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USE PERMIT
AMINOIL USA
CASTLE ROCK SPRINGS - DILLINGHAM AND VOUGHT LEASEHOLD

WHEREAS, the Planning Commission of the County of Lake, State of California, has considered the application for a Use Permit as applied for by Aminoil USA, P.O. Box 11279, Santa Rosa, California 95406, for the continuation of the development and production phase including drilling of wells, construction, installation and maintenance of necessary drilling pads, access roads, reinjection wells, pipelines to P.G. & E. Unit 13 and other facilities incident and necessary to such operations; not to exceed nineteen (19) well sites on the Castle Rock Springs Leasehold located in Sections 26, 35, the East 1/4 of Section 27, the East 1/4 of Section 34 and the North 1/4 of Section 36, Township 11 North, Range 8 West, M.D.B. & M., and nine production wells, access roads, and production pipelines on a certain 60 acre leasehold known as Dillingham-Vought being in portions of Section 27 and Section 34, Township 11 North, Range 8 West, M.D.B. & M., and

WHEREAS, said 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 and that the proposed use is in substantial conformity with the Lake County General Plan and that the proposed use is not a trivial action with no significant impact on the environment, and

WHEREAS, said Planning Commission has caused to be prepared Environmental Impact Reports on this project and has held public hearings thereon and has carefully considered this matter pursuant to the California Environmental Quality Act and the Guidelines of the Resources Agency, State of California, pertaining thereto, and pursuant to the Environmental Protection Guidelines as referenced in the Ordinance Code, County of Lake, and has issued Use Permits, Resolutions 75-127 and 76-30,

NOW THEREFORE BE IT MOVED that the Planning Commission of the County of Lake approves the Use Permit applied for and be it

FURTHER MOVED that:

- I. 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. However, if the Use Permit is not issued before October 12, 1979, it will become null and void, and the use may not proceed without the application for and approval of a new Use Permit. The Planning Commission may in its discretion approve time extensions.
- II. The Use Permit shall be subject to the following conditions:
 - A. The Planning Commission shall review this Use Permit in thirty (30) months after approval.
 - B. TO PROTECT PLANT ASSOCIATIONS:
 1. A buffer zone of 500 feet on both sides of streams flowing ten (10) months per year or more shall be established. No geothermal-related construction shall take place within this buffer zone, without specific approval from the Lake County Planning Commission, except when stream-crossing of access roads or pipelines is necessary.
 2. Access road or pipeline crossings within the riparian buffer zone shall be minimized in width to reduce vegetative cover loss. The width of such right-of-ways shall be minimized to conform to engineering standards of safety and performance.
 3. A planned and coordinated revegetation program is deemed necessary for the control of floral, faunal and visual impacts incurred during geothermal-related construction.
 4. The revegetation program, subject to review by the Lake County Planning Director, shall consist of contractual agreement between the geothermal development company and qualified individuals and/or firms engaged in horticultural and landscape consulting.

Such a program will:

 - a. Plan for the revegetation before proposed development takes place.
 - b. Delineate possible species to be used.
 - c. Address construction practices to insure success in the replanting program.

- d. Formulate the planting schedule, and
 - e. Insure proper maintenance after planting.
5. Because a revegetation program is deemed essential in geothermal development areas, guidelines for the revegetation shall include but not necessarily be limited to:
- a. All areas unnecessary to geothermal development shall be left undisturbed.
 - b. If construction involves removal of vegetation but no grading, root crowns of shrubs shall be left intact, so as many shrub species will resprout quickly.
 - c. When construction and drilling has been completed on a specific pad, road cut and bank, or pipeline route, the revegetation program shall commence in the fall months following construction, or when most appropriate for the species involved.
 - d. Top-soil removed by grading shall be stockpiled for later use in the revegetation program.
 - e. If revegetation is less than 70% successful, further attempts at revegetation shall be conducted. The revegetation of a site shall be evaluated no later than the second spring following the initial planting to determine if further planting is necessary.
6. Future development shall be planned well in advance to minimize the total amount of vegetation disturbed.
7. Existing access roads (with the exception of Socrates Mine Road) and firebreaks shall be used whenever possible for pipeline routes thereby minimizing future removal of vegetation cover.
8. At least 35 yards shall be maintained from blooie lines or other horizontal steam venting to nearest vegetation to prevent steam scalding. Where space is limited venting shall be angled upward to prevent said scalding.
9. Removed vegetation will be chipped and respread as mulching material base or burned in accord with California Division of Forestry and Lake County Air Pollution Control District rules.
- C. TO PROTECT FAUNAL POPULATIONS:
- 1. The revegetation program shall take the faunal resources of the field in consideration during its formation. The revegetation program is necessary for the reduction of impacts upon fauna.
 - 2. Pipelines crossing riparian areas or primary wildlife corridors as designated in the Environmental Impact Report for the subject property shall be buried (where feasible) or raised to at least four (4) feet (from bottom of pipe to ground level) for a horizontal distance of at least eight (8) feet to insure free and unrestricted passage of wildlife.
 - 3. Access roads and pad locations shall also avoid, wherever possible, the designated primary wildlife corridors.
 - 4. Raptor nesting sites shall be left undisturbed by geothermal-related construction.
- D. TO PROTECT AGAINST EXCESSIVE EROSION, INDUCED LANDSLIDES AND SURFACE GEOLOGIC HAZARDS:
- 1. All development shall be "state of art" and in conformance with good engineering practice. This means that all grading plans shall be designed by a Registered Civil Engineer with the assistance of a Registered Engineering Geologist.
 - 2. Good engineering practices and "state of the art" are represented by Chapter 70 of the Uniform Building Code of the State of California and "Contract Book for Construction of Pipeline for Steam Gathering System - Unit 13, Lake County" prepared by Hawke Engineers dated March 1978. These specifications and codes shall be applied to all excavation and grading.
 - 3. Any deviations from Chapter 70 of the Uniform Building Code shall be certified by an appropriately certified professional (i.e., soils engineer, engineering geologist, design civil engineer etc.).
 - 4. Precise plans for all future drill sites, reserve pit areas, and access roads showing the extent of cuts and fills, the compaction methods and the storm drainage design plan and profiles shall be submitted to the Lake County Planning Department in advance of an excavation.
 - 5. The drainage plans to be submitted shall generally distribute storm water 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. Energy dissipators and collection devices to reduce the erosive force of unnatrual runoff shall be required.

6. All grading activity shall be completed and all drainage structures shall be in place and operational prior to October 10, of any year. Grading and excavation activity may not be permitted during the consecutive period from October 10 to April 10 of any year. (It is understood that this is a general time frame. Extension beyond October 10 may be allowed by the Lake County Planning Department upon establishment of a soil moisture specification for any stated activity.)
- E. TO PROTECT AGAINST EXCESSIVE NOISE EXPOSURE:
1. The maximum permitted sound level during any phase of the project operations shall not exceed an Ldn 55 db(A) with a 10 db(A) penalty between the hours of 10 p.m. to 7 a.m. the following day at a distance of 2000 feet.
 2. All valve and other operational changes, other than testing, which require free venting at the well head shall take place near mid-day and shall be preceded by at least 24 hour notice to those residents requesting such notification. Recognizing present safety and technological constraints, valve change operations shall not be subject to item E.1. above.
 3. If measurements by the Lake County Planning Department indicate a possible violation of the Ldn 55 db(A) at a distance of 2000 feet, a second noise enforcement standard of Leq 83 db(A) measured at 200 feet from the noise source shall be applied. These regulations shall be adopted until a noise control ordinance is adopted by the Board of Supervisors. Applicant agrees that the Planning Commission shall have the right to substitute the conditions of a general Noise Control Ordinance for any part of these conditions when adopted by the Board of Supervisors. It is understood by the Planning Commission that mufflers of advance design will be utilized by the applicant to meet these standards, during drilling and testing.
 4. Heavy truck traffic associated with all geothermal field operations shall be confined to the hours of 7 a.m. to 10 p.m. except in cases of blowout, emergency sump pumping, or threat of personal injury.
 5. It is stipulated that the Lake County Planning Department will be spot monitoring noise levels in the vicinity of the proposed use and that findings resulting from said monitoring may require the applicant, his contractors, or agents, to provide continuous noise level monitorings and readings as may be directed by the Lake County Planning Department.
 6. Drill pipes shall not be laid down in bins between the hours of 8 p.m. and 7 a.m. the following day.
- F. TO PROTECT AIR QUALITY:
1. The applicant shall meet the standards established by the Lake County Air Pollution Control District Regulations.
 2. Applicant shall secure an Authority to Construct from the Lake County Air Pollution Control District prior to commencement of any drilling activity, and a Permit to Operate prior to operating the wells and pipeline system.
 3. Applicant shall provide dust control measures on all private vehicular access routes as may be required by direction from the Lake County Air Pollution Control District.
 4. Applicant shall provide, upon request from the Lake County Air Pollution Control District, element-component readings from steam analyses.
- G. TO PROTECT SURFACE WATER QUALITY:
1. Applicant and P.G. & E. are currently conducting a baseline water quality, sediment monitoring, and biological inventory program on Putah Creek which is scheduled for conclusion in 1980. Results of this program shall be used to determine the needs for routine monitoring in the Putah Creek watershed.
 2. Applicant shall conduct routine water quality monitoring after 1980 if deemed required by the Planning Commission. Such monitoring program shall be determined by the on-going program described in G.1. and conducted by a certified water quality laboratory. Results of the monitoring program shall be forwarded to the County of Lake upon their availability to the applicant.

H. ENVIRONMENTAL AND SAFETY PROTECTIONS:

1. All vents associated with the normal operation of the pipeline, down-stream of the well flowmeter, shall not be exposed to atmospheric conditions except where exempted by Lake County Air Pollution Control District. At present, control of these vents through the use of a vent line which parallels the pipeline and is exhausted into a reinjection well, is envisioned. Other, or similar means, which meet the primary objective are not excluded; soft plugs or extra pressure-temperature reliefs are exempted for safety purposes.
2. In the event of casing blowout or other uncontrolled venting, applicant 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.
3. All unattended drilling equipment, well heads, sumps, ponds, shall be protected from access by unauthorized persons.
4. Pipeline components which are exposed to ambient conditions at a temperature of 140 degrees fahrenheit or higher, where accessible to human reach, shall be designed to mitigate against inadvertent human burns.
5. The applicant shall comply with the requirements of fire prevention practices and measures as may be prescribed by the California Division of Forestry and/or the County of Lake.
6. Sanitary and hand washing facilities shall be provided at the drill site and maintenance yard as specified by the Lake County Health Department.
7. No hydrocarbon base cleaning agent, no waste oils or greases, no liquid fuel shall be intentionally discharged directly onto the surface of a drill pad. All liquids shall be contained and disposed of in accordance with the Regional Water Quality Control Board permit.
8. All solid waste material shall be removed from the site; upon completion of a well, all drilling equipment and materials shall be removed, and the site shall be revegetated as required in Condition A.
9. The pipeline shall be designed to ANSI Standard V31.8 or equivalent.
10. Drilling sumps shall be designed by a registered civil engineer. Design of sump fills shall be to a specification to withstand both static loads and dynamic loads imposed by credible seismic events with a safety factor of 1.5 and 1.2 respectively. Sumps shall be constructed of material compacted to 95% (ASTMD-1557-70). Sumps shall be lined with at least two feet of clay having a permeability not to exceed 1×10^{-6} cm/sec. or an equivalent impermeable membrane. Volume of any sump shall be sufficient to accommodate both the drilling mud and any reasonable amount of precipitation which could enter the sump.

I. TO CONTROL VISUAL IMPACTS:

1. The revegetation program shall be formulated to include consideration of the visual impacts created by geothermal development.
2. Pipelines shall be colored in such a manner as to provide maximum color compatibility with the vegetation type through which it is routed. The choice of the color of the pipeline shall be made by the revegetation program contractor. Changes in color shall be made along the pipeline if necessary to blend with the background.
3. On visual edges such as ridgelines, low profile designs shall be employed.
4. All pads, roads, and pipeline sites shall be placed in areas (other environmental and engineering conditions being met) in such a manner that existing vegetation and topography will provide maximum screening.
5. Pipelines shall be buried at road crossings unless doing so would violate other conditions of this Use permit, and unless impacts as determined by the Planning Department Director or his agent would be more severe than the visual impact of an overhead crossing.
6. Drill pad locations shall not be selected on areas of more than an average of thirty percent (30%) natural slopes without specific approval from the Lake County Planning Commission.

J. TO MITIGATE AGAINST LOSS OF ARCHAEOLOGICAL RESOURCES:

1. Prior to any further disturbance of archaeological site, Geysers 124, as designated in the Environmental Impact Report for the subject project, the mitigation measures for this site presented in

this Environmental Impact Report shall be implemented.

K. UPON WELL ABANDONMENT:

- 1. The applicant shall abandon any well in accord with the California Division of Oil and Gas.
- 2. The applicant shall regrade pads and sumps to reasonably restore a natural ground contour.
- 3. The applicant shall revegetate pipeline routes, pads, and sump areas with woody vegetation that can be tolerantly sustained in accord with recommendations of the revegetation consultant.

L. STANDBY WELLS:

- 1. If any exploration well encounters steam and is bled to the atmosphere awaiting connection to a power plant, H₂S abatement measures shall be performed if required by the regulations of the Lake County Air Pollution Control Officer.

M. RE-ENTRY OF PRODUCTION OR SUSPENDED WELL BORES:

- 1. Applicant may re-drill, 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 are met.

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

- 1. 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 right solely to this applicant or his assigns.
- 2. That the granting of this Use Permit is in the general public interest and that 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.
- 3. That this Use Permit shall be subject to revocation or modification by the Board of Supervisors of Lake County if:
 - a. The Board finds that there has been non-compliance with any of the foregoing conditions, or
 - b. The Board finds that the use for which this Permit is granted is so exercised as 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.

Dated: November 8, 1978

BEVERLY I. WESTPHAL
Acting Planning Director

By Doris W. Wilcox

ACCEPTANCE

I have read and understand the foregoing Use Permit and agree to each and every term and condition thereof.

Dated:

[Signature]
Owner or authorized agent

Approved by Planning Commission: 10/13/78
Date

APPROVED:

Issued: 10/17/78
Date

[Signature]
PRODUCTION

[Signature]
LEGAL

[Signature]
LAND