

Form: GAG 9-1987

UNITED STATES DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY, CONSERVATION DIVISION

Form Approved
 Budget Bureau Reg. No. 267

GEO THERMAL DRILLING PERMIT

The U.S. Geological Survey requires this form or other Supervisor approved form to be prepared and filed in triplicate with requisite attachments with the Supervisor. The Supervisor must approve this permit prior to any lease operation.

1a. TYPE OF WORK: DRILL NEW WELL () REDRILL () DEEPEN () PLUG BACK () DIRECTIONALLY DRILL () OTHER ()

1b. WELL TYPE: PRODUCTION () INJECTION () HEAT EXCHANGE () OBSERVATION () WATER SUPPLY () OTHER ()

1c. WELL STATUS:

2. NAME OF LESSEE/OPERATOR
 GEO OPERATOR CORPORATION FOR GEO-NEWBERRY CRATER, INC.

3. ADDRESS OF LESSEE/OPERATOR
 1330 NORTH DUTTON AVENUE, SUITE A, SANTA ROSA, CA 95401

4. LOCATION OF WELL
 At surface 2100' NORTH and 500' WEST OF THE SOUTHEAST CORNER
 At proposed prod. zone OF SEC. 8, T22S, R12E

5. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE
 375' WEST OF INNER WESTERN UNIT BOUNDARY

6. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE
 3.1 MILES FROM N-2

7. LEASE SERIAL NO.
 OR-12004

8. SURFACE MANAGER: BLN () FS () OTHER ()

9. UNIT AGREEMENT NAME
 NEWBERRY FLANK UNIT

10. WELL NO.
 N-5

11. PERMIT NO.

12. FIELD OR AREA
 NEWBERRY CRATER

13. SEC. T., R., S. & M.
 S8, T22S, R12E

14. COUNTY
 DESCHUTES

15. STATE
 OREGON

16. APPROX. STARTING DATE
 JUNE, 1987

17. ACRES ASSIGNED (WELL SPACING)

18. DRILLING MEDIA AND CHARACTERISTICS: AIR () WATER () MUD () FOAM () OTHER ()

19. PROPOSED DEPTH MEASURED: 5000'
 TRUE VERTICAL:

20. ELEVATIONS: ESTIMATED () FINAL ()
 5680'±
 REFERENCE DATUM: GR () MSL () DFL () SB () RT ()
 CASINGHEAD PLANCE () OTHER ()

21. EXISTING AND/OR PROPOSED CASING AND CEMENTING PROGRAM (List existing program first, followed by proposed program, and separate by a sufficient space to clearly distinguish the two programs)

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	COUPLING (Collars & Threads)	GRADE	SETTING DEPTH		QUANTITY OF CEMENT
					TOP	BOTTOM	
7-7/8"	4-1/2"	10.7#	Diamond Drill Flush Joint 3 Threads/N	A-53	Surf	500'	114 Cu Ft
3-25/32"	1-1/2"	2.9#	Upset	J-55	Surf	5000'	320 Cu Ft Shur-Gel or Comparable Grade Product

22. PROPOSED WORK SUMMARY

PURSUANT TO THE APPROVED PLAN OF EXPLORATION AS AMENDED FOR 1987.

(Use additional space on reverse side of form)

23. SIGNED: Michael J. Gale TITLE: SR. ENVIRONMENTAL COORDINATOR DATE: January 20, 1987

(This space for Federal use)

APPROVED BY: Robert J. Fisher TITLE: Deputy State Director for Mineral Resources DATE: 9/30/87

"APPROVED SUBJECT TO THE ATTACHED CONDITIONS"

This permit is required by law (30 U.S.C. 1023), regulations: 30 CFR 270.71; Federal Geothermal Lease Terms and Stipulations and other regulatory requirements. The United States Criminal Code (18 U.S.C. 1001) makes it a criminal offense to make a willfully false statement or representation to any Department or Agency of the United States as to any matter within its jurisdiction.