

CONFIDENTIAL

Release Date 11-20-82

UNION OIL CO. 80-1 STATE
NE NW 8-23S-30E COHISE CO.

PLUGGING RECORD

RECEIVED

FEB 5 1981

O & G CONS. COMM.

Operator UNION OIL COMPANY OF CALIFORNIA		Address P.O. Box 6854 Santa Rosa, CA 95401			
Federal, State, or Indian Lease Number, or lessor's name if fee lease. AZ State Lease 78566		Well No. 80-1	Field & Reservoir Wildcat		
Location of Well 94.9' FNL, 1371.16' FWL		Sec-Twp-Rge or Block & Survey Sec. 8 T23S R30E		County Cochise	
Application to drill this well was filed in name of Union Oil Company		Has this well ever produced GEOTHERMAL RESOURCES? NO	Date plugged: 1/27/81		Total depth 715'
NAME OF EACH FORMATION CONTAINING GEOTHERMAL RESOURCES. INDICATE WHICH FORMATION OPEN TO WELL-BORE AT TIME OF PLUGGING None		DEPTH INTERVAL OF EACH FORMATION		SIZE, KIND & DEPTH OF PLUGS USED INDICATE ZONES SQUEEZE CEMENTED, GIVING AMOUNT CEMENT 8 yards of cement pumped into hole after tubing run.	
				Top 10' of tubing plugged with cement	
CASING RECORD					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
8"	34'	None	34'	None	None
1 1/4"	576'	None	576'	None	None
Was well filled with mud-laden fluid, according to regulations? Well filled with cement				Indicate deepest formation containing fresh water. Water bearing formation from 450' + 490'	
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE					
Name		Address		Direction from this well:	
No adjacent lease operators					
Land owned by the State of Arizona					
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required. N/A					
Use reverse side for additional detail.					
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>Project Geologist</u> of the <u>Union Oil Company of California</u> (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.					
Date January 29, 1981		Signature <i>Mary S. Johnson</i>			
Permit No. 714		STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Plugging Record File One Copy			
		FORM NO. G-10			

RECEIVED

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG
GEOHERMAL RESOURCE WELL

NOV 24 1980

DESIGNATE TYPE OF COMPLETION:
NEW WELL WORK OVER DEEPEN PLUG BACK SAME RESERVOIR DIFFERENT RESERVOIR DRY STEAM HOT & G-CONS. COMM. WATER DRY

DESCRIPTION OF WELL AND LEASE

OPERATOR UNION OIL Co. of Calif. (Geothermal Division) ADDRESS P.O. Box 6854, Santa Rosa, Calif. 95406

FEDERAL, STATE OR INDIAN LEASE NUMBER OR NAME OF LESSOR AZ STATE LEASE 78566 WELL NUMBER WILLOCAT

LOCATION 94.9' FNL, 137.16' FWL COUNTY Cochise

SEC. TWP-RANGE OR BLOCK & SURVEY Sec. 8 T23S R30E

DATE SPUNDED 10/29/80 DATE TOTAL DEPTH REACHED 11/13/80 DATE COMPLETED, READY TO PRODUCE 11/20/80 ELEVATION (OF. REB. RT. OR GR.) 4210 FEET ELEVATION OF CASING HD. FLANGE 4210 FEET

TOTAL DEPTH 715' P.B.T.D. 576' AIRDRILLED (INTERVAL) 0-715' FLUIDDRILLED (INTERVAL) NONE

PRODUCING INTERVAL (S) FOR THIS COMPLETION NONE WATER AT 450' ROTARY TOOLS USED (INTERVAL) 0-715' CABLE TOOLS USED (INTERVAL) NONE

WAS THIS WELL DIRECTIONALLY DRILLED? NO WAS DIRECTIONAL SURVEY MADE? N/A WAS COPY OF DIRECTIONAL SURVEY FILED? N/A DATE FILED N/A

TYPE OF ELECTRICAL, TEMPERATURE, CEMENT BOND OR OTHER LOGS RUN (CHECK LOGS FILED WITH THE COMMISSION) NONE DATE FILED N/A

CASING RECORD

CASING (REPORT ALL STRINGS SET IN WELL-CONDUCTOR, SURFACE, INTERMEDIATE, PRODUCING, ETC.)						
PURPOSE	SIZE HOLE DRILLED	SIZE CASING SET	WEIGHT (LB./FT.)	DEPTH SET	SACKS CEMENT	AMT. PULLED
CONDUCTOR	9 3/4"	8"	20	34'	1/2 yard	NONE
Tubing	7 7/8"	1 1/4"	N/A	576'	8 yards	NONE

TUBING RECORD				LINER RECORD			
SIZE	DEPTH SET	PACKER SET AT	SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN (FT.)
1 1/4 IN.	576' FT.	N/A FT.	N/A IN.	N/A FT.	N/A FT.	8 yards	N/A

PERFORATION RECORD					ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD				
NUMBER PER FT.	SIZE & TYPE	DEPTH INTERVAL	AMT. & KIND OF MATERIAL USED		DEPTH INTERVAL				
N/A	N/A	N/A	N/A		N/A				
N/A	N/A	N/A	N/A		N/A				

INITIAL PRODUCTION

DATE	ANALYSES OF FLUIDS & GASES											
	STATIC TEST SHUT IN WELL HEAD			TOTAL MASS FLOW DATA						SEPARATOR DATA		
	TEMP. °F	PRES. PSIG.	LBS./HR	TEMP. °F	PRES. PSIG.	ENTHALPY	ORIFICE	WATER CUFT/HR	STEAM LBS/HR	PRES. PSIG.	TEMP. °F	
N/A												
N/A												
N/A												

CERTIFICATE: I, THE UNDERSIGNED, UNDER THE PENALTY OF PERJURY, STATE THAT I AM THE Geologist OF THE Union Oil Company (COMPANY), AND THAT I AM AUTHORIZED BY SAID COMPANY TO MAKE THIS REPORT: AND THAT THIS REPORT WAS PREPARED UNDER MY SUPERVISION AND DIRECTION AND THAT THE FACTS STATED THEREIN ARE TRUE, CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DATE 11/21/80 SIGNATURE Ray S. Johnson

PERMIT NO. 714

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG
FILE ONE COPY

FORN No. G-1

DETAIL OF FORMATIONS PENETRATED

FORMATION	TOP	BOTTOM	DESCRIPTION*
Alluvium	0'	30'	red clay and silt with abundant rounded boulders ^{cobble size} of volcanics (highly variable composition and color) with minor rounded cobble size boulders of gray limestone. All this material has apparently been transported into the area during surface weathering processes.
basalt alluvium w/ minor layers of basalt	30' 80'	80' 450'	black basalt predominantly as in 0'-30' above with a few layers where drilling was slow which are presumed to be basalt.
water bearing alluvium	450'	480'	probably same as 0'-30' above. Drill string dropped several feet in this zone. Also extremely rapid drilling
basalt	480'	715' TO	water apparently perched on top of basalt. drilling from 480 to 715' slow so presumed to be basalt even though samples only contain 10-20% fresh black basalt. Hole continuously washing out soft silt and red clay, which could not be sampled. Indications are that soft formations were continuously caving in during drilling and running of tubing. Hard fraction was the one most easily sampled but probably represents much less than 50% as samples from bottom of hole are mostly claystone. In the basalt, the claystone is still apparently rapidly falling from sides of hole due to erosion by circulation of air, water and other cuttings.

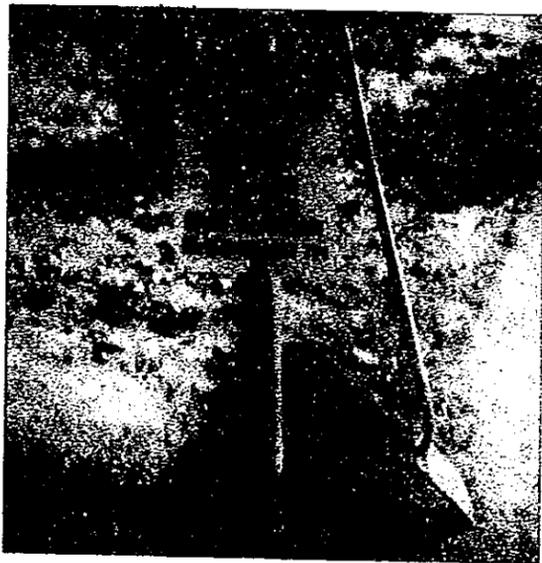
* SHOW ALL IMPORTANT ZONES OF POROSITY, DETAIL OF ALL CORES, AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES.

INSTRUCTIONS:

ATTACH DRILLERS LOG OR OTHER ACCEPTABLE LOG OF WELL.

THIS WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG SHALL BE FILED WITH THE STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION NOT LATER THAN THIRTY DAYS AFTER PROJECT COMPLETION.

Rec'd 2-6-81



RECEIVED RECEIVED
 APPLICATION TO ABANDON AND PLUG FEB 5 1981 JAN 23 1981
 O & G CONS. COMM. O & G CONS. COMM.

FIELD Wildcat
 OPERATOR Union Oil Co. of CA. (Geothermal) ADDRESS P.O. Box 6854, Santa Rosa CA 96506
 Federal, State, or Indian Lease Number _____
 or Lessor's Name if Fee Lease State Lease 78566 WELL NO. State 80-1
 SURVEY T23S, R30E SECTION 8 COUNTY Cochise
 LOCATION 94.9' fnl, 1371.16' fwl

The present condition of the well is:

1. Total depth: 715'
2. Complete casing record, including plugs:
 conductor 8" to 34'
 tubing 1 1/2" to 576'
3. Last produced: not produced
Date

Additional data for dry hole -

4. Results of tests: (include analysis of effluent)
 None
 a. Bottom hole temperature: 80°F
 b. Maximum temperature: 80°F Depth: 570'
5. Stratigraphic markers and depths:
 None
6. Formation at bottom basalt
7. Base of fresh water sands: 490'

- X** 8. FULL DETAILS OF PROPOSED PLAN OF WORK ~~CONFIDENTIAL~~
- | | |
|--|--|
| 1 - Cut off 1 1/2" tubing below ground level. | This document contains confidential information which is proprietary to Union Oil Co. of Calif. The contents of this document are not to be revealed to any person without the express written consent of Union Oil Co. of California. |
| 2 - Bridge off tubing at approximately 20' below ground level. | |
| 3 - Place a cement plug in tubing from 0-20'. | |
| 4 - Cement four foot post and marker sign in place. | |
| 5 - Clean up location. | |

If well is to be abandoned, does proposed work conform with requirements of Rule G202? yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS January 27, 1981
 NAME OF PERSON DOING WORK Gary Johnson ADDRESS same as above
 CORRESPONDENCE SHOULD BE SENT TO Mrs. Linda Dudzic
Name Geologist Technician
Title
P.O. Box 6854 Santa Rosa CA 95406
Address
January 20, 1981
Date

Date Approved FEB 6 1981
 STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 By: [Signature]

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Application to Abandon and Plug
 File Two Copies
 FORM NO. G-9

Permit No. 714

11/17

RECEIVED
NOV 24 1980
D & G CONS. COMM.

SUNDRY NOTICES AND REPORTS ON WELLS
GEOTHERMAL RESOURCES

1. NAME OF OPERATOR Union Oil Company

2. GEOTHERMAL RESOURCES WELL OTHER (Specify) Gradient Hole

3. WELL NAME 80-1 State

LOCATION 94.9' From North Line, 1371.16' From West Line

SEC. 8 TWP. 23S RGE. 30E COUNTY Cochise ARIZONA.

4. FEDERAL, STATE OR INDIAN LEASE NUMBER, OR LESSOR'S NAME IF FEE LEASE. State lease 78566

5. FIELD OR POOL NAME. LINDCAT

6. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>	MONTHLY PROGRESS	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	PERFORATE CASING	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>	(OTHER)	<input type="checkbox"/>	ABANDONMENT	<input type="checkbox"/>
(OTHER)	<u>WEEKLY REPORT</u>						

7. 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.)

11/17 Crew didn't return until afternoon. Waited on diesel.

11/18 Pulled tubing. Left 13 joints and drag bit in hole
Tripped hole, with open ended drill pipe. Fish from 202' to 475'.
Worked past fish with drill pipe. P.O.H. after reaching 675'
Made up spear out of one joint of tubing and perforated spear joint. Ran 576' of 1 1/4" tubing. Cemented tubing with 6yds. neat cement

11/19 Cut off conductor and tubing. Tried to start water truck and drill rig. wouldn't start

11/20 Holed water. Pumped 1200 gals of water into hole. No fill-up
Cemented top of hole. Moved off equipment. Released Rig.

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

Signed Mary Johnson Title Geologist Date 11/20/80

Permit No. 714

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. G-12

UW
CONFIDENTIAL

SUNDRY NOTICES AND REPORTS ON WELLS
GEOTHERMAL RESOURCES

RECEIVED
NOV 19 1980
O & G CONS. COMM.

1. NAME OF OPERATOR Union Oil Company
2. GEOTHERMAL RESOURCES WELL OTHER (Specify) Gradient Hole
3. WELL NAME 80-1 State
LOCATION 94.9' From north line, 1371.16' From west line
SEC. 8 TWP. 23S RGE. 30E COUNTY Cochise ARIZONA.
4. FEDERAL, STATE OR INDIAN LEASE NUMBER, OR LESSOR'S NAME IF FEE LEASE. State lease 78566
5. FIELD OR POOL NAME. WILDCAT
6. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>	MONTHLY PROGRESS	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	PERFORATE CASING	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>	(OTHER)	<input type="checkbox"/>	ABANDONMENT	<input type="checkbox"/>
(OTHER)	<u>Weekly Report</u>						

7. 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.)

11/8 opened hole to 7 7/8" to 659'. Drilled from 659' → 665'
water flow now about 200 g.p.m.
11/9 Sunday-off
11/10 drilled to 690'
11/11 water truck broke down
11/12 fixed water truck
11/13 drilled to 715'. Hole caved in. Stuck pipe. Worked stuck pipe. Fixed stuck pipe. Tripped out of hole. Decided to terminate hole at 715' due to caving problems.
11/14 Ran 1 1/4" tubing to 480'. Had to work tubing through several bridges.
11/15 Pulled tubing. Made repair trip. Ran tubing to 546'. Bridged off.
11/16 Sunday-off

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

Signed Ray S. Johnson Title Geologist Date 11/15/80

Permit No. 714

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. G-12

NEW
CONFIDENTIAL

RECEIVED
NOV 3 1980
O & G CONS. COMM.

SUNDRY NOTICES AND REPORTS ON WELLS
GEOTHERMAL RESOURCES

1. NAME OF OPERATOR Union Oil Company

2. GEOTHERMAL RESOURCES WELL OTHER (Specify) Gradient Hole

3. WELL NAME 80-1 State

LOCATION 94.9' From North Line, 1371.16' From West Line

SEC. 8 TWP. 23S RGE. 30E COUNTY Cochise ARIZONA.

4. FEDERAL, STATE OR INDIAN LEASE NUMBER, OR LESSOR'S NAME IF FEE LEASE. STATE LEASE 78566

5. FIELD OR POOL NAME. WILDCAT

6. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>	MONTHLY PROGRESS	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	PERFORATE CASING	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>	(OTHER)	<input type="checkbox"/>	ABANDONMENT	<input type="checkbox"/>
(OTHER)	<u>weekly report</u>						

7. 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.)

10/29 spudded in at 2:00 pm
drilled 0'-35', set 8" casing 0'-34'. Cemented casing.
drilled 6 1/4" hole to 59'

10/30 drilled 6 1/4" hole from 59' to 354'

10/31 drilled 6 1/4" hole from 354' to 534'
encountered 8-10 gpm flow of water at 450'

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

Signed Mary S. Johnson Title Geologist Date 10/31/80

Permit No. 714

STATE OF ARIZONA
OIL & GAS CONSERVATION COMMISSION
Sundry Notices and Reports On Wells
File Two Copies
Form No. G-12

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER
GEOTHERMAL RESOURCES WELL

SEP 17 1980

APPLICATION TO DRILL

RE-ENTER OLD WELL O & G CONS. COMM.

NAME OF COMPANY OR OPERATOR UNION OIL COMPANY OF CALIFORNIA - GEOTHERMAL DIVISION		
ADDRESS P. O. Box 6854	CITY Santa Rosa CA	STATE 95406
DRILLING CONTRACTOR Huachuca Pump Company (License: 45383-002)		
ADDRESS Hamel Road, Huachuca City, Arizona 85616		
DESCRIPTION OF WELL AND LEASE		
FEDERAL, STATE OR INDIAN LEASE NUMBER, OR IF FEE LEASE, NAME OF LESSOR STATE LEASE 78566	WELL NUMBER 80-1	ELEVATION (GROUND) 4210'
NEAREST DISTANCE FROM PROPOSED LOCATION TO PROPERTY OR LEASE LINE: Approximately 108 FEET	DISTANCE FROM PROPOSED LOCATION TO NEAREST DRILLING, COMPLETED OR APPLIED-FOR WELL ON THE SAME LEASE: No other wells. FEET	
NUMBER OF ACRES IN LEASE: 2,552.25	NUMBER OF WELLS ON LEASE, INCLUDING THIS WELL, COMPLETED IN OR DRILLING TO THIS RESERVOIR: 1	
IF LEASE, PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED: NAME ADDRESS N/A		
WELL LOCATION (GIVE FOOTAGE FROM SECTION LINES) 94.9' fnl, 1371.16' fwl	SECTION-TOWNSHIP-RANGE OR BLOCK AND SURVEY Sec. 8, T23S, R30E	DEDICATION (COMPLY WITH RULE G-105) N/A
FIELD AND RESERVOIR (IF WILDCAT, SO STATE) Wildcat	COUNTY Cochise	
DISTANCE, IN MILES, AND DIRECTION FROM NEAREST TOWN OR POST OFFICE Approximately 25 miles east of Douglas, AZ.		
PROPOSED DEPTH: 1000'	ROTARY OR CABLE TOOLS Rotary	APPROX. DATE WORK WILL START October 1, 1980
BOND STATUS Safeco #4083644	ORGANIZATION REPORT ON FILE / OR ATTACHED	FILING FEE OF \$25.00 ATTACHED /
AMOUNT \$25,000		
REMARKS:		
<p>CERTIFICATE: I, THE UNDERSIGNED, UNDER THE PENALTY OF PERJURY, STATE THAT I AM THE <u>a representative</u> <u>Geothermal Division</u> OF THE <u>Union Oil Co. of Calif.</u> (COMPANY), AND THAT I AM AUTHORIZED BY SAID COMPANY TO MAKE THIS REPORT; AND THAT THIS REPORT WAS PREPARED UNDER MY SUPERVISION AND DIRECTION AND THAT THE FACTS STATED THEREIN ARE TRUE, CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE.</p> <p style="text-align: right;"><u>Linda M. Dudzic</u> SIGNATURE Linda M. Dudzic</p> <p style="text-align: right;"><u>September 12, 1980</u> DATE</p>		
PERMIT NUMBER: 714	STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION APPLICATION TO DRILL OR RE-ENTER FILE TWO COPIES	
APPROVAL DATE: 9-17-80	FORM NO. G-3	
APPROVED BY: <u>K. Low Whitaker</u>	(COMPLETE REVERSE SIDE)	
NOTICE: BEFORE SENDING IN THIS FORM BE SURE THAT YOU HAVE GIVEN ALL INFORMATION REQUESTED. MUCH UNNECESSARY CORRESPONDENCE WILL THUS BE AVOIDED.		

1. OPERATOR SHALL OUTLINE THE DEDICATED ACREAGE FOR GEOTHERMAL RESOURCES WELLS ON THE PLAT.

Not applicable.

2. A REGISTERED PROFESSIONAL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF ARIZONA OR APPROVED BY THE COMMISSION SHALL SHOW ON THE PLAT THE LOCATION OF THE WELL AND CERTIFY THIS INFORMATION IN THE SPACE PROVIDED.

3. ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.

4. IS THE OPERATOR THE ONLY OWNER IN THE DEDICATED ACREAGE OUTLINED ON THE PLAT BELOW? YES _____ NO _____ N/A

5. IF THE ANSWER TO QUESTION FOUR IS "NO" HAVE THE INTERESTS OF ALL THE OWNERS BEEN CONSOLIDATED BY COMMUNITIZATION AGREEMENT OR OTHERWISE? YES _____ NO _____ IF ANSWER IS "YES" TYPE OF CONSOLIDATION N/A

6. IF THE ANSWER TO QUESTION FOUR IS "NO", LIST ALL THE OWNERS AND THEIR RESPECTIVE INTERESTS BELOW:

Not applicable.

Owner	Land Description
<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">SECTION 8</p> <p style="text-align: center;">TWP 23 SOUTH RANGE 30 EAST G & S R B & M</p> <p style="text-align: center;">137 1/16 94.9'</p> <p style="text-align: center;">GLO B. CAP GLO B. CAP</p> <p style="text-align: center;">GLO B. CAP</p> <p style="text-align: center;">2547.49</p> </div>	<p style="text-align: center;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p>Name <u>Linda M. Dudzic</u> <i>Linda M. Dudzic</i> Position <u>Geologist Technician</u></p> <p>Company <u>Union Oil Co. of CA</u></p> <p>Date <u>September 12, 1980</u></p> <p>I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>Date Surveyed <u>3 SEPT 1980</u> Registered Professional Engineer and/or Land Surveyor <i>[Signature]</i></p> <p>Certificate No. <u>L.S. 9086 (AZ)</u></p>

PROPOSED CASING PROGRAM

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
1 1/2				1000	1000	Will circulate



PERMIT TO DRILL

This constitutes the permission and authority from the
OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,

To: UNION OIL COMPANY OF CALIFORNIA - GEOTHERMAL DIVISION
(OPERATOR)

to drill a well to be known as

80-1 STATE
(WELL NAME)

located 94.9' FROM NORTH LINE, 1371.16' FROM WEST LINE

Section 8 Township 23 SOUTH Range 30 EAST, COCHISE County, Arizona.

The N/A of said
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 17th day of September, 1980.

OIL AND GAS CONSERVATION COMMISSION

By [Signature]
EXECUTIVE SECRETARY

PERMIT N^o 714

RECEIPT NO. 1897
API NO. 02-003-20004

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

TEN FOOT SAMPLES ARE REQUIRED FROM SURFACE



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795



Larry D. Fellows
Director and State Geologist

July 1, 1994

Mr. Steve Cullinan
Division of Water Resources
U.S. Fish & Wildlife Service
P. O. Box 1306
Albuquerque, New Mexico 87103

Dear Steve:

The information we discussed this afternoon is enclosed. This includes the title page, page 20, and the southeast part of the well location map of the *Arizona Well Location Map and Report*; completion and plugging report for the Phillips well; completion and plugging report for the Union well; completion and water well acceptance report for the Guadalupe well; and the completion report for the L.A. Thomson well.

As you can see from this information, logs are not available for all of these wells. Union reported water from 450 to 490 feet in its well. I did not look through the file, however, to see at what rate this well produced water or if they even obtained a production rate. The Guadalupe well was accepted by the land owner as a domestic water well. Not much is available on the Thomson well.

Let me know if there is any additional information that we may provide.

Sincerely,

Steven L. Rauzi
Oil & Gas Program Administrator

Enclosures

714

Union Geothermal Division

Union Oil Company of California
2099 Range Ave., P. O. Box 6854
Santa Rosa, California 95406
Telephone: (707) 542-9543

RECEIVED

JUL 5 1983

O & G CONS. COMM.

UNION 76

July 1, 1983

State of Arizona
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix, Arizona 85007

Attention: Mr. Whittaker

RE: Release of Multiple
Statewide Bond

Gentlemen:

Union Oil Company of California has dropped all of its geothermal leases in Arizona and has no present plans to conduct geothermal operations in the state.

We, therefore, request that the State release our surety, SAFECO Insurance Company of America, from its obligations created by its \$25,000.00 surety bond #9083644 issued on August 4, 1908, on our behalf. Should you have any questions, please feel free to contact the undersigned.

Very truly yours,

James E. Waite
James E. Waite

JEW:pf
cc: Jean Allen, Union Oil

7/7/83 waite/Ybarra

Correction : 1) Bond # as shown in letter is incorrect - should be # 4083644
2) Date also incorrect - should be Aug. 4, 1980

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Bond Serial No. 4083644

That we: UNION OIL COMPANY OF CALIFORNIA

of the County of LOS ANGELES in the State of CALIFORNIA

as principal, and SAFECO INSURANCE COMPANY OF AMERICA

of THE STATE OF WASHINGTON

AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of TWENTY-FIVE THOUSAND AND NO/100 DOLLARS (\$25,000) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for a Geothermal Resource or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

ALL GEOTHERMAL WELLS DRILLED IN THE STATE OF ARIZONA

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State, and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. § 27-652, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce Geothermal Resources in commercial quantities, or cease to produce a Geothermal Resource in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals, this 30th day of July, 19 80

UNION OIL COMPANY OF CALIFORNIA
 BY: Paul K. Doyle Vice President
 BY: R. P. VanZandt Assistant Secretary

WITNESS our hands and seals this 30th day of July, 19 80

Countersigned by:
Richard H. Garmon
 Richard H. Garmon
 Arizona Resident Agent
 BY: Gloria Jordan
 Gloria Jordan
 Surety, Resident Arizona Agent
 (If issued in a state other than Arizona)
 Attorney-in-Fact

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date: <u>9-17-80</u> STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION By: <u>9-17-80</u>	STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Bond File Two Copies RECEIVED AUG 27 1980 O. G-2
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Permit No. 714 O & G CONS. COMM.



POWER OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

No. 4393

KNOW ALL BY THESE PRESENTS:

That SAFECO Insurance Company of America and General Insurance Company of America, each a Washington corporation, does each hereby appoint

GLORIA JORDAN

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO Insurance Company of America and General Insurance Company of America have each executed and attested these presents

this 29th day of October, 1973

Wm. Hammersla

Bruce Maines
VICE PRESIDENT

CERTIFICATE

Extract from Article VI, Section 12, of the By-Laws of SAFECO Insurance Company of America and of General Insurance Company of America:

"Article VI, Section 12, — FIDELITY AND SURETY BONDS ... the President, any Vice President, and the Secretary shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the company in the course of its business ... On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

Extract from a Resolution of the Board of Directors of SAFECO Insurance Company of America and of General Insurance Company of America adopted July 28, 1970:

"On any certificate executed by the Secretary or an assistant secretary of the Company setting out,
(i) The provisions of Article VI, Section 12 of the By-Laws, and
(ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and
(iii) Certifying that said power-of-attorney appointment is in full force and effect,
the signature of the certifying officer may be by facsimile, and the seal of the Company may be a facsimile thereof."

I, Wm. Hammersla, Vice President and Secretary of SAFECO Insurance Company of America and of General Insurance Company of America, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power-of-Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power-of-Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of each corporation

this 30th day of July, 1980



Wm. Hammersla

Union Oil Company (California)
Union Oil Center, Box 7600, Los Angeles, California 90051
Telephone (213) 977-7222

RECEIVED

UNION 76

JUN 14 1982

O & G CONS. COMM.

R. E. Jenkins
Assistant Secretary

June 10, 1982

Oil and Gas Conservation Commission
State of Arizona
1645 West Jefferson, Suite 420
Phoenix, Arizona 85007

Gentlemen:

This is to advise you that Jerry Luboviski has retired as a Vice President of Union Oil Company of California. R. E. Jenkins has been elected as an Assistant Secretary.

Enclosed are two copies of Organization Report (Form No. 1) dated June 1, 1982 with lists of Officers reflecting the changes. An updated list of Directors (for which there is no change) is enclosed also.

Please acknowledge receipt hereof by signing and returning one copy of this filing. A return envelope is enclosed.

Very truly yours,



REJ:bh
Enclosures

file 6/14/82

ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual

UNION OIL COMPANY OF CALIFORNIA

Post Office Address (Box or Street Address)

P. O. Box 7600, Los Angeles, California 90051

Plan of Organization (State whether organization is a corporation, joint stock association, firm or partnership, or individual)

Corporation

Purpose of Organization (State type of business in which engaged)

Exploration, production, transportation, refining & marketing of petroleum products

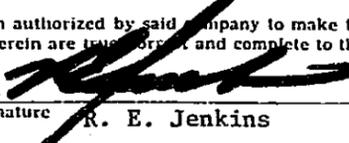
If a reorganization, give name and address of previous organization.

If a foreign corporation, give (1) State where incorporated California	(2) Name and post office address of state agent C T Corporation System 14 No. 18th Avenue Phoenix, Arizona 85007	(3) Date of permit to do business in state August 5, 1932
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Principal Officers or Partners (if partnership) NAME	TITLE	POST OFFICE ADDRESS
	See Attached list	

DIRECTORS NAME	POST OFFICE ADDRESS
See attached list	

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Assistant Secretary of the UNION OIL COMPANY OF CALIFORNIA (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.


 Signature R. E. Jenkins

Date June 10, 1982

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Organization Report
 File One Copy
 Form No. 1

UNION OIL COMPANY OF CALIFORNIA

Revised: 6-1-82

Corporate Officers as of:

<u>NAME</u>	<u>BUSINESS ADDRESS</u>
Fred L. Hartley, Chairman of the Board, President	Union Oil Center Los Angeles, CA 90017
Claude S. Brinegar Senior Vice President	Union Oil Center Los Angeles, CA 90017
Ray A. Burke Senior Vice President	Union Oil Center Los Angeles, CA 90017
T. C. Henderson Senior Vice President	Union Oil Center Los Angeles, CA 90017
William S. McConnor Senior Vice President	Union Oil Center Los Angeles, CA 90017
Richard J. Stegemeier Senior Vice President	Union Oil Center Los Angeles, CA 90017
Philip Blamey Vice President and Chief Financial Officer	Union Oil Center Los Angeles, CA 90017
George C. Bond Vice President and General Counsel	Union Oil Center Los Angeles, CA 90017
Joseph Byrne Vice President	Union Oil Center Los Angeles, CA 90017
Cloyd P. Reeg Vice President	Union Research Center Brea, CA 92621
George B. Snyder Vice President	Union Oil Center Los Angeles, CA 90017
Lyle C. Rutherford Comptroller	Union Oil Center Los Angeles, CA 90017
E. H. Powell Treasurer	Union Oil Center Los Angeles, CA 90017
R. O. Hedley Secretary	Union Oil Center Los Angeles, CA 90017
K. G. Hanks Assistant Comptroller	Union Oil Center Los Angeles, CA 90017
W. D. Farr Assistant Treasurer	Union Oil Center Los Angeles, CA 90017
S. H. Nosler Assistant Treasurer and Assistant Secretary	Union Oil Center Los Angeles, CA 90017
J. R. Courtney Assistant Secretary	Union Oil Center Los Angeles, CA 90017
R. E. Jenkins Assistant Secretary	Union Oil Center Los Angeles, CA 90017
R. P. Van Zandt Assistant Secretary	Union Oil Center Los Angeles, CA 90017

UNION OIL COMPANY OF CALIFORNIA

r: 10/15/81

Directors as of: JUN - 1 1982

<u>NAME</u>	<u>BUSINESS ADDRESS</u>
William F. Ballhaus	Beckman Instruments, Inc. 2500 Harbor Boulevard Fullerton, CA 92634
Claude S. Brinegar	Union Oil Center Los Angeles, CA 90017
Ray A. Burke	Union Oil Center Los Angeles, CA 90017
Robert D. Campbell	20 Duke Drive Rancho Mirage, CA 92270
William H. Doheny	136 El Camino Beverly Hills, CA 90212
Richard K. Eamer	National Medical Enterprises, Inc. 11620 Wilshire Boulevard Los Angeles, CA 90025
Lewis B. Harder	International Mining Corporation Pan Am Building 200 Park Avenue, Suite 3724 New York, NY 10166
Fred L. Hartley	Union Oil Center Los Angeles, CA 90017
T. C. Henderson	Union Oil Center Los Angeles, CA 90017
Donald P. Jacobs	J. L. Kellogg Graduate School of Management Northwestern University 2001 Sheridan Road Evanston, IL 60201
W. S. McConnor	Union Oil Center Los Angeles, CA 90017
Peter O'Malley	Los Angeles Dodgers, Inc. 1000 Elysian Park Avenue Los Angeles, CA 90012
Charles F. Parker	Union Oil Center Los Angeles, CA 90017
Richard J. Stegemeier	Union Oil Center Los Angeles, CA 90017
Donn B. Tatum	Walt Disney Productions 500 South Buena Vista Street Burbank, CA 91521

file

Union Geothermal Division

Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543



RECEIVED

FEB 5 1981

O & G CONS. COMM.

January 30, 1981

Don Whittaker
Director, Enforcement Section
Oil & Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix, AZ 85007

Union Oil 80-1 State
Permit No. 714
Plugging Record

Dear Mr. Whittaker:

Enclosed is Form G-10, Plugging Record, for the subject gradient hole.

Please call me if there is any further information you require. Thank you for your patience in answering questions on Arizona rules and regulations. I look forward to working with you again in the future.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

Linda Dudzic

Mrs. Linda Dudzic

LMD/smc
Enclosure

Union Geothermal Division
Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543

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JAN 26 1981

O & G CONS. COMM.

UNION

January 21, 1981

Don Whittaker
Director, Enforcement Section
Oil & Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix AZ 85007

Union Oil 80-1 State
Permit No. 714
Intention to Abandon

Dear Mr. Whittaker:

Enclosed is Form G-9, Application to Abandon and Plug, for the subject gradient hole. This confirms verbal notification and approval made by phone today.

Thank you for your assistance.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

Linda Dudzic
Mrs. Linda Dudzic

LD/dl
Enclosure

1-30-81

Form ret'd for completion of Item 8.

714

file

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NOV 20 1980
O & G CONS. COMM.

Union Oil and Gas Division: Central Region
Union Oil Company of California
Post Office Box 2620, Casper, Wyoming 82602
Telephone (307) 234-1563



November 18, 1980

Arizona Oil & Gas Conservation Commission
1645 West Jefferson St. - #420
Phoenix, AZ 85007

Re: Request for Rules & Regulations

Gentlemen:

Please send us two sets of the latest Oil & Gas Rules and Regulations, including amendments thereto, which govern the drilling of wells and the production of oil and gas.

It will be appreciated if two copies of future regulations and/or changes are mailed to my attention.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

M.E. Dill

R. G. Ladd, Jr.
District Drilling Superintendent

pd

*2 complimentary
copies mailed 11-20-80
per W&K*

Union Geothermal Division

Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543

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OCT 31 1980

O & G CONS. COMM.

UNION

October 28, 1980

Mr. Don Whittaker
Director, Enforcement Section
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix AZ 85007

Union Oil 80-1 State
Permit No. 714

Dear Mr. Whittaker:

Union hereby requests that all information regarding subject well be kept confidential for the statutory period of two years following the date of completion of this well.

Thank you very much for your assistance in this matter.

Sincerely,

UNION OIL COMPANY OF CALIFORNIA

Linda Dudzic

Mrs. Linda Dudzic

LMD/dl

September 19, 1980

Linda M. Dudzic
Geothermal Division
Union Oil Company of California
P.O. Box 6854
Santa Rosa, California 95406

Re: Union Oil 80-1 State
Permit No. 714

Dear Ms. Dudzic:

Enclosed are the following documents:

Permit to drill
Approved application for permit
Approved performance bond
Instructions for handling well samples
Instructions for progress reports

Please advise us of spud date prior to the actual drilling of
this well.

Yours truly,

Don Whittaker
Director
Enforcement Section

os
Enc.

9-24-80
mailed 8 G-12 forms
4 G-9 ✓
2 G-10 ✓

Union Geothermal Division
Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543

RECEIVED
SEP 17 1980
O & G CONS. COMM.



September 15, 1980

Don Whittaker
Director, Enforcement Section
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix AZ 85007

Dear Mr. Whittaker:

Enclosed in duplicate is our application for a permit to drill
a temperature gradient hole in Cochise County.

In support of our application, we sent the required bond and
organization report August 21.

Attached is a check (\$25.00) for the filing fee.

If there are any questions, please feel free to call me or Gary
Johnson, the project geologist.

Sincerely,

UNION OIL COMPANY OF CALIFORNIA

Yvonne Quinlan

DETACH BEFORE DEPOSITING. ENDORSEMENT OF CHECK WILL CONSTITUTE RECEIPT. NO OTHER ACKNOWLEDGEMENT NECESSARY.

FOR EXPENSE ADVANCE OTHER (DESCRIBE) DATE September 15, 1980 5940

Filing Fee
State of Arizona
permit to drill

Union Geothermal Division

Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543

RECEIVED

SEP 17 1980

O & G CONS. COMM.



September 15, 1980

Don Whittaker
Director, Enforcement Section
Oil and Gas Conservation Commission
1645 West Jefferson, Suite 420
Phoenix AZ 85007

Dear Mr. Whittaker:

Enclosed in duplicate is our application for a permit to drill a temperature gradient hole in Cochise County.

In support of our application, we sent the required bond and organization report August 21.

Attached is a check (\$25.00) for the filing fee.

If there are any questions, please feel free to call me or Gary Johnson, the project geologist.

Sincerely,

UNION OIL COMPANY OF CALIFORNIA

Linda Dudzic
Mrs. Linda Dudzic

LMD/dl
Enclosures

Union Geothermal Division

Union Oil Company of California
2099 Range Ave., P.O. Box 6854
Santa Rosa, California 95406
Telephone (707) 542-9543

RECEIVED

AUG 27 1980

O & G CONS. COMM.



August 21, 1980

State of Arizona
Oil & Gas Conservation Commission
1645 West Jefferson Suite 420
Phoenix, AZ 85007

Attention: Mr. Whittaker

Gentlemen:

In the near future, Union Oil Company intends to file an Application to Drill a geothermal temperature gradient hole.

In support of our application, we are at this time furnishing the required bond (in the amount of \$25,000) and organization report.

The application itself will be submitted as soon as the hole location has been surveyed.

If there are any questions, please don't hesitate to call me.

Sincerely,

UNION OIL COMPANY OF CALIFORNIA

Linda Dudzic

Mrs. Linda Dudzic

LMD/dl
Enclosures
cc: M. Shoaff