

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 10040132
Expires: July 31, 1996

GEOHERMAL SUNDRY NOTICE

The Bureau of Land Management (BLM) requests 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.

6. Lease Serial No.
OR 4550

7. Surface Manager: BLM FS
 Other

la. Well Type: Production Injection Heat Exchange Observation other

8. Unit Agreement Name
Deschutes

Temperature Gradient Well (TCH)

lb. Well Status:
Shut In Suspended

9. Well No. 10. Permit No.
88-21 TCH

2. Name of Lessee/Operator
ORNI 4 / Ormat Nevada Inc.

11. Field or Area
Newberry KGRA

3. Address of Lessee/Operator
980 Greg Street, Sparks, NV 89431-6039

12. Sec., T., R., B. & M.
S 21, T21S, R12E, WB

4. Location of Well or Facility
At the end of USFS Road 9735-680, adjacent to pad 88-21, T21S, R12E.

13. County
Deschutes

14. State
OR RECEIVED

5. Type of Work
- | | | |
|---|---|---|
| <input type="checkbox"/> Change Plans | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Site and Road Construction | <input type="checkbox"/> Fracture Test | <input type="checkbox"/> Multiple Complete |
| <input type="checkbox"/> Construct New Production Facilities | <input type="checkbox"/> Shoot or Acidize | <input checked="" type="checkbox"/> Abandon |
| <input type="checkbox"/> Alter Existing Production Facilities | <input type="checkbox"/> Repair Well | <input type="checkbox"/> Other |

IV 18 2001
rd Information

15. Describe Proposed Operations (Use this space for well activities only. See instructions for current well conditions on reverse)

See attached detailed abandonment procedure.
See attached well diagram for existing well casing.
See attached well diagram with notes for existing condition of the well.

Rig up, pull both 2" and 3" tubing from well. Set first plug from 1,457 feet to 1,257 feet below surface, Test plug. Pull out of hole displacing with mud to 600 feet. Set second plug from 600 feet below surface to surface. Cut off casing 4 feet below surface. Remove equipment and clean up pad.

16. Describe Proposed Operations (Use this space for all activities other than well work)

Re-install water bars behind locked gate from 88-21 TCH to water well site upon demobilization

17. I hereby certify that the foregoing is true and correct

Signed

[Signature]

Title

[Signature]

Date

9/10/01

(This space for Federal use)

Approved by

Title

Date

Conditions of Approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 10040132
Expires: July 31, 1996

GEOHERMAL SUNDRY NOTICE

The Bureau of Land Management (BLM) requests 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.

1a. Well Type: Production Injection Heat Exchange Observation other

Temperature Gradient Well (TCH)

1b. Well Status: Shut In Suspended

2. Name of Lessee/Operator
ORNI 4 / Ormat Nevada Inc.

3. Address of Lessee/Operator
980 Greg Street, Sparks, NV 89431-6039

4. Location of Well or Facility
At the end of USFS Road 9735-680, adjacent to pad 88-21, T21S, R12E.

5. Type of Work
- | | | |
|---|---|---|
| <input type="checkbox"/> Change Plans | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Site and Road Construction | <input type="checkbox"/> Fracture Test | <input type="checkbox"/> Multiple Complete |
| <input type="checkbox"/> Construct New Production Facilities | <input type="checkbox"/> Shoot or Acidize | <input checked="" type="checkbox"/> Abandon |
| <input type="checkbox"/> Alter Existing Production Facilities | <input type="checkbox"/> Repair Well | <input type="checkbox"/> Other |

6. Lease Serial No.
OR 4550

7. Surface Manager: BLM FS
 Other

8. Unit Agreement Name
Deschutes

9. Well No. 10. Permit No.
88-21 TCH

11. Field or Area
Newberry KGRA

12. Sec., T., R., B. & M.
S 21, T21S, R12E, WB

13. County
Deschutes

14. State
OR

15. Describe Proposed Operations (Use this space for well activities only. See instructions for current well conditions on reverse)

See attached detailed abandonment procedure.
See attached well diagram for existing well casing.
See attached well diagram with notes for existing condition of the well.

Rig up, pull both 2" and 3" tubing from well. Set first plug from 1,257 feet to 1,257 feet below surface, Test plug. Pull out of hole displacing with mud to 600 feet. Set second plug from 600 feet below surface to surface. Cut off casing 4 feet below surface. Remove equipment and clean up pad.

16. Describe Proposed Operations (Use this space for all activities other than well work)

Re-install water bars behind locked gate from 88-21 TCH to water well site upon demobilization

17. I hereby certify that the foregoing is true and correct

Signed _____ Title _____ Date _____

(This space for Federal use)

Approved by _____ Title _____ Date _____
Conditions of Approval, if any:

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(Instructions on reverse)

Newberry KGRA Abandonment Procedure Well 88-21 TCH

- 1) Mobilize small work-over drill rig to location. This will include extra items such as mud tanks, water truck, and cement pumping units.
- 2) Remove cement manhole cover from wellhead.
- 3) Check wellhead pressure.
- 4) Rig up and flange up BOP Equipment to existing wellhead. Test BOP equipment as directed by BLM and DOGAMI.
- 5) Hook up kill line to 2" wing valve.
- 6) Kill well with mud.
- 7) Open valves and check on 2 inch tubing to determine if it is loose or stuck.
- 8) Fish for top of 3.5-inch HQ rods with overshoot on 2 inch tubing. The 3.5-inch HQ rods are approximately 16 feet below surface.
- 9) Latch on to 3.5-inch HQ rods and strip out over 2-inch tubing. 3.5-inch HQ rods are expected to be loose at 2,485 feet, which is 1,000 feet below the shoe of the 4.5 inch cemented casing at 1,357 feet.
- 10) Stack 3.5-inch HQ rods on pad site, for eventual removal from project area.
- 11) Once 3.5-inch HQ rods are out, connect up to 2 inch tubing and pull.
- 12) If 2 inch tubing is loose, pull and stack on site 4,855 feet of 2 inch tubing.
- 13) If 3.5 inch HQ rods or if 2 inch tubing are stuck, shoot or cut off at approximately 2,480 feet, leaving remainder of pipe in the hole and removing all HQ rod and tubing above 2,480 feet.
- 14) Set Plug #1. Pump 200 liner feet of 15.8-pound cement with 40% silica from 1,457 to 1,257 feet, setting plug across shoe of 4.5-inch casing at 1,357 feet with 100 foot overlap below the shoe and inside of the 4.5-inch casing.
- 15) Wait on cement (let set overnight or at least 8 hours).
- 16) Run in hole and tag cement plug #1. If plug is not present, repeat step 14.
- 17) Pull out of hole to 600 feet while displacing with drilling mud made of 9.0 pound/gal and 36 Viscosity.
- 18) Set Plug #2. Pump 600 feet of 15.8-pound cement with 40% silica.
- 19) Top off cement from surface, if required.
- 20) Cut off all casings 4 feet below ground level. Weld plate on 4.5-inch casing inscribed with well number and date.
- 21) Fill in hole to ground level.
- 22) Clean up pad and release equipment from site.
- 23) Replace water bars on road from 88-21 pad to locked gate.
- 24) Close and lock gate.

200' plug
per BLM

probably
stuck
need to TD
run 2" log.
Realistically
as deep as
they are
likely to
pull.

CALIFORNIA ENERGY COMPANY INC.

2" TUBING STRING

2" Valve-->|X|

WELL # NB 88-21 TCH

DATE RAN : 07/21/95

|X|<--2" Valve

Tubing Flange---->|-----|

Tubing Doughnut
set in 4 1/2 csg.
wellhead.

Ground Level

Top OF 3 1/2"@_16'

<- 10 3/4" Set@_21'

< 7" Set @ 500'

< 4 1/2" Csg.Set@_1357'

2" Tubing

of Jts. 154
Wt. 3.4
Gr. J-55
Thread. BULL.

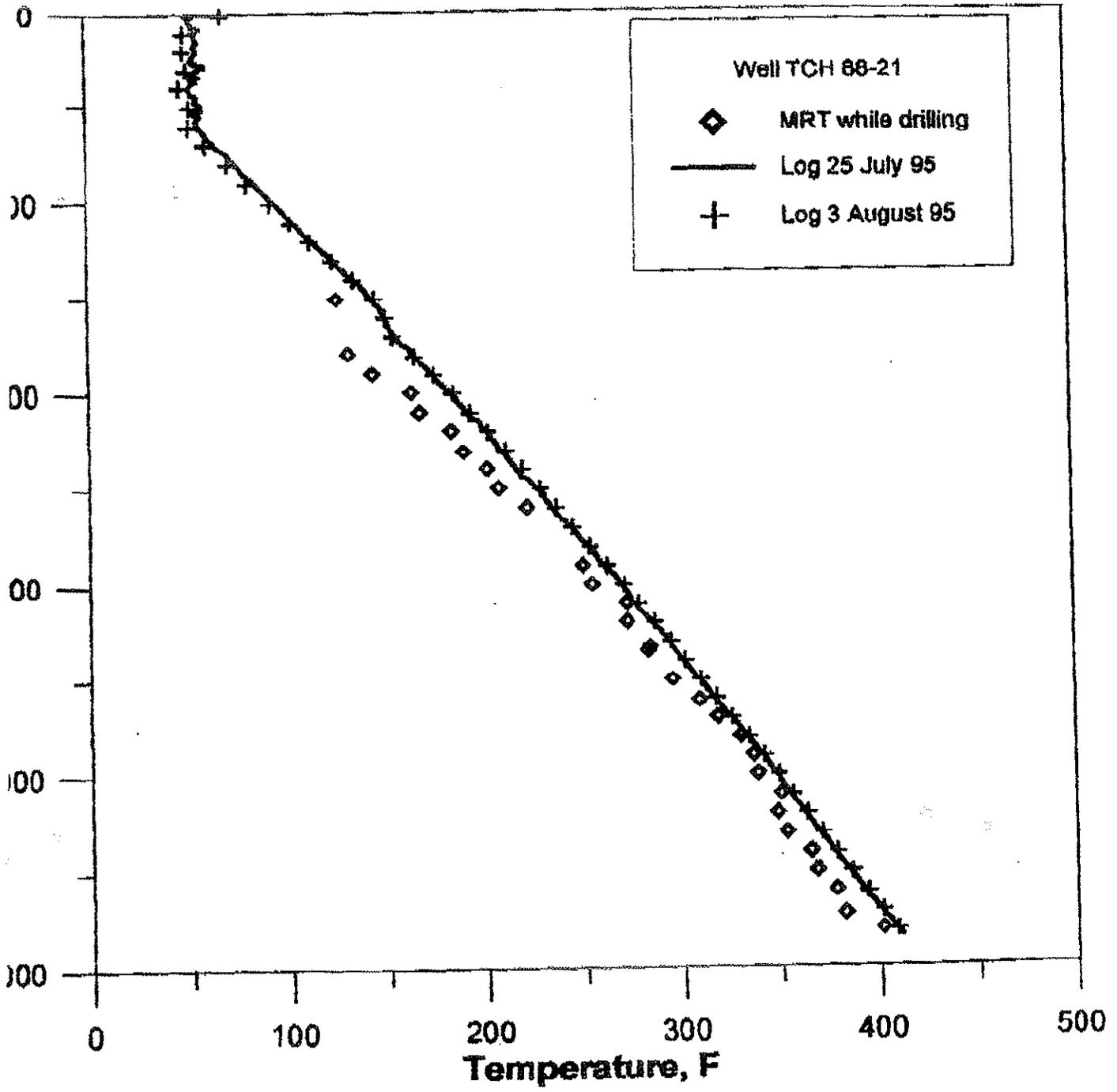
3 1/2" HO PIPE NOT
CEMENTED. PIPE STUCK FROM
3709' UP TO 16'.

<---Bottom of 3 1/2 @ 3709'

<- 2" Tubing Set @ 4855'

<- Bottom of Hole @ 4876'

NOTE : ALL MEASUREMENTS FROM KB. Supervisor : Richard Lemon



CALIFORNIA ENERGY COMPANY INC.

2" TUBING STRING

2" Valve--> | X |

WELL # NE 88-21 TCH

DATE RAN : 07/21/95

| X | <-- 2" Valve

Tubing Flange-----> |-----|

Tubing Doughnut
set in 4 1/2 csg.
wellhead.

Ground Level

21ft

Top OF 3 1/2" @ 16'

<- 10 3/4" Sec @ 21'

47# K-55 welded 0-21ft
Cemented

< 7" Sec @ 500'

26# K-55 buttress
0-500ft cemented

Soft

HQ rods parted here.

1357ft

< 4 1/2" Csg. Sec @ 1357'

11.5# K-55 buttress
0-1357ft cemented.

1450'

2" Tubing

2485

of Jts. 154
Wt. 1.4
Gr. J-55
Thread. BUTT

3 1/2" HQ rods stuck @ 2750'
backed off @ 2485 ft. Could not fish
lower HQ rods out. Could not screw
back into HQ - set rods back on fish
at 2485 ft.

1 1/2" HO PIPE NOT
CEMENTED. PIPE STUCK FROM
3709' UP TO 16'

<-- Bottom of 3 1/2 @ 3709'

HQ rods - not cemented - stuck.
16-3709 ft.

2, 1/2" holes @ 4820 ft.

<- 2" Tubing Set @ 4855'

2, 0.5" inch holes @ 4820 ft.

<- Bottom of Hole @ 4876'

NOTE : ALL MEASUREMENTS FROM RL

Supervisor : Richard Lemon

Shirca
19-Mar-01