

UNIT STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB NO. 1004-0132  
Expires: December 31, 2013

**GEOHERMAL WELL COMPLETION REPORT**

The Bureau of Land Management (BLM) requires this form or other BLM-approved forms to be prepared and filed in **duplicate** with requisite attachments within 30 days after the completion of permitted operations.

4. Lease Serial No.  
CA 1862

5. Surface Manager:  BLM  FS  
 Other

6. Unit Agreement Name

7. Well No.  
CA 1862-27

8. Permit No.  
GDP-340-11-02

9. Field or Area  
Geysers

10. Sec. T, R, B & M.  
Sec 28, T11N, R8W MD

11. County  
Sonoma

12. State  
CA

13. Spud Date  
11/18/2011

Date T.D. Reached  
12/08/2011

14. Completion Date (ready to produce)  
12/11/2011

15. Directionally Drilled Intervals  
N/A

16. Surveyed Intervals  
Surface to TD

17. Core Size and Intervals  
N/A

18. Location of Well  
At surface: 1711' E and 864' S of the NW corner of Section 28  
At Top of Production Zone: 311' South and 198' West of surface location  
At Total Depth: 311' South and 233' West of surface location

19. Total Depth  
Measured: 3493' True Vertical: 3456'

20. Plugback Total Depth  
Measured: N/A True Vertical: N/A

21. Elevation:  Estimated  Final  
Reference Datum:  GR  MAT  DF  KB  RT  Casinghead Flange  Other

22. Drilling Media:  Air  Water  Mud  Foam  Other  
List characteristics: Polymer Based Mud System

23. Log Type & Intervals  
HES CAST log run from 60' to 3120'

24. CASING RECORD

Size	Weight	Grade	Collars & Threads	Depths Set		Hole Size	Cementing Record (slurry volume)
				Top	Shoe		
9-5/8"	47#	L80	BTC	surface	501'	12-1/4"	51.3 bbls
7"	26#	<del>K55</del> L80	BTC	surface	3140'	8-1/2"	166 bbls

25. LINER RECORD

Size	Weight	Grade	Collars & Threads	Top	Bottom	Perforated Intervals	Cementing Record (slurry volume)
4-1/2"	15.1#	L80	Hydril 511	2906'	3466'	3050'-3466'	N/A

26. TUBING RECORD

Size	Weight	Grade	Depth Set	Packer Depth

27. Cement Squeeze, Acid, Fracture, etc (detail type, amount, intervals)

28. PERFORATION RECORD

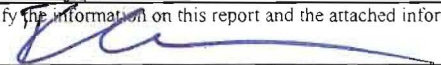
Type	Total No.	Density (No. ft)	Size	Intervals

29. Attachments & Previous Submittals: List all reports, surveys, tests and logs, not listed in item 23, which have resulted from drilling and completion operations. List relevant previously furnished data with date of submittal referenced

30. Well Status:  Producing  Shut-In  Suspended  Injection  Disposal  Heat Exchange  Abandoned  Water Supply  Other

31. Do you consider the well to be commercial?  Yes  No Explain:  
Idle well - Injection is pending pipeline hook up

32. I hereby certify the information on this report and the attached information is complete and accurate according to the best of my knowledge.

Signed:  Title: Drilling Engineer Date: 12/28/2011

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make 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.

33 WELL TEST

Test Date 12/08/2011	Production Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Pumping -- include size type, intake depth, etc <input type="checkbox"/> Static Buildup Test
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34 PRODUCTION

Hours Tested	Production During Test			Enthalpy (Btu/lb)
	Total Liquids (lb)	Steam (lb)	Water (lb)	

35 STATIC TEST DATA

Depth 3493'	Surface Pressure (psig) 110	Subsurface Pressure (psig) 141 (est)	Subsurface Temperature (°F) 425 (est)	Water Analysis	
				Total Dissolved Solids	pH

36 FLOWING TEST DATA

Surface Pressure Wellhead: Separator:	Subsurface Pressure at _____ feet	Surface Temperature	Subsurface temperature at top of perms.	Avg. Total Mass Flow Rate Per Hour		
				Total (lb/hr)	Steam (lb/hr)	Water (lb/hr)

37 SUMMARY OF POROUS ZONES. Show all important porous zones and contents of each; cored intervals with recoveries, drill stem or formation tests with depth of interval tested, time open, cushion used, and flowing and shut-in pressures, temperatures and recoveries.

38. GEOLOGIC MARKERS (TOP)

Formation	Top	Bottom	Description of Details	Name	Measured Depth	True Vertical Depth
***See attached mudlog***						

**GENERAL:** This form is designed for submitting a complete and accurate geothermal well completion report, and must be accompanied by a detailed chronological history of well operations as well as the final copies of the results of any logs, surveys or tests performed on the well that have not previously been submitted. The report must be submitted within 30 days after the date of completion of continuous well activities as determined by the BLM. The completion date usually is the day that the well became producible; generally the date of initial production test. The BLM may postpone the required report submittal date if adequate justification is presented by the lessee.

### SPECIFIC INSTRUCTIONS

Item 18: Show the surface location coordinates from the nearest section corner or tract line. Show production zone and total depth coordinates from the surface location if the well is directionally drilled.

Item 34: If the well is immediately placed into operation without testing, this section should reflect the first month's production data.

Items 35 & 36: Indicate the depth(s) of subsurface pressure, temperature measurement, and include the reference datum.

### NOTICES

The Privacy Act of 1974 and 43 CFR 2.48(d) require that you be furnished the following information:

**AUTHORITY:** 30 U.S.C. 1001-1028; 43 CFR Part 3200.

**PRINCIPAL PURPOSE:** The BLM uses this information to evaluate the technical, safety, and environmental factors involved with geothermal resources on Federal geothermal leases.

**ROUTINE USES:** (1) The adjudication of this form. (2) Documentation for public information in support of notations made on land status, records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when concurrence is required prior to granting a right in public lands or resources. (4) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

**EFFECT OF NOT PROVIDING INFORMATION:** Disclosure of the information is required to seek approval of geothermal drilling operations. If all the information is not provided, geothermal drilling operations might not be approved.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate the technical, safety, and environmental factors involved with geothermal resources on Federal geothermal leases.

The BLM will use this information to analyze operations and to compare equipment and procedures actually used with proposals that you applied for.

Response to this request is required to obtain or maintain a benefit.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 10 hours per response, including the time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0132), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Washington, D.C. 20240.