Proposed Commission Decision, Occidental Geothermal, Inc., Application for Certification, Oxy Geothermal Plant No. 1 (81-AFC-1)*, 1982.

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9. Bureau of Land Management, Ukiah District  
*Environmental Assessment No. 262, Lease Number 5636, Site: "E" Well Site, June 17, 1985.*
10. George S. Nolte and Associates  
*Environmental Assessment, Santa Fe Geothermal, Inc. Drill Site E, U.S. Geothermal Lease Serial No. CA-5636, December, 1985.*
11. George S. Nolte and Associates  
*West Ford Flat (PGandE Unit 19) Project Area Draft Environmental Impact Report, February, 1986.*
12. Nolte and Associates  
*Environmental Assessment, Cuttings Disposal Area Near Pad C, Santa Fe Geothermal, Inc., October, 1986.*
13. LSA Associates, Inc.  
*Environmental Analysis - Santa Fe Geothermal, Inc. Modification to Existing Sumps and Drill Cutings Area, May, 1990.*
14. Kleinfelder  
*Geologic/Geotechnical Investigation - Proposed Steamwell Sites P-6 and Pad D, Santa Fe Geothermal Property, Lake County, California, May, 1991.*
15. Kleinfelder  
*Geotechnical Slope Stability Investigation Report, Steam Well Pad D, Santa Fe Geothermal, Inc. Lake County, California, December, 1993.*
16. California Regional Water Quality Control Board, Central Valley Region  
*Adopted Waste Discharge Requirements for Santa Fe Geothermal, USA Lease CA-5636, Order #94-144.*

The information contained in this report is considered to be accurate and authoritative, but is subject to review and comment by the County of Lake, responsible agencies, and the public.

## 1.2 PROJECT LOCATION

The Santa Fe Geothermal leasehold is located on the Lake County-Sonoma County border, near the top of Cobb Mountain. The area is within the Geysers-Calistoga Known Geothermal Resource Area. The location is shown in Figures 1 and 2. The proposed well pad is bordered on the south by the geothermal area developed by Santa Fe Geothermal; this includes five existing well pads, a generating plant, pipelines, and roads. North of the site is geothermal development operated by Union Oil Company. West of the site is adjacent geothermal development in Sonoma County. Southeast of the site is geothermal development in the Ford Flat area.

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The proposed well pad is basically surrounded by existing geothermal development except to the northeast.

To date, Federal, State, and County agencies have approved five drill pads, steam supply wells, steam transmission lines, and a power plant on the Santa Fe Geothermal leasehold. These approvals include:

1. Well Pad A was approved September 18, 1979 and constructed in that same year.
2. Well Pad D was approved September 25, 1980 and constructed in that same year.
3. Well Pad B was approved January 9, 1981 and constructed that same year.
4. Well Pad C was approved in 1981 and constructed in 1982.
5. Well Pad E was approved and constructed in 1986.
6. Santa Fe Geothermal, Inc. (formerly OXY Geothermal) Power Plant No. 1 was certified by the California Energy Commission in January, 1982 and came on line in 1984.

### 1.3 PROJECT DESCRIPTION

The applicant, Santa Fe Geothermal, Inc., wishes to amend the existing Use Permit (UP 92-8) to allow potential expansion of its geothermal field operations. Santa Fe Geothermal currently operates geothermal wells on five drill pads (Pads A, B, C, D, and E) to the south of the currently proposed well pad (Pad F as shown on Figures 2 and 3). Santa Fe Geothermal will drill test wells at Pad F. The drill pad will include about 2.75 acres. For exploratory drilling, existing access roads from the east will be used.

The well pad and pipeline corridor are an extension of Santa Fe's current geothermal development. The 2.75± acre proposed well pad lies near the top of Cobb Mountain and would expand geothermal development in the area. Steam generated at the five proposed wells on Pad F will be piped to the existing power plant by an above-ground steam pipeline that will extend from Pad F to connect with the existing steam pipeline just west of Pad D.

Drilling of the wells will use the sumpless drilling technique. Drill cuttings will be disposed of at a sump on the well pad.

If drilling produces commercial quantities of steam, Santa Fe Geothermal will seek additional improvements. These include a new access road and a spoils disposal area (to dispose of earth removed in constructing the access road). While the new road is not required, it would allow easier access to the drill pad, thus improving the ability of Santa Fe to monitor the wells and pipeline. These possible future projects are shown on the Site Plan, but they are not the subject of this Initial Study.

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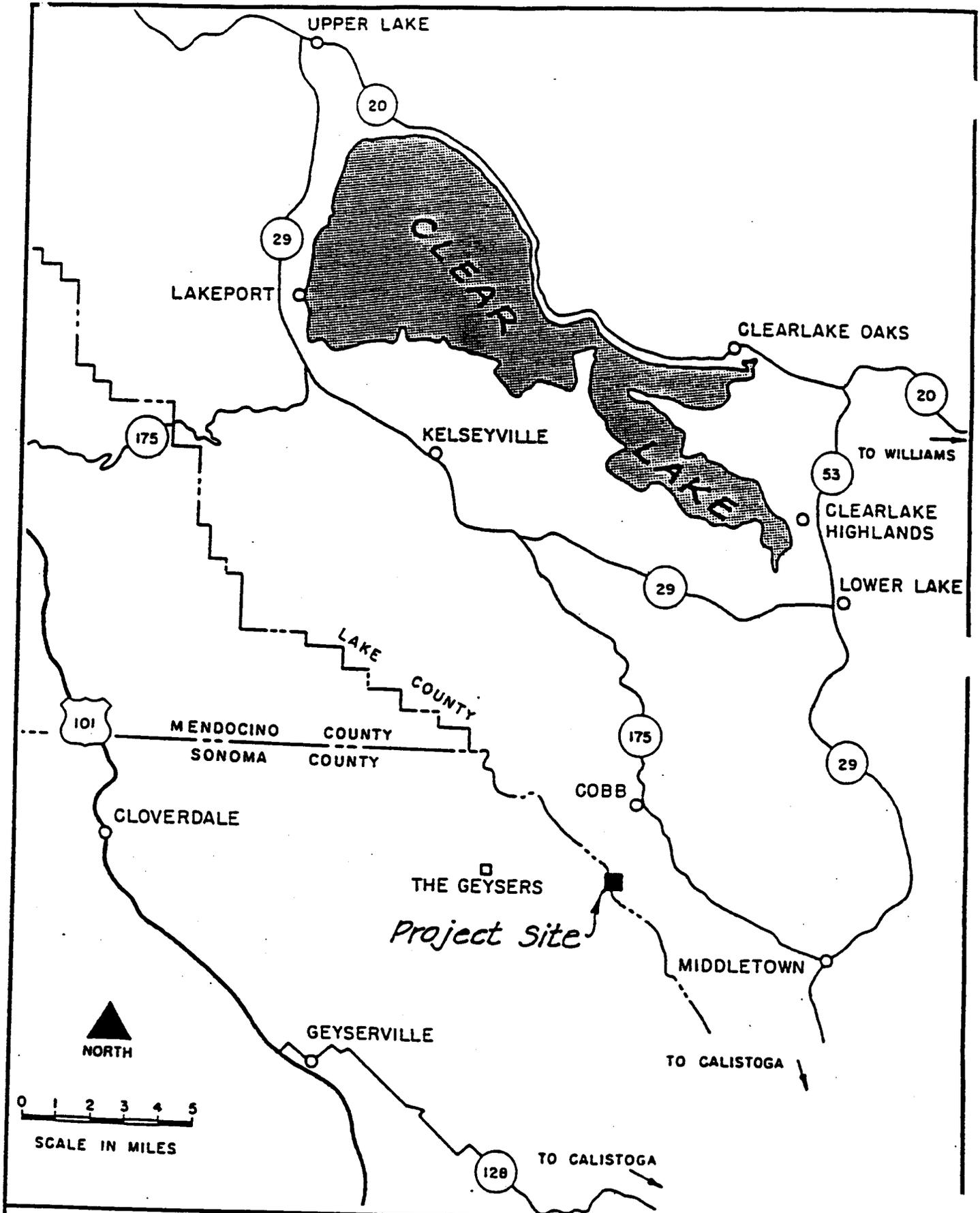


FIGURE 1: REGIONAL LOCATION

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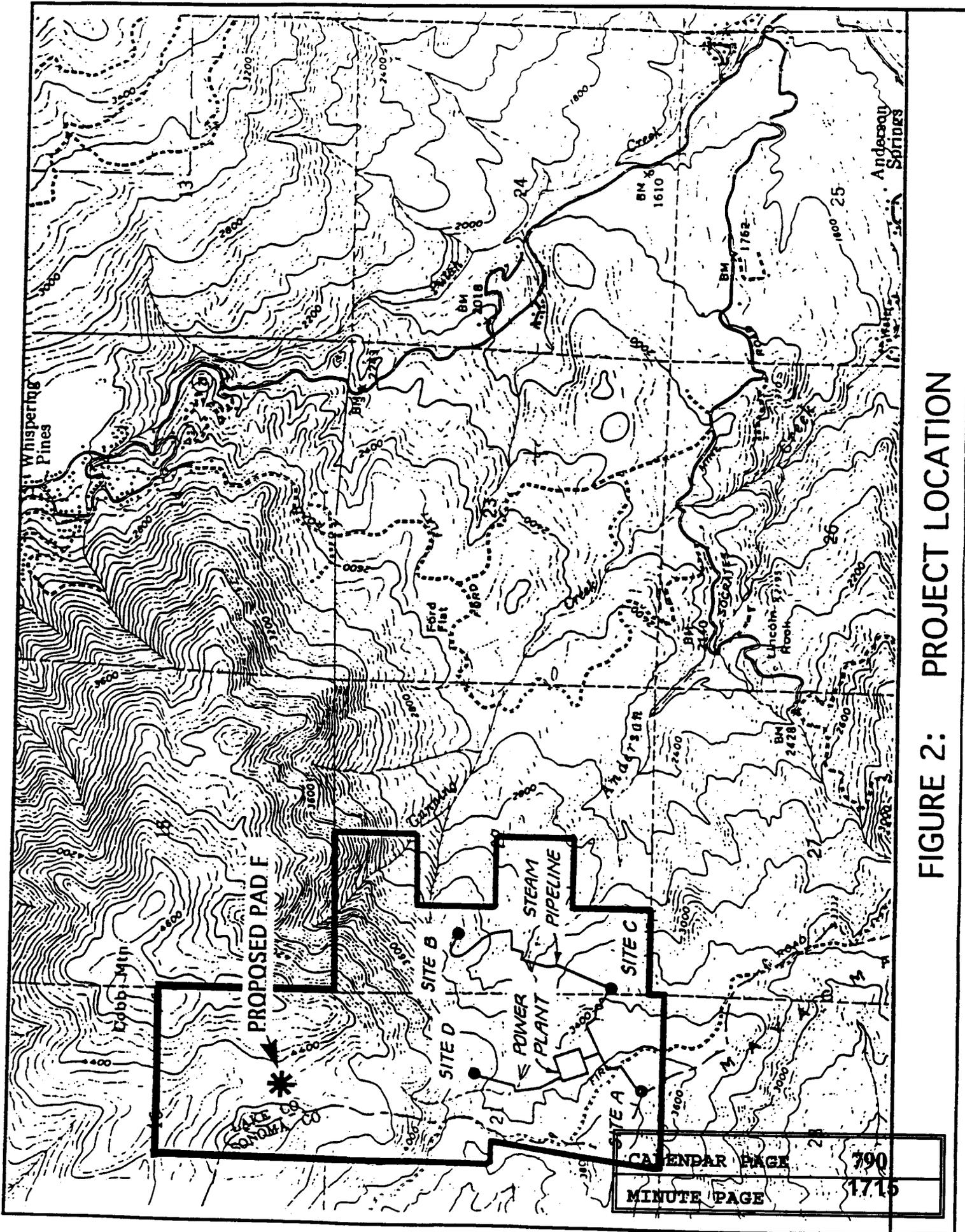
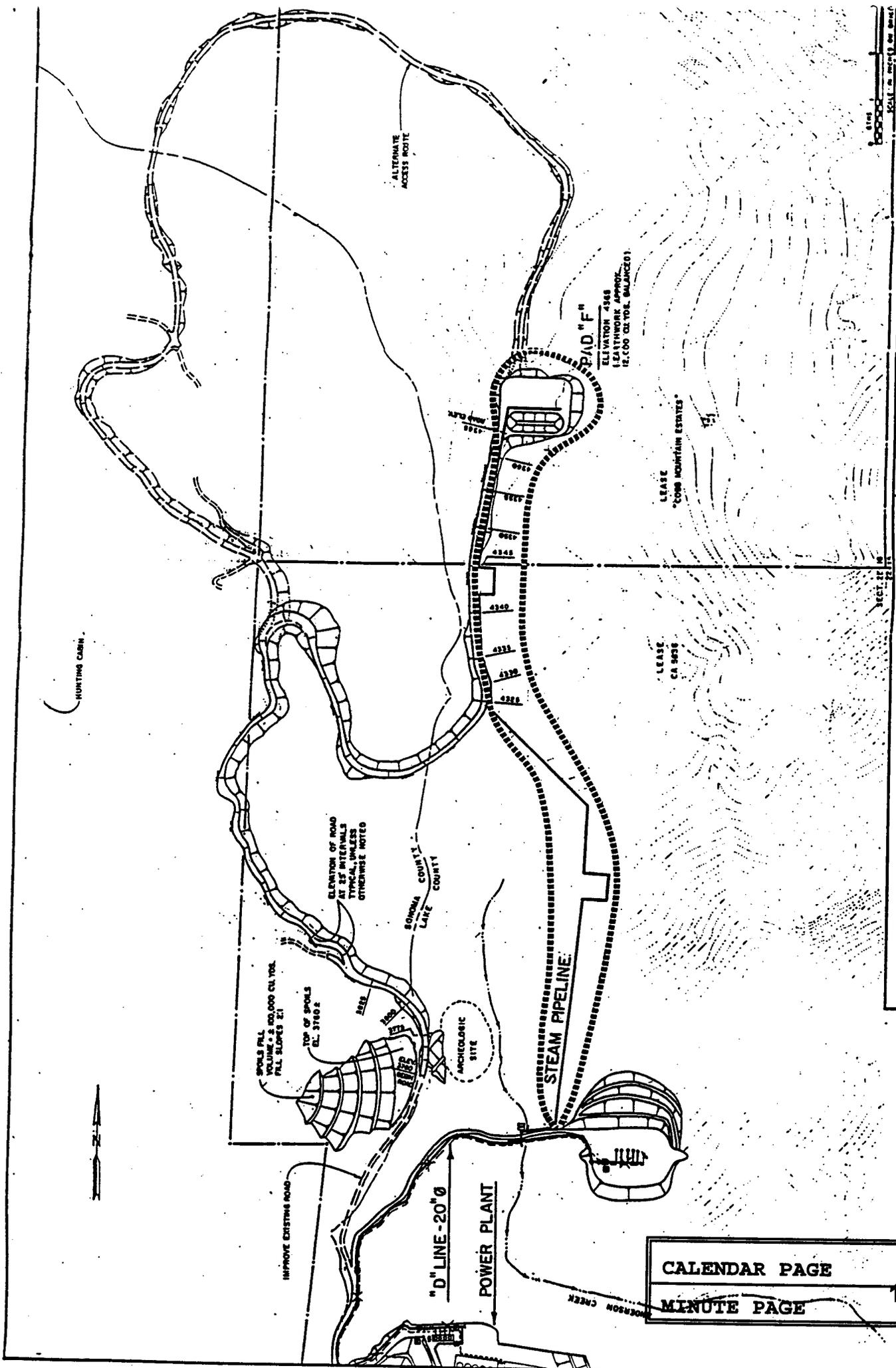


FIGURE 2: PROJECT LOCATION



**FIGURE 3: SITE PLAN**

CURRENT PROJECT: PAD F AND JAM PIPE LINE

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MATING NEW ROAD GRADE - 0.5%

These future improvements, if needed, will require additional environmental review prior to approval of use permits. Most of the proposed road and spoils disposal area are in Sonoma County and would require review and a use permit from that county. The overall development plan is shown on the accompanying map so that the reader can see what may eventually be requested if commercial steam production is realized on the proposed well pad. However, the use permit amendment being currently sought is restricted to the proposed well pad and the steam transmission pipeline corridor.

Santa Fe Geothermal has agreed that all existing Conditions of Approval of Use Permit 92-8 and the Conditions of Approval of Order No. 94-144 issued by the Regional Water Quality Control Board, Central Valley Region (adopted on May 20, 1994) will apply to the new well pad and pipeline. These conditions are reproduced in this report.

#### 1.4 REQUIRED ACTIONS

This environmental analysis addresses the potential significant effects of the proposed project. For the project to be approved, the following actions must occur:

1. A public review of the Negative Declaration consistent with State requirements. This assumes that the County will determine that the project can be approved with a Negative Declaration. If the County determines that an EIR is required, then this schedule of approvals must be amended.
2. Consideration by the County of Lake of the proposed Negative Declaration and comments received during the public review process.
3. Adoption of the Negative Declaration by the County of Lake with specific findings predicated on the Initial Study and comments received that there is no substantial evidence that the project will have a significant effect on the environment.
4. Amendment of Use Permit 92-8 including all mitigation measures required either to avoid or reduce to a level of insignificance any significant effects caused by the project.

#### 1.5 FINDINGS OF SIGNIFICANCE

Pursuant to Sections 15064 and 15065 of the *CEQA Guidelines*, one of the critical roles of the CEQA process is making a determination as to whether a project will have a significant effect on the environment. Should it be determined that the project either: (a) will not have a significant effect, or (b) revisions to the project, or proposals made by or agreed by the applicant mitigate the significant effects, the lead agency may, in accordance with Section 15072 of the *CEQA Guidelines*, prepare a Negative Declaration.

The expanded Initial Study authorized by the County has determined that none of the predicted effects evaluated herein would be significant given mitigation measures typically incorporated into a Lake County conditional use permit and

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mitigations recommended in this document. Potentially significant effects are reduced to a level below significance by recommended mitigation measures.

The extensive, existing environmental documentation for the Santa Fe Geothermal, Inc., lease and the Cobb Mountain Estates Geothermal Project has created an authoritative baseline that would permit reasonable conclusions to be formulated. Because none of the effects associated with the applicant's request would be significant, a decision to prepare a Negative Declaration would be in accordance with the *CEQA Guidelines*. However, if in reviewing these data as well as future comments, the County of Lake determines that there are potentially significant effects that cannot be mitigated as recommended here, the County may determine that the preparation of an Environmental Impact Report is required prior to taking action of the applicant's request.

CALENDAR PAGE	793
MINUTE PAGE	1718