



PHILLIPS PETROLEUM COMPANY

DEL MAR, CALIFORNIA 92014
BOX 752 714 755-0131

NATURAL RESOURCES GROUP
Energy Minerals Division
Geothermal Operations

June 15, 1977

Re: Proposed Plan of Operation
for Test Facilities, Injection
Pipeline and Wells at Roosevelt
KGRA.

Mr. Barry Boudreau
USGS - Conservation Division
Area Geothermal Supervisor
345 Middlefield Road, M/S 92
Menlo Park, CA 94025

Dear Barry:

We have received the chemical analyses for waters obtained by Agnew and Sweet in the resampling of Well 82-33. Six samples were gathered from depths of 2500' and 5600'. The samples are identified as follows:

<u>Sample No.</u>	<u>Time</u>	<u>Depth</u>
1	9:20 a.m.	2500'
1A	9:55 a.m.	2500'
1B	10:20 a.m.	2500'
2	11:10 a.m.	5600'
2A	11:35 a.m.	5600'
2B	12:00 p.m.	5600'

Copies of the analyses are enclosed. The analyses of 2, 2A and 2B are nearly identical and show a very close similarity to the composition of Milford City water which was used in drilling the well (see May 27th letter for analysis).

The samples from 2500' show more variation. This depth was sampled because data from our pump-in tests indicated the zone was taking fluids. The variation between samples may result from slight differences in the depth sample on each pass of the bomb.

Mr. Barry Boudreau
June 15, 1977
Page Two

Comparison of samples 1, 1A and 1B indicates substantial mixing of Milford City water with geothermal reservoir water have a composition that is not precisely known.

Sample 1A, the second sample taken at 2500', is the most saline having a conductivity of 7840 umhos/cm. This is about $2/3$ the conductivity obtained for reservoir fluids from Well 54-3. The table below lists the ratios between the major constituent in sample 1A, Well 82-33 and reservoir water from Well 54-3.

(X)	<u>X ppm (Well 82-33)/X ppm (Reservoir Water)</u>
Ca	11.0:1
Mg	170:1
Na	0.73:1
K	0.60:1
HCO ₃	2.4:1
SO ₄	1.9:1
Cl	0.64:1
Cond	0.71:1
B	0.68:1
Li	0.32:1

Most of the major constituents have about the same ratios; 0.6 to 0.7 to 1. The data indicate that at the very minimum the reservoir fluids in the fractures intersected by Well 82-33 have salinities about $2/3$ that of reservoir fluids from Well 54-3. There is enough evidence to suggest that the salinities of Well 82-33 waters are actually much higher, approaching or equaling the levels found in the other reservoir waters. It appears we will be injecting into a lower temperature segment of a much larger geothermal system.

Also, please find enclosed new data from wells in the Roosevelt unit:

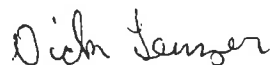
- Observation Hole #5
Agnew and Sweet Temperature Survey - May 10, 1977 (2 copies)
- Observation Hole #4
Agnew and Sweet Temperature Survey - May 10, 1977 (2 copies)
- RHSU 25-15
Agnew and Sweet Temperature Survey - May 10, 1977 (2 copies)

Mr. Barry Boudreau
June 15, 1977
Page Three

Please ensure that Sie Ling Chiang sees the results of our latest sampling efforts.

If you have any questions, please call.

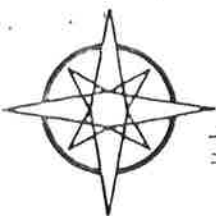
Very truly yours,

A handwritten signature in cursive script, appearing to read "Dick Lenzer".

R. C. Lenzer
Geologist

RCL/skb

Enclosures



AMITECH

Chemical Analysis — Consultation
Research — Product Development

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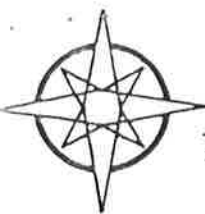
OF PHILLIPS PETROLEUM CO.
American Technical Laboratories, Inc.
8909 Complex Drive — Suite F
San Diego, California 92123
(714) 560-7717

Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33 Depth 2,500'

SPECIES		VALUE FOUND		VALUE FOUND
CALCIUM	Ca	11-4	eq/L	21. ppm
MAGNESIUM	Mg	60-5	eq/L	7.3 ppm
SODIUM	Na	27-3	eq/L	610. ppm
POTASSIUM	K	31-4	eq/L	120. ppm
CARBONATE BICARBONATE	CO ₃ HCO ₃ }	38-4	eq/L	232. ppm
SULFATE	SO ₄	32-4	eq/L	156. ppm
CHLORIDE	Cl	28-3	eq/L	1,000. ppm
SILICA	SiO ₂	15-4	moles/L	91 ppm
TEMPERATURE		062	°C	
CONDUCTIVITY @ 25°C		38-4	μmhos/cm	3830. 4220. (1:10)
pH		080		7.96
BORON	B	83-5	moles/L	9.0 ppm
LITHIUM	Li	27-5	eq/L	1.85 ppm
NITRATE NITRITE	NO ₃ NO ₂ }	13-6	eq/L	0.81 ppm
AMMONIUM	NH ₄	0	eq/L	ppm
DATE COLLECTED		0577		
BASIN NUMBER		0022		
SAMPLE NUMBER		1		



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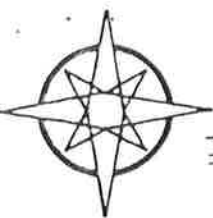
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San Diego, California 92123
(714) 560-7717

Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33 Depth 2500'

SPECIES		VALUE FOUND		VALUE FOUND	
CALCIUM	Ca	38-4	eq/L	77.	ppm
MAGNESIUM	Mg	14-4	eq/L	17.	ppm
SODIUM	Na	63-3	eq/L	1450.	ppm
POTASSIUM	K	61-4	eq/L	240.	ppm
CARBONATE BICARBONATE	CO ₃ HCO ₃ }	79-4	eq/L	482.	ppm
SULFATE	SO ₄	21-4	eq/L	103.	ppm
CHLORIDE	Cl	65-3	eq/L	2300.	ppm
SILICA	SiO ₂	28-4	moles/L	166	ppm
TEMPERATURE		Ø N.D.	°C		
CONDUCTIVITY @ 25°C		78-4	µmhos/cm	7840. 8870. (1:10)	
pH		080		7.98	
BORON	B	18-4	moles/L	19.0	ppm
LITHIUM	Li	92-5	eq/L	6.4	ppm
NITRATE NITRITE	NO ₃ NO ₂ }	24-6	eq/L	1.50	ppm
AMMONIUM	NH ₄	0	eq/L		ppm
DATE COLLECTED		0577			
BASIN NUMBER		0022			
SAMPLE NUMBER		1 A			



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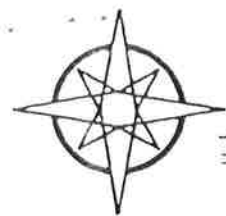
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Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33 Depth 2500'

SPECIES		VALUE FOUND		VALUE FOUND	
CALCIUM	Ca	55-5	eq/L	11.	ppm
MAGNESIUM	Mg	29-5	eq/L	3.5	ppm
SODIUM	Na	13-3	eq/L	300.	ppm
POTASSIUM	K	18-4	eq/L	70.	ppm
CARBONATE	CO ₃ }	26-4	eq/L	158.	ppm
BICARBONATE	HCO ₃ }				
SULFATE	SO ₄	13-4	eq/L	63.8	ppm
CHLORIDE	Cl	11-3	eq/L	375.	ppm
SILICA	SiO ₂	14-4	moles/L	83	ppm
TEMPERATURE		068	°C		
CONDUCTIVITY @ 25°C		16-4	μmhos/cm	1588. 1722. (1:10)	
pH		0.52		8.21	
BORON	B	37-5	moles/L	4.0	ppm
LITHIUM	Li	14-5	eq/L	0.98	ppm
NITRATE	NO ₃ }	11-6	eq/L	0.66	ppm
NITRITE	NO ₂ }				
AMMONIUM	NH ₄	0	eq/L		ppm
DATE COLLECTED		0577			
BASIN NUMBER		0022			
SAMPLE NUMBER		1 B			



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(714) 560-7717

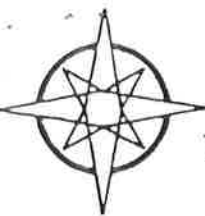
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11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33

Depth 5600'

SPECIES		VALUE FOUND		VALUE FOUND	
CALCIUM	Ca	28-5	eq/L	5.7	ppm
MAGNESIUM	Mg	12-5	eq/L	1.4	ppm
SODIUM	Na	39-4	eq/L	90.	ppm
POTASSIUM	K	87-5	eq/L	34.	ppm
CARBONATE	CO ₃	16-4	eq/L	98.2	ppm
BICARBONATE	HCO ₃				
SULFATE	SO ₄	15-4	eq/L	72.8	ppm
CHLORIDE	Cl	24-4	eq/L	84.	ppm
SILICA	SiO ₂	85-5	moles/L	51	ppm
TEMPERATURE		078	°C		
CONDUCTIVITY @ 25°C		60-5	μmhos/cm	599.	
pH		080		8.05	
BORON	B	15-5	moles/L	1.65	ppm
LITHIUM	Li	17-6	eq/L	0.12	ppm
NITRATE	NO ₃	14-6	eq/L	0.87	ppm
NITRITE	NO ₂				
AMMONIUM	NH ₄	0	eq/L		ppm
DATE COLLECTED		0577			
BASIN NUMBER		0022			
SAMPLE NUMBER		2			



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San Diego, California 92123
(714) 560-7717

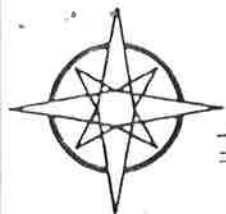
Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33

Depth 5600'

SPECIES		VALUE FOUND		VALUE FOUND	
CALCIUM	Ca	34-5	eq/L	6.9	ppm
MAGNESIUM	Mg	12-5	eq/L	1.4	ppm
SODIUM	Na	40-4	eq/L	93.	ppm
POTASSIUM	K	87-5	eq/L	34.	ppm
CARBONATE BICARBONATE	CO ₃ HCO ₃ }	15-4	eq/L	94.4	ppm
SULFATE	SO ₄	14-4	eq/L	66.3	ppm
CHLORIDE	Cl	26-4	eq/L	91.	ppm
SILICA	SiO ₂	62-5	moles/L	37	ppm
TEMPERATURE		074	°C		
CONDUCTIVITY @ 25°C		63-5	μmhos/cm	627.	
pH		082		8.16	
BORON	B	40-6	moles/L	0.43	ppm
LITHIUM	Li	19-6	eq/L	0.13	ppm
NITRATE NITRITE	NO ₃ NO ₂ }	14-6	eq/L	0.86	ppm
AMMONIUM	NH ₄	0	eq/L		ppm
DATE COLLECTED		0577			
BASIN NUMBER		0022			
SAMPLE NUMBER		2 A			



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American Technical Laboratories, Inc.
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San Diego, California 92123
(714) 560-7717

Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0284-77
DATE OF REPORT May 31, 1977
DATE RECEIVED May 25, 1977

82-33 Depth 5600'

SPECIES		VALUE FOUND		VALUE FOUND
CALCIUM	Ca	35-5	eq/L	7.0 ppm
MAGNESIUM	Mg	12-5	eq/L	1.4 ppm
SODIUM	Na	33-4	eq/L	75. ppm
POTASSIUM	K	79-5	eq/L	31. ppm
CARBONATE BICARBONATE	CO ₃ HCO ₃ }	19-4	eq/L	115. ppm
SULFATE	SO ₄	14-4	eq/L	67.1 ppm
CHLORIDE	Cl	16-4	eq/L	58. ppm
SILICA	SiO ₂	52-5	moles/L	31 ppm
TEMPERATURE		073	°C	
CONDUCTIVITY @ 25°C		55-5	μmhos/cm	549.
pH		082		8.19
BORON	B	65-6	moles/L	0.70 ppm
LITHIUM	Li	< 58-7	eq/L	< 0.04 ppm
NITRATE NITRITE	NO ₃ NO ₂ }	< 71-7	eq/L	< 0.44 ppm
AMMONIUM	NH ₄	0	eq/L	ppm
DATE COLLECTED		0577		
BASIN NUMBER		0022		
SAMPLE NUMBER		2 B		

WATER CHEMISTRY FOR

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Roosevelt FieldPROSPECT, BENNETT

Sample Number & Drainage Basin Number	Time & Sample Site Description	Temperature in °C	pH	Chloride ppm.	Conductivity umhos	Silica ppm.
#1 UT-0022	9:20 A.M. WELL - #82-33 (2,500') ↓	62.0	8.4	1175 = 6.6 552	2,700	-
#1A UT-0022	9:55 A.M. WELL - #82-33 (2,500')	-	-	1176 = 3.0 552	-	-
#1B UT-0022	10:20 A.M. WELL - #82-33 (2,500')	68.0	7.2	1176 = 2.6 444	1,750	-
#2 UT-0022	11:00 A.M. WELL - #82-33 (5,600')	78.1	7.1	1175 = 5.4 366 1176 = 0.8	720	-
#2A UT-0022	11:35 A.M. WELL - #82-33 (5,600')	74.5	7.5	1175 = 2.4 102	780	-
#2B UT-0022	12:00 P.M. WELL - #82-33 (5,600')	73.0	7.4	1175 = 2.0 78	710	-

R. J. Forrest



PHILLIPS PETROLEUM COMPANY

DEL MAR, CALIFORNIA 92014
BOX 752 714 755-0131

NATURAL RESOURCES GROUP
Energy Minerals Division
Geothermal Operations

May 27, 1977

Re: Proposed Plan of Operation
for Test Facilities, Injection
Pipeline and Wells At Roosevelt
KGRA.

Mr. Barry Boudreau
USGS - Conservation Division
Area Geothermal Supervisor
345 Middlefield Road, M/S 92
Menlo Park, CA 94025

Dear Barry:

In our discussion of the above-proposed plan, we indicated we would sample the water in 82-33 with a wire-line device. On 5-12-77, Agnew and Sweet collected a sample from a depth of 2,160 feet. A copy of the water analysis is enclosed. As nearly as can be determined, the water is Milford City water which was injected into the well on two separate occasions. A copy of Milford City water analysis is enclosed for comparison.

Agnew and Sweet resampled the well at two different intervals. Preliminary analyses obtained on site indicate these waters are also Milford City water. We will send the final analyses when they become available.

Very truly yours,

R. C. Lenzer
Geologist

RCL/skb

Enclosure

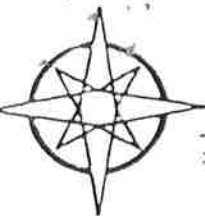
CITY OF MILFORD WATER WELL
CHEMICAL ANALYSIS

Location (C-28-10): 7adb-1

Date of collection: 2-2-55

Source of data: U. S. Geological Survey Published in State
of Utah, Technical Publication 43

<u>Species</u>	<u>Milligrams per liter</u>
Calcium	13
Magnesium	5.8
Sodium	62
Potassium	2.8
Carbonate Bicarbonate	160
Sulfate	40
Chloride	16
Silica	35
Temperature	25.5°C
Conductivity @25°C	390 μ mhos/cm
pH	8.2
Boron	-
Nitrate Nitrite	.5



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8909 Complex Drive — Suite F
San Diego, California 92123
(714) 560-7717

Phillips Petroleum Company
11526 Sorrento Valley Road
San Diego, California 92121

LABORATORY NO. 0272-77
DATE OF REPORT May 23, 1977
DATE RECEIVED May 17, 1977

~~and depth 5450'~~
Rosevelt Field, well 82-33 depth water 2160' A+S

SPECIES		VALUE FOUND		VALUE FOUND	
CALCIUM	Ca	60-5	eq/L	12.	ppm
MAGNESIUM	Mg	40-5	eq/L	4.8	ppm
SODIUM	Na	31-4	eq/L	72.	ppm
POTASSIUM	K	74-5	eq/L	29.	ppm
CARBONATE	CO ₃ }	22-4	eq/L	132.	ppm
BICARBONATE	HCO ₃ }				
SULFATE	SO ₄	12-4	eq/L	58.0	ppm
CHLORIDE	Cl	15-4	eq/L	52.	ppm
SILICA	SiO ₂	0	moles/L		ppm
TEMPERATURE		0	°C		
CONDUCTIVITY @ 25°C		50-54 mhos/cm		499.	
pH		0.78		7.83	
BORON	B	40-6	moles/L	0.43	ppm
LITHIUM	Li	< 58-7	eq/L	< 0.04	ppm
NITRATE	NO ₃ }	54-6	eq/L	3.34	ppm
NITRITE	NO ₂ }				
AMMONIUM	NH ₄	0	eq/L		ppm
DATE COLLECTED		0577			
BASIN NUMBER		0022			
SAMPLE NUMBER		45504			

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.File - Utah - Roosevelt Prospect
Well 82-33

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other <u>Geothermal</u>		5. LEASE DESIGNATION AND SERIAL NO. <u>U-27386</u>	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other <input type="checkbox"/>		6. IF INDIAN, ALLOTTED OR TRIBE NAME	
2. NAME OF OPERATOR <u>Phillips Petroleum Company</u>		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR <u>P.O. Box 752, Del Mar, CA 92014</u>		8. FARM OR LEASE NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface <u>1272' South & 97' West of NE Corner Sec 33-26S-9W</u> At top prod. interval reported below At total depth		9. WELL NO. <u>82-33</u>	
14. PERMIT NO. <u>0006</u>		DATE ISSUED <u>1-24-75</u>	
15. DATE SPUDED <u>11-5-75</u>		16. DATE T.D. REACHED <u>12-22-75</u>	
17. DATE COMPL. (Ready to prod.) <u>1-14-77</u>		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* <u>GL 5833-RKB 5855</u>	
19. ELEV. CASINGHEAD <u>5833</u>		10. FIELD AND POOL, OR WILDCAT <u>Wildcat</u>	
20. TOTAL DEPTH, MD & TVD <u>6028</u>		11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA <u>33-26S-9W</u>	
21. PLUG, BACK T.D., MD & TVD <u>6028</u>		12. COUNTY OR PARISH <u>Beaver</u>	
22. IF MULTIPLE COMPL., HOW MANY* <u>- -</u>		13. STATE <u>Utah</u>	
23. INTERVALS DRILLED BY <u>- -</u>		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* <u>None</u>	
25. WAS DIRECTIONAL SURVEY MADE		26. TYPE ELECTRIC AND OTHER LOGS RUN <u>Schlumberger-IES-GR, CNL-GR, BHC-GR</u>	
27. WAS WELL CORED <u>No</u>		28. CASING RECORD (Report all strings set in well)	
29. LINER RECORD		30. TUBING RECORD	
31. PERFORATION RECORD (Interval, size and number) <u>None</u>		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. <u>None</u>	
33.* PRODUCTION		34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)	
DATE FIRST PRODUCTION <u>None</u>		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) <u>- -</u>	
WELL STATUS (Producing or shut-in) <u>Holding for observation</u>		TEST WITNESSED BY	
DATE OF TEST		HOURS TESTED	
CHOKE SIZE		PROD'N. FOR TEST PERIOD	
OIL—BBL.		GAS—MCF.	
WATER—BBL.		GAS-OIL RATIO	
FLOW, TUBING PRESS.		CASING PRESSURE	
CALCULATED 24-HOUR RATE		OIL GRAVITY-API (CORR.)	
35. LIST OF ATTACHMENTS		36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records	
SIGNED <u>[Signature]</u>		TITLE <u>Manager, Geothermal Operations</u>	
DATE <u>June 9, 1978</u>			

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 38, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TOP	TRUE VERT. DEPTH
Tertiary Mineral Range Granite & Migmatized Pre- Cambrian Metamor- phic Rocks.	1655'	1663'	Fracture Zone	Quaternary Alluvium	Surface		
	2300'	2800'	Numerous fracture zones	Tertiary Mineral Range Granite & Migmatized Pre- Cambrian Meta- morphie rocks.	370'		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other In-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Geothermal

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other ☐

2. NAME OF OPERATOR

Phillips Petroleum Company

3. ADDRESS OF OPERATOR

P.O. Box 752, Del Mar, CA 92014

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1272' South & 97' West of NE Corner Sec 33-26S-9W

At top prod. interval reported below

At total depth

14. PERMIT NO.

0006

DATE ISSUED

1-24-75

12. COUNTY OR

PARISH

Beaver

13. STATE

Utah

15. DATE SPUNDED

11-5-75

16. DATE T.D. REACHED

12-22-75

17. DATE COMPL. (Ready to prod.)

1-14-77

18. ELEVATIONS (DF, REB, RT, GR, ETC.)*

GL 5833-RKB 5855

19. ELEV. CASINGHEAD

5833

20. TOTAL DEPTH, MD & TVD

6028

21. PLUG, BACK T.D., MD & TVD

6028

22. IF MULTIPLE COMPL.,
HOW MANY*

--

23. INTERVALS
DRILLED BY

-->

ROTARY TOOLS

0-6028

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

None

25. WAS DIRECTIONAL
SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN

Schlumberger-IES-GR, CNL-GR, BHC-GR

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20" OD	91#	164'	26"	400 Sx Class B, 3% Cacl	None
13 3/8" OD	54.5#	575'	17 1/2"	500 Sx Geothermal Mix	None
9 5/8" OD	40#	2001'	12 1/4"	800 Sx Geothermal Mix in two stages	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
None					None		

31. PERFORATION RECORD (Interval, size and number)

None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
None	

33.* PRODUCTION

DATE FIRST PRODUCTION

None

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)

--

WELL STATUS (Producing or
shut-in)

Holding for observation

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

TITLE

Manager, Geothermal Operations

DATE

June 9, 1978

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions. If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Tertiary Mineral Range Granite & Migmatized Pre-Cambrian Metamorphic Rocks.	1655'	1663'	Fracture Zone
	2300'	2800'	Numerous fracture zones

38.

GEOLOGIC MARKERS

NAME	MEAS. DEPTH	TOP	TRUE VERT. DEPTH
Quaternary Alluvium	Surface		
Tertiary Mineral Range Granite & Migmatized Pre-Cambrian Metamorphic rocks.	370'		

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)Form Approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER Geothermal Well - Redrill		6. LEASE DESIGNATION AND SERIAL NO. U-27386
2. NAME OF OPERATOR Phillips Petroleum Company		7. UNIT AGREEMENT NAME Roosevelt Hot Springs
3. ADDRESS OF OPERATOR P. O. Box 752, Del Mar, CA 92014		8. FARM OR LEASE NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 33-26S-9W 1262.06 North of E/4 corner 202.96 West of N 0° 02' 00" East boundary		9. WELL NO. 82-33 82-33
14. PERMIT NO.		10. FIELD AND POOL, OR WILDCAT
15. ELEVATIONS (Show whether DF, RT, GR, etc.) GR 5833		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 33-26S-9W
		12. COUNTY OR PARISH Beaver
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <u>Redrill</u>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) _____	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

We propose to move a rig over well 82-33 and run caliper and/or other necessary logs to determine if the well is obstructed. If it is, we plan to drill it out and perforate the casing at a depth of 1650 ft. RKB. If it is not possible to remove the obstruction, we propose to move the rig as described on the attached permit application and redrill to the 1650 ft. zone.

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

SIGNED

TITLE

DATE 2-3-78

(This space for Federal or State office use)

APPROVED BY

Barry A. Boudreau

CONDITIONS OF APPROVAL, IF ANY:

Acting

Area Geothermal Supervisor

DATE

FEB 9 1978

*See Instructions on Reverse Side