

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.

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

5. WELL TYPE: PRODUCTION ( ) INJECTION ( ) HEAT EXCHANGE ( ) OBSERVATION ( ) WATER SUPPLY ( ) OTHER (X)

6. WELL STATUS: Core hole to be drilled. No existing wells

7. NAME OF LESSEE/OPERATOR  
GEO Operator Corporation (GEO-Newberry)

8. ADDRESS OF LESSEE/OPERATOR  
2300 County Center Dr. #250 Santa Rosa, CA 95401

9. LOCATION OF WELL 1500' North & 2250' West of the Southeast corner of Sec  
At surface 35, T21S, R13E  
At proposed prod. zone 35, T21S, R13E

10. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE  
1.7 miles East of inner Eastern boundary of unit.

11. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE  
7 miles from N-1 (3500' West & 2450' North of the Southeast corner of Sec 25, T22S, R12E)

1. LEASE SERIAL NO.

2. SURFACE MANAGER: BLM ( ) FS (X) Other ( )

3. UNIT AGREEMENT NAME  
Newberry Flank (GEO Newberry)

4. WELL NO. N-4

5. PERMIT NO.

6. FIELD OR AREA  
Newberry

7. SEC. T., R., S. & M.  
35 21S 13E

8. COUNTY  
Deschutes

9. STATE  
Oregon

10. APPROX. STARTING DATE  
July 1985

11. ACRES ASSIGNED (WELL SPACING)  
N/A

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

13. PROPOSED DEPTH MEASURED: 4000'

14. ELEVATIONS: ESTIMATED (X) FINAL ( ) 6160'

REFERENCE DATUM: OR (X) NAT ( ) OF ( ) IS ( ) AT ( )  
CASTINGHEAD FLANGE ( ) OTHER ( )

15. 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	
5-5/8"	4 1/2"	7.7#	Diamond Drill Flush Joint 3 threads/in.	A-120	Surf	400'	25 cu.ft.
8-7/8"	2-3/4"	6.4#	Flush Joint	J-55	Surf	4,000'	14.7 cu.ft. Shur-Gel

16. PROPOSED WORK SUMMARY

Refer to attached Drilling Program.

23. *Michael J. Cale* (Use additional space on reverse side of form)

SIGNED Michael J. Cale TITLE Sr. Env. Coordinator DATE 3-26-85

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

This permit is required by law (30 U.S.C. 1023); regulations: 30 CFR 170.71; 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.