

ATTN: Kelly Hastings

Form 3260-1  
(formerly 9-1956)  
(June 1988)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
GEOTHERMAL EXPLORATION PERMIT

FORM APPROVED  
OMB NO. 1004-0132  
Expires: September 30, 1990

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in triplicate with requisite attachments with the authorized officer. The authorized officer must approve this permit prior to any lease operations.

7. Lease Serial No.  
CA 11403

8. Surface Manager: ☒ BLM ☐ FS  
☐ Other

1. Name of Lessee/Operator  
Caithness/California Energy Company, Inc.

2. Address of Lessee/Operator  
900 N. Heritage Dr., Bldg. D Ridgecrest, CA 93555

9. Unit Agreement Name  
TCH 48-11

3. Contractor(s) Address

10. Permit No.  
GEP 065-73-02

4. Type of Operations to be Conducted (give brief description)

11. Field or Area  
Coso KGRA

TCH to be drilled about 4000' approx 2200' E and 300' N of  
SW corner of Sec 11, T22S, R38E

12. Sec., T., R., B. & M.  
Sec 11, T22S, R38E MDB&M

5. Exploration operations will be conducted during the period (date)

13. County  
Inyo

from: February 1993

to: February 1994

14. State  
California

6. Bond: Surety bond for \$ ☐ Nationwide ☐ Statewide ☐ Lease ☐ Bond to be furnished  
☐ Rider to Nationwide bond ☐ Rider to Statewide bond Bond No.: On file

15. The undersigned agrees that all exploration operations under this permit shall be conducted in accordance with regulations, GPO Orders and Special Permit Stipulations:

- a) The lessee/operator shall have copies of this Permit available on location, at all times, while operations are being conducted.
- b) Unless waived, the lessee/operator shall submit in writing to the appropriate authorized officer the status of activities completed in progress at the end of each month during the term of this permit.
- c) If requested by the authorized officer the lessee/operator shall submit two copies of all available records of any operations, surveys, tests, or projects immediately after completion of such activities.
- d) Within 30 days after completion of each survey, test, analysis or activity of the permitted operations the undersigned agrees to furnish the authorized officer with two copies of the records of the operations.
- e) Special Conditions of Approval:

The undersigned agrees: (1) to the special stipulations which may be added by the authorized officer as a condition of approval of this Geothermal Exploration Permit; and (2) that the proposed operations will not be commenced until this Permit has been approved by the authorized officer. Appeals from decisions under this Permit may be made in accordance with 43 CFR 3266.1.

16. Greg Halsey  
Signed [Signature] for GHT Title Compliance Manager Date 3-1-93

(This space for Federal use)

I hereby approve this permit to conduct geothermal resource exploration operations. This permit is effective for one year after the approval date.

Signed [Signature] Title [Signature] Date 4/2/93

**TCH 48-11**  
**Drilling and Coring Procedures**  
**4000'±**

1. Set 5'± of 9-5/8" conductor pipe with backhoe and cement with redi-mix.
2. Move in and rig up a combination core and rotary rig.
3. Spud 8" nominal hole and drill to 500'± using fresh water and gel drilling mud. Standby air drilling equipment will be part of the rig package. This will be used to aerate the drilling mud if any serious loss of circulation is encountered.
4. 4-1/2" casing will be run to 500'± and cemented to the surface. Notify BLM in ample time to witness test.
5. Nipple up 4-1/2" casing with a master valve and hydraulic operated annular BOP. Pressure test all equipment to 500 psi.
6. Drill out plug and cement with conventional 3.875" OD bit to 2' below the 4-1/2" casing shoe.
7. Core to 4500'± with HQ (3.875") wireline coring system. Reduce tool size to NQ (2.890") if mandated by downhole conditions.
8. Displace drilling fluid in hole with water.
9. Run and hang 1-1/2" nominal tubing (hang 20' off bottom to allow for fill and expansion).
10. Release Rig.
11. Hydraulic operated annular BOP with dual controls will be operated from the driller's position and accumulator station.
12. All operations will be conducted in accordance with the Geothermal Resource Operational Orders, constraints, and stipulations as mandated by the BLM or NAWS.

Ridgecrest Resource Area  
Conditions of Approval

Company: California Energy Co.

GEP: 065-93-02

Lease: Ca 11403

Field: Coso KGRA

County/State: Inyo, Ca

Your Geothermal Exploration Permit for well TCH 48-11 is approved subject to the following Bureau of Land Management (BLM) requirements:

1. All operations shall be conducted in accordance with, NTL CA-86-01 the approved Plan of Operation, and all applicable Geothermal Resource Operational Orders and Regulations.
2. During work on this job, a copy of this permit, these conditions of approval, and any relevant Sundry Notices shall be on site at all times.
3. You shall notify this office and the Navy Geothermal Office 48 hours prior to commencement of any work, and a 24 hour notice shall be given of any BOPE or well test. Call Joe Hughes or Linn Gum at (619-375-7125 daytime) or (619 384-4456 night time).
4. In case of emergency, Joe Hughes shall be notified.
5. All cement shall be API class "G" with 40% silica flour.
6. Variances from the approved well program shall be approved by the Ridgecrest Resource Area Manager or, in emergency situations, verbal approval may be obtained from Joe Hughes. Any verbal approvals shall be followed up by submitting a Sundry Notices within 24 hours of approval.
7. During the drilling of these wells, a daily morning reports shall be phoned or FAXED to Mr. Joe Hughes at (619) 375-7125 FAX 375-1995 and Mr. Ken Bonin at 619-939-4040 Fax 939-2449.

8. The blowout equipment shall include pipe rams and blind rams.
9. The blowdown line shall be equipped with at least 1 shut-off valve and one adjustable choke valve; shall be anchored at all bends; and shall extend to the edge of the reserve pit.
10. H<sub>2</sub>S recorders with audio and visual alarms shall be placed near the well head and shall be operated continuously while drilling below the surface casing shoe.
11. If no lost circulation problems, abnormal formation pressures, or water entries are encountered, final abandonment shall be done by placing a 200 foot plug across the shoe of the 4 1/2 " casing and in the top 30 feet of the casing.
12. While drilling with air, bottom hole temperatures shall be measured in accordance with paragraph IV(G) of Ntl CA-86-01.
13. If a stabilized bottom hole temperature (actual or calculated) of 375 ° F is reached, the well shall be completed or abandoned.
14. At least 500 bbls of water and/or mud shall be kept on site at all times. The tank holding the water and/or mud shall be contacted to well in such a way that the water and/or mud can immediately be pumped down the well in case of emergency.
15. Should little or no cement returns be encountered while cementing the surface casing, Joe Hughes shall be contacted before any further work is carried out.
16. After drilling 10 to 20 feet out of the 4 1/2 " casing, drilling shall stop and a surface pressure equivalent to .75 gradient at the casing shoe shall be applied and held for 30 minutes. A satisfactory test shall be obtained before drilling deeper. Joe Hughes shall be given a 24 - hour notice of this test.
17. To minimize surface disturbance, the access road to this site, shall be no more than twelve (12) feet wide, and construction shall be confined to the flagged access road and pad location.
18. A CECI compliance field technician shall monitor construction to ensure that no archaeological or environmental resource are disturbed.

20. Within 30 days of well completion a complete well history, all directional surveys, and all log runs shall be mailed or delivered to:

Bureau of Land Management  
300 S. Richmond Rd.  
Ridgecrest Ca. 93555

Bureau of Land Management  
555 Leslie St.  
Ukiah, Ca. 95482

21. Any change in this approved program and/or the conditions of approvals shall receive prior approval by the BLM Authorized Officer.
22. This permit is valid for one year commencing on the approval date.