GTLT - ____7___

(4-16)-21S-1W Chevron U.S.A. Inc. (Dona Ana County)

786-N(PA); 8-77-K(PA); 2-77-K(PA) & GTR-79 5-77-A(PA)

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· NOTTURINTRIG	P. O. Box 2038, Santa Fe 8710 15 14 (v/)	ATION DE SION
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Land Office	SANTA FE	5. State Lease No.
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014 (7. Unit Agreement Name
Write or Operator	Geothermal Temperature Observation	
Chevron U.S.A. Inc./Chevron	Resources Company	8. Farm or Lease Hame MCKibbin
J. Address of Operator	Resources company	9. Well No.
P.O. Box 3722, San Francisc	o, CA 94119	786
4. Location of Well		10. Field and Pool, or Wildcat
UNIT LETTER N . 1900!	TEEL SHOW THE THE WAS 300 1	. Wildcat
THE S LINE SECTION	4 TOWNSHIP 21S RANGE 1W HMPN	
	15. Elevation (Show whether DF, RT, GR, etc.) 3968	12. County
Charles Approx		Dona Ana
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	3033240211	· ·
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17. Describe Proposed or Completed Operations work) SEE RULE Area 203. Temperature observation hold	e was completed and abandoned July 22, 1978. • true and complete to the bast of my knowledge and ballef.	

	NEW MEXICO OIL CONSERV	ATION COMMISSION	
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and Office	•	· · · · · · · · · · · · · · · · · · ·	5. State Lease No.
	A SALE TO DRILL OF TO GEPEN OF PLUG BACK Y H FOR FLEWHT" (FORM G-101) FOR BUCH PRO	O A DIFFERENT NESERVOIR.	7. Unit Agreement Name
Nome of Operator	orman Geothermal Temperatu	re Observation	8, Fam or Lease Name
Chevron U.S.A. Inc./Chevr	ron Resources Company		McKibbin
P.O. Box 3722, San Franciación of Well	isco, CA 94119		786
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	15. Elevation (Show whether DF, R 3968	T, GR, etc.)	12. County Dona Ana
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Temperature observation is	nole was completed and aban	doned July 22, 1978	

HEW DEXICO OIL CONSERVATION COMMISSION - P.O. Box 2038, Santa Fe 87501

MAR 31 1982

GEOTHERMAL RESOURCES WELL LOG

inalia di . Ngjara	Operator _	Chevron U.S.A.	Inc./Chevron 1 San Francisco	Resources (Company	····	SARTA	'E'
	Reservoir	F.U. DUX 3/22	Sail Francisco	, <u> </u>	<u> </u>	· · ·		
	Lease Name	<u>McKibbin</u>		· Well N	0. 786	Unit.	Letter	N
	Location: 2001		feet et from the	from the	W_ line	Section	line 4	and
• • •	Township _	215	Rai	nge IW	·	County _	Dona	Ana.

FORMATIONS PENETRATED BY WELL

101-1	TH TO	Thickness	Drilled or	Recovery	DESCRIPTION		
Formation	Bottom of Formation		Coral		DESCRIPTION		
0 15	15' 495				Qt. Alluvium Weathered Rhyolite		
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				- ,			
• •							

Attach Additional Sheets if Necessary

This form must be accompanied by copies of electric logs, directional surveys, physical or chemical logs, water analyses, tests, including potential tests, and temperature surveys (See Rule 205).

CERTIFICATION

I hereby certify that the information given above and the data and material attached hereto are true and complete to the best of my knowledge and belief.

Signed	Mach Nehor	Position	Permit Rep.	Date	8/28/81

(D) S(C)	<u> </u>
NEW MEXICO OIL CONSERVATION COMMISSION P. O. Box 2088, Santa Fe 8750	
00 00000	ANTA FE FORM G-103
U.S.G.S. ON Operator / GEOTHERMAL RESOURCES WELLS	Sa. Indicate Type of Lease State Fee [
Land Office Land Office	5. State Lease No.
(OO NOT USE THIS FORM FOR PROPOSALS TO ORILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM G-101) FOR BUCH PROPOSALS.)	
other- Geothermal Temperature Observation 2. Name of Operator	7. Unit Agreement Name 8. Farm or Lease Name
Chevron U.S.A. Inc./Chevron Resources Company 3. Address of Operator	McKibbin 9. Well No.
P.O. Box 3722, San Francisco, CA 94119	786
UNIT LETTER N . 1900 FEET FROM THE W LINE AND 300 FEET FR	Wildort
THE S LINE, SECTION 4 TOWNSHIP 21S HANGE 1W MM	
15. Elevation (Show whether DF, RT, GR, etc.) 3968'	12. County Dona Ana
Check Appropriate Box To Indicate Nature of Notice, Report or ONDICE OF INTENTION TO:	Other Data NT REPORT OF:
PENFORM REMEDIAL WORK	Altering casing
TEMPORARILY ABANDON COMMENCE DRILLING OPNS.	PLUG AND ABANDONMENT
PULL OR ALTER CASING CHANGE PLANS CASING TEST AND CEMENT JQB	
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OTHER OTHER 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, included the completed of the completed operations (Clearly state all pertinent details).	
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17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, includ work) SER RULE *** 273. Temperature observation hole was completed and abandoned July 22, 1978	
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NEW MEXICO OIL CONSERVATION COMMISS P.O. Box 2088, Santa Fe 87501

GEOTHERMAL RESOURCES WELL LOG OIL CONSTRVATION DIVISION SANTA FE

Operator _C	hevron U.S.A.	Inc./Chevron	Resources	Company	/	
	.O. Box 3722,					
Reservoir _	A 18 18 18 18 18 18 18 18 18 18 18 18 18	1				
Lease Name	McKibbin		Well	No. 786	5Unit	Letter N
Location: _	1900'		from the	II		line and
200'	fee	t from the _	S	line	Section	4
Township	215	Ra	nge <u>l</u> W	<u> </u>	County _	Dona Ana

FORMATIONS PENETRATED BY WELL

	DEPTH TO				Drilled or Cored	Recovery	DESCRIPTION
Cop of Formation	Bottom of Formation						
0 15	15 ' 495				Qt. Alluvium Weathered Rhyolite		
					,		
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Attach Additional Sheets if Necessary

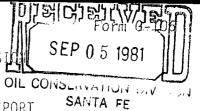
This form must be accompanied by copies of electric logs, directional surveys, physical or chemical logs, water analyses, tests, including potential tests, and temperature surveys (See Rule 205).

CERTIFICATION

I hereby certify that the information given above and the data and material attached hereto are true and complete to the best of my knowledge and belief.

	Signed	Wach Lehor	Position		Date	8/28/81
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NEW MEXICO OIL CONSERVATION COMMISSIN P. O. Box 2088, Santa Fe 87501



GEOTHERMAL RESOURCES WELL SUMMARY REPORT

· ·	Operator Lease Nam Unit Let Reservoir	ne <u>Mc</u> Ki ter <u>N</u>	bbin 	Sac	4	Tva	Well	1 No 2	P.0 . 7 1S 	86	Rge	<u> </u>	1W			
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;		(Si	ze, top, b	ottom, per	forated	l intervals, si			of perfo	ration a	nd met	hod.)				
/as a	I he	IFICATIO reby cer	N tify t	iat the	inf	ormation complete	given	abo	ve and	the	data	and :	na ter	495' rial		

Position Permit Rep. Date 8/28/81

Signed Wach Kehoe

LITHOLOGIC WELL	LOG
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CHEVRON RESOURCES COMPANY

DOCDECT	MITAN	SPRINGS	CED	ΛΞ	-10Ω'
PROSPECT	KADIUN	SERTINGS	O L	UU	130

COUNTY DONA ANA

DATE ___

WELL No. RSCH-6A-78

SECPANNA FE
TOWNSHIP
RANGE

TIME	DEPTH	LITHOLOGY	COMMENTS
	0-15	Many different rock types-quartzite, green metamorphics, silicic fine grained laneous rks., rhyolite, possibly andesite, brown flint.	Alluvium
	15-30	Strongly weathered highly silicic ig. rk. (fine grained granite sand), rhyolite, traces of green, yellow & red rk., (1/8x1/8x1/8)-angular to semi-angular.	•
	30-45	Same as 15-30	
	45-60	Same as 15-45 (Note: It appears as if the lighter colored silicic rock is a weathering product of the darker, pink rhyolite. The grain size & amount of dk. minerals is identical).	
_	60-75	Same as 15-60.	
	75-90	Same as 15-75 except with a large (1 xl x1/4) angular fragment of appears to be andesite with 1/16"-1/8" phenocrysts of white plagioclase	
	90-105	Same as 15-75.	
	105-120	Same as 15-75.	
	120-135	Same as above.	
•	135-150	Same as above.	
÷	150-165	Same as above.	
	165-180	Same as above.	
	180-195	Same as above.	
	195-210	Same as above, but with a small $(1/2 \times 1/8 \times 1/2)$ chunk of andesite.	
	210-225	Same as above, without much andesite.	
	225-240	Same as above.	
	240-255	Same as above.	
	255-270	Same as above.	
	270-285	Same as above, but seems to be more weathered and rotten.	
6.	285-300	Same as above.	
	300-315	Same as above.	
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CHEVRON RESOURCES COMPANY

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PROSPECT	RADIUM SERINGS 0 5 1981
COUNTY	DONA ANA OU CUNSE STATEN LINGUEXICO
DATE	SECTIONANTA FE
 	TOWNSHIP

		WELL No. RSCH-6A-78	RANGE
TIME	DEPTH	LITHOLOGY	COMMENTS
	315-330	Same as above, but with a piece of jasper (3/4x1/4x1/8).	
	330-345		
	345-360	Same as above.	
•	360-375	Same as above.	
	375-390	Same as above.	
	390-405	Same as above.	
	405-420	Same as above.	
•	420-435	Same as above.	
	435-450	Same as above.	
	450-465	Same as above.	
	465-480	Same as above.	
	480-495	Same as above.	
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110						"_ CONS	Form Giv	101.
.N.B.M.	17					•	fr ' ; r	e Type of Lease
<u>.s.g.s.</u>	-		NTION FOR PERI 3 BACKGEOTI				.S. State Lea	
berator and Office		OK PLU	2 DAUNGEUTI	HERMAL R	ESOURCES	WELL		ac No.
And OTTICE								
Type of Work Dr	ill [x]	D	eepen []	Ţ	Plug Back	<u> </u>	7. Unit Agre	ement Name
	*		[]_				8. Farm or L	nase Name
Lo	w-Temp The	rmal [] Ir	jection,	/Disposal	įį	McKIB	
Name of Operator							9. Well No.	<u> </u>
CHEVRON U.S	S.A., INC.						786	
	22 SAN FRAN	cisco, c	A 94119			•	WILDC	nd Pool, or Wildeet AT
Location of Well unit t	LETTER N	Loc	ATEO 19001	FEET FROM 1	THE W	LINE		
10 300 PEETS	FROM THE	S	e or sec. 4	TWP. 21	S RCE.	W нмрм		
		MM		TITTI	MITTE		12. County	
		<i>}}}}}</i>		777777	777777	77777	DONA ANA	
	<i>}}}}</i>	7		19. Propose	ed Depth	9A. Formation	777777	20. Rotary or C.T.
				\$ 00'				ROTARY
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	ON COMMIS	SION TO	OPERAT, IONS	•		A. PEL	NLESS	
OIL CONSERVATI WITHIN 24 HO	URS OF BEC	# Alance), ·	OR 4/3/78 SUNDERWAY
ABOVE SPACE DESCRIB E ZONC. CIVE BLOWOUT PAGE	E PROPOSED PR	OGRAM: IF	PROPOSAL IS TO DEEPEN	OR PLUG BAC	K, GIVE BATA ON	PRESENT PRO	POUCTIVE ZONE	LAND PROPOSED NEW PI
ereby certify that the infor	mation above is t	rue and comp	lete to the best of my	knowledge a	nd belief.			
ned	unei		Title ATTORNEY	'-IN-FACT	· :		Date 5/1	1/78
. (17 his space	for State Use)							
PROVED BY Carl	Ulvag		SENIOR P	ETROLEUM G	SEOLOGIST		. 5/	15/78
TITIONS OF APPROVA	L, IF ANY:			, .,		 '		

NEW MEXICO OIL CONSERVATION COMMISSION FORM G-102

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PRAT-

All distances must be from the outer boundaries of the Section 1.1078Contator Louis West 786 McKIBBIN CHEVRON U.S.A. INC. Township Hom to Unit Letter Section DONA ANA TO 215 1W Acts il Pootage Location of Well: 300 feet from the line and 1900 Producing Formation Post Ground Level Fllev. Dedicated Acreage: 3968 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plut below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consol dated by communitization, unitization, force-pooling. etc? Yes If answer is "yes," type of consolidation _ If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.). No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commis sion. CERTIFICATION I hereby certify that the information con tained herein Is true and complete to th best of my knowledge and belief. STTORNEY-IN-FACT CHEVRON U.S.A. INC. Date 5/1/78 I hereby certify that the well location shown on this 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. Date Surveyed Registered Professional Engineer and/or Land Surveyor Certificate No. 330 1320 1850 1980 2310 000 2000 1500 1000 500

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CHEVRON RESOURCES COMPANY

PLAN OF OPERATION

SHALLOW TEMPERATURE GRADIENT HOLES

EXHIBIT	11 A 11
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1. Description of the Operation

The Shallow Temperature Observation Hole Program, as conducted by the Chevron Resources Company, requires the drilling of 250-500 foot holes with a diameter of 4-3/4 to 5-3/8 inches. The number of holes will vary with the size of the area to be evaluated. These holes will be drilled by a state licensed drilling contractor using a truck mounted drill rig. The mud-out temperature will be monitored continually during the actual drilling.

Once each hole is completed a 1 inch (I.D.) black steel pipe, sealed at the bottom, will be placed in the hole with the top being 8-12 inches from the ground surface. The pipe is then filled with water and capped. The hole is then back-filled with cuttings and/or drilling mud to within 10 feet of the surface. The remaining void is then filled with cement.

As necessary, the pipe is unearthed and a temperature probe is lowered to total depth. Once the series of temperature logs is completed, the pipe is then filled with cement and buried. The ground surface is then smoothed and returned to as nearly as practical to pre-drilling condition.

The drilling operations will be suspended if the mud-out temperature reaches 125°F and cannot be lowered or stabilized with the addition of well-head or cooling devices. The hole will then be completed as a temperature gradient hole or abandoned.

The drilling operations will also be suspended if flowing hot water or steam at 150°F or more is encountered. The hole will then be completed as a temperature gradient hole by placing 1 inch (I.D.), black, steel pipe to total depth and cementing from total depth to surface. If the hole is to be abandoned it will be plugged with cement from total depth to surface.

If cold artesian flow is encountered the hole will be completed or abandoned as described in the paragraph above.

The equipment fordrilling, as well as the drill rig, consists of a water truck and a light pickup truck. The temperature probe consists of a thermometer or thermister device on the end of a wire line and a small tripod-mounted wheel for lowering the probe down the hole.

2. The following plan of operations as required by Section 270.34 of the Federal Regulations for Geothermal Operations on public acquired and

withdrawn lands, covering paragraphs (a) through (h), is submitted pursuant to Section 270.78:

- (a) The hole locations, lease numbers (Exhibit "B") and outline of a typical drill site layout (Exhibit "C") are attached.
- (b) No new roads will be constructed for this operation. Access to area of operations will be along existing roads.
- (c) No water sources on federally administered lands will be developed and no road building material will be used.
- (d) Campsites, airstrips or other supporting facilities will not be required.
- (e) Minimal access scars, limited mainly to tire impressions, may occur during the course of drilling the hole. All such disturbances will be restored as nearly as possible to pre-drilling condition. All materials will be removed from the area once the hole is completed.
- (f) Topographic features of the drill site areas and drainage can be observed from the attached map (Exhibit "B").
- (g) If drilling mud or foam are used they will be contained by portable steel containers. When the hole is completed, the mud residue will be dried and spread on the ground surface.
- (h) The Chevron Resources Company will use all reasonable precautions to prevent waste of geothermal resources and other natural resources found in the area. At all times during operations the following precautions will be taken:

Traffic will be light and only when necessary. Light pickups will be used whenever possible. To the extent possible, only existing roads, fence lines or jeep trails will be used.

Site preparation will be limited to driving the truck-mounted drill rig to the site and setting it up for drilling.

Since the topography is not severe, the construction of drill pads will not be required.

All vehicles will be equipped with spark arresters and will carry the required fire-fighting equipment and all adequate fire protection measures will be taken to prevent any damage from fire.

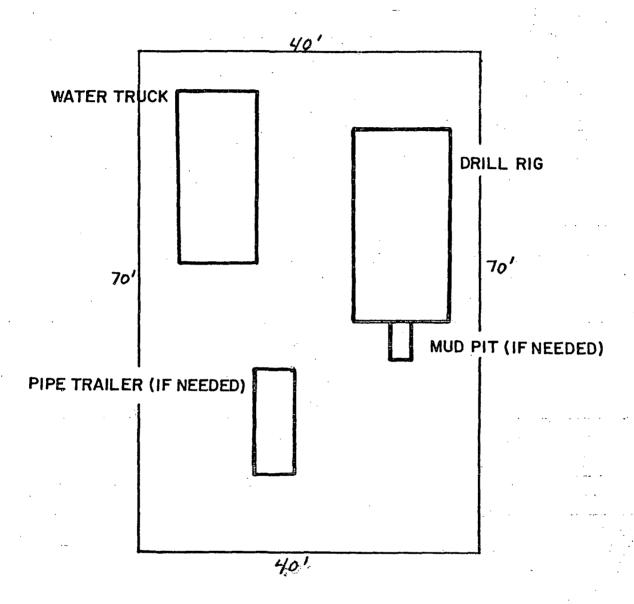
No water or other material will be pumped onto the surface of the ground which might result in soil erosion. Appropriate care will be taken so that natural drainage will not be affected and so that no pollution can occur to surface or ground water.

Geothermal operations will have no material impact on fish and the

disturbance of wildlife and vegetation in the area will be minor due to the short duration of operations and the limited number of personnel comprising the field crews. No significant damage or destruction of vegetation will occur and unavoidable dislocation of wildlife will be short term only.

Mufflers and other available devices will be used on all vehicles to control noise pollution. Minor air pollution will occur from vehicle exhaust, but all feasible measures will be used to control this pollution, in compliance with applicable laws, rules and regulations. Minor air pollution will occur from dust caused by vehicle traffic on dirt roads. Since this pollution is dependent upon natural road conditions and is temporary it therefore has no significant affect on the areas environment.

There will be very little hazard to public health and safety due to the lack of population in the area. All such hazard is confined to the crew or the rig. All appropriate safety measures and equipment will be utilized.

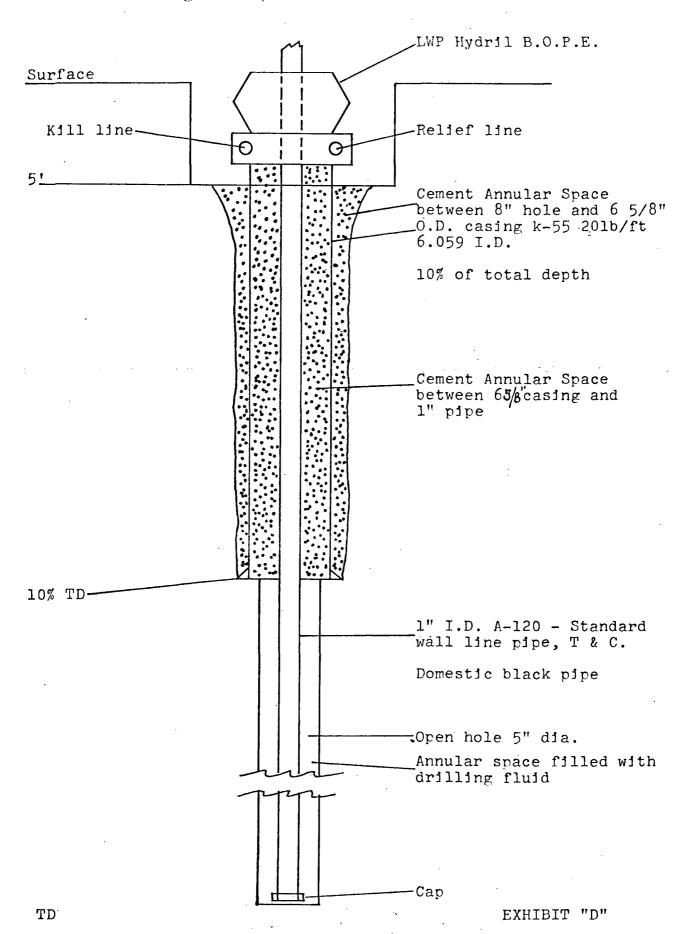


ADDITION TO PLAN OF OPERATION (EXHIBIT "A") SHALLOW TEMPERATURE GRADIENT HOLES DEEPER THAN 500 FEET

The normal drilling procedures (Exhibit "A") will be changed to adhere to U.S.G.S. requirements when drilling shallow temperature gradient holes deeper than 500 feet. The logistical and environmental factors will remain the same since the drilling equipment is identical. The changes for the holes deeper than 500 feet are as follows:

- An 8 3/4 inch hole will be drilled to 10 % of proposed total depth and 6 5/8 inch (0.D.) welded, steel casing will be lowered into the hole and cemented into place. The cement will be allowed to set for a minimum of 24 hours.
- 2. A small cellar will then be dug to allow for the blowout preventer and flange to be attached to the surface casing beneath the truck-mounted drill rig.
- 3. A bag or ram type blow-out prevention unit will be bolted into place. The blow-out equipment will conform to U.S.G.S. requirements.
- 4. The remaining hole to proposed total depth will be completed as a temperature gradient hole as described in Exhibit "A".
- 5. Drilling operations will be suspended immediately if:
 - a. Mud-out temperature reaches 175°F and cannot be lowered or stabilized by the addition of cooling devices or materials.
 - b. Flowing steam or hot water at or greater than 175°F is encountered.
- 6. If the temperature limit as described in item "5a" is reached, the hole will be completed as a temperature gradient hole or abandoned as described in Exhibit "A".
- 7. If the temperature limit as described in "5b" is reached, the hole will be completed as a temperature gradient hole by inserting linch (I.D.) black steel pipe and filling the hole with drilling mud and laying a 100 foot plug both above and below the casing shoe. Then a ten foot cement surface plug will be added. If the hole is to be abandoned the linch black steel pipe will not be placed in the hole.
- 8. Should cold artesian flow be encountered, the hole will be completed as a temperature gradient hole or abandoned as in item "6".

9. A 10'x10' sump will be dug on the drill site to provide adequate water for cooling and well control. Upon completion of the drilling operations, it will be filled in and the ground surface restored as near as practical to its original condition.



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Operator	GEOTHERMAL RESOURCES WELLS Santa	State Fee X
Land Office		5.a State Lease No.
Do Not Use This Form for Proposals to For Permit —" (Form G-101) for Such	Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application Proposals.)	
1. Type of well Geothermal Prod Low-Temp Therr		7. Unit Agreement Name
2. Name of Operator		8. Farm or Lease Name
CHEVRON U.S.A. INC		MCKIBBIN
3. Address of Operator	•	9. Well No.
P.O. BOX 3722, SAN	FRANCISCO, CA. 94119	786
4. Location of Well		10. Field and Pool, or Wildcat
	1900 Feet From The W Line and 300 Feet From	WILDCAT
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	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
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17. Describe Proposed or completed	Operations (Clearly state all pertinent details, and give pertinenet dates, inch	uding estimated date of starting any
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	PER EXHIBIT "A"	
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CONDITIONS OF APPROVAL, IF ANY:

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Operator	GEOTHERMAL RESOURCES WELLS	State Leas	
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For Permit" (Form G-101) for Such P 1. Type of well Geothermal Produ	cer Temp. Observation X	7. Unit Agree	ment Name
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CHEVRON U.S.A. INC.		MCKIBBI	N
3. Address of Operator	•	9. Well No.	
P.O. BOX 3722, SAN	FRANCISCO, CA. 94119	786	
4. Location of Well		10. Field and	Pool, or Wildcat
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	15. Elevation (Show whether DF, RT, GR, etc.)	12. County	
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	orm for Proposals to Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application	
For Permit —" (Fo	rm G-101) for Such Proposals.)	
1. Type of well	Geothermal Producer Temp. Observation	7. Unit Agreement Name
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	n U.S.A. Inc.	Colquitt Co.
3. Address of Ope		9. Well No.
P.U. B	ox 3722 San Francisco, CA 94119	8–77
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SIGNED	/. R. Lune Attorney in fact	DATE 11-8-77
	Carl Ulong SENIOR PETROLEUM GEOLOGIST	12 2 27
APPROVED BY	Carl Moog TITLE SENIUR PERMULEUM GEOLOGIST	DATE 12-5-77
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CHEVRON RESOURCES COMPANY PLAN OF OPERATION SHALLOW TEMPERATURE OPERATION HOLES

1. Description of the Operation

The Shallow Temperature Observation Hole Program, as conducted by the Chevron Resources Company, requires the drilling of 250-500 foot holes with a diameter of 4-3/4 to 5-3/8 inches. The number of holes will vary with the size of the area to be evaluated. These holes will be drilled by a state licensed drilling contractor using a truck mounted drill rig.

Once each hole is completed a 1 inch (I.D.) black steel pipe, sealed at the bottom, will be placed in the hole with the top being 8-12 inches from the ground surface. The pipe is then filled with water and capped. The hole is then back-filled with cuttings and/or drilling mud to within 10 feet of the surface. The remaining void is then filled with cement.

As necessary, the pipe is unearthed and a temperature probe is lowered to total depth. Once the series of temperature logs are completed, the pipe is then filled with cement and buried. The ground surface is then smoothed and returned to as nearly as practical to pre-drilling condition.

The equipment for drilling, as well as the drill rig, consists of a water truck and a light pickup truck. The temperature probe consists of a thermometer or thermister device on the end of a wire line and a small tripod-mounted wheel for lowering the probe down the hole.

- 2. The following plan of operations as required by Section 270.34 of the Federal Regulations for Geothermal Operations on public acquired and withdrawn lands, covering paragraphs (a) through (h), is submitted pursuant to Section 270.78:
 - (a) The hole locations, lease numbers (Exhibit "A") and outline of a typical drill site layout (Exhibit "B") are attached.
 - (b) No new roads will be constructed for this operation. Access to sites will be along existing roads.
 - (c) No water sources on federally administered lands will be developed and no road building material will be used.
 - (d) Campsites, airstrips or other supporting facilities will not be required.
 - (e) Minimal access scars, limited mainly to tire impressions, may occur during the course of drilling the hole. All such disturbances will be restored as nearly as possible to pre-drilling condition. All materials will be removed from the area once the hole is completed.

- (f) Topographic features of the drill site areas and drainage can be observed from the attached map (Exhibit "A").
- (g) If drilling mud is used, it will be contained by an $8' \times 3' \times 3-1/2'$ steel mud pit. When the hole is completed the mud residue will be dried and spread on the ground surface.
- (h) The Chevron Resources Company will use all reasonable precautions to prevent waste of geothermal resources and other natural resources found in the area. At all times during operations the following precautions will be taken:

Traffic will be light and only when necessary. Light pickups will be used whenever possible. To the extent possible only existing roads, fence lines or jeep trails will be used.

Site preparation will be limited to driving the truck-mounted drill rig to the site and setting it up for drilling.

Since the topography is not severe, the construction of drill pads will not be required.

All vehicles will be equipped with spark arresters and will carry the required fire-fighting equipment and all adequate fire protection measures will be taken to prevent any damage from fire.

No water or other material will be pumped onto the surface of the ground which might result in soil erosion. Appropriate care will be taken so that natural drainage will not be affected and so that no pollution can occur to surface or ground water.

Geothermal operations will have no material impact on fish and the disturbance of wildlife and vegetation in the area will be minor due to the short duration of operations and the limited number of personnel comprising the field crews. No significant damage or destruction of vegetation will occur and unavoidable dislocation of wildlife will be short term only.

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There will be very little hazard to public health and safety due to the lack of population in the area. All such hazard is confined to the crew or the rig. All appropriate safety measures and equipment will be utilized.

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SCHEMATIC OF SHALLOW TEMPERATURE HOLE DRILL SITE

EXHIBIT "B"

CHEVRON RESOURCES COMPANY PLAN OF OPERATION SHALLOW TEMPERATURE OPERATION HOLES

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CHEVRON RESOURCES COMPANY PLAN OF OPERATION SHALLOW TEMPERATURE OPERATION HOLES

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- (h) The Chevron Resources Company will use all reasonable precautions to prevent waste of geothermal resources and other natural resources found in the area. At all times during operations the following precautions will be taken:

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Site preparation will be limited to driving the truck-mounted drill rig to the site and setting it up for drilling.

Since the topography is not severe, the construction of drill pads will not be required.

All vehicles will be equipped with spark arresters and will carry the required fire-fighting equipment and all adequate fire protection measures will be taken to prevent any damage from fire.

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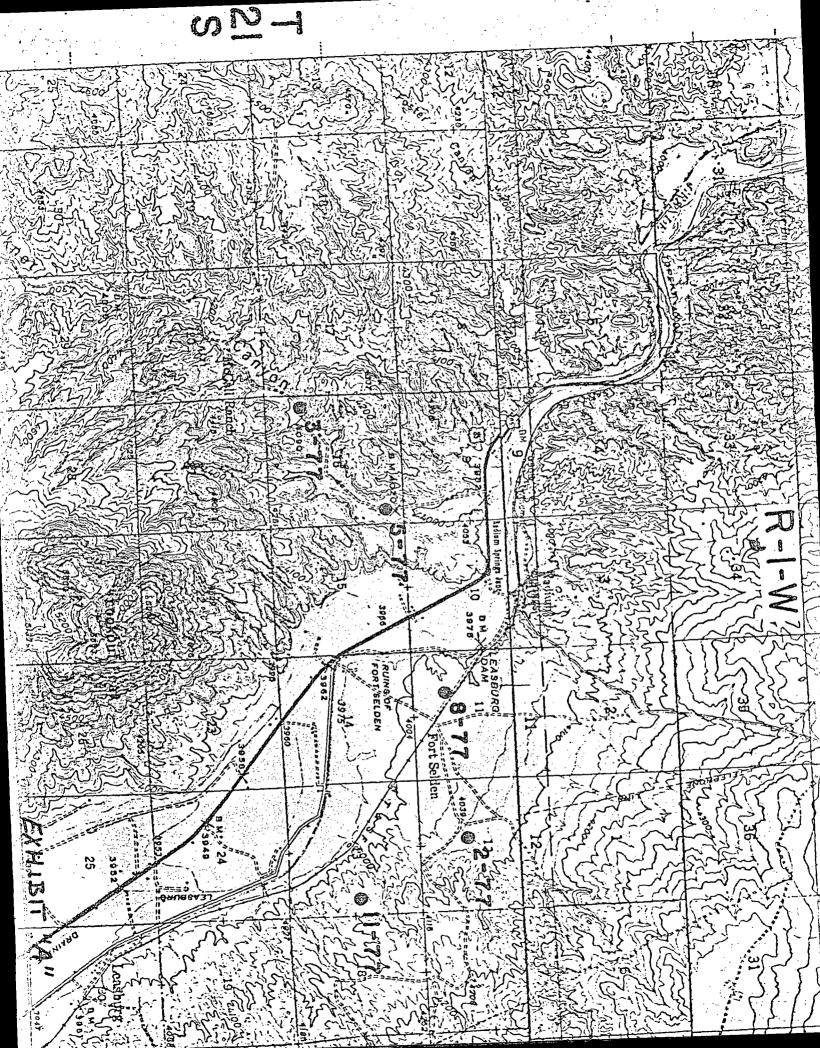
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SCHEMATIC OF SHALLOW TEMPERATURE HOLE DRILL SITE

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SCHEMATIC OF SHALLOW TEMPERATURE HOLE DRILL SITE



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N M B M	State Lease No.
Do Not Use This Form for Proposals to Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application For Permit" (Form G-101) for Such Proposals.)	
Low-Temp Thermal Injection/Disposal	7. Unit Agreement Name
2. Name of Operator Chevron U.S.A. Inc.	8. Farm or Lease Name Colquitt Co.
3. Address of Operator P.O. Box 3722 San Francisco, CA 94119	9. Well No. 2-77
4. Location of Well Unit Letter K 2450 Feet From The W Line and 1350 Feet From	10. Field and Pool, or Wildcat
The S Line, Section 12 Township 21 S Range NMPM	
15. Elevation (Show whether DF, RT, GR, etc.) 4040 *	12. County Dona Ana
Check Appropriate Box To Indicate Nature of Notice, Report or Other D. NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK COMMENCE DRILLING OPNS. PULL OR ALTER CASING CHANGE PLANS CASING TEST AND CEMENT JOE OTHER OTHER	ENT REPORT OF: ALTERING CASING PLUG & ABANDONMENT (
proposed work) SEE RULE 203. Abandoned in following manner:	and to make the of the make the
 Temperature pipe cut-off 18" below ground surface vand/or drilling mud. Remaining void and temperature pipe were filled. Cement was covered with dirt and the ground suppersonable. 	with cuttings ed with cement.
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18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.	
SIGNED / Lucie TITLE Attorney in fact	DATE11-8-77
APPROVED BY Carl Ulvag SENIOR PETROLEUM GEOLOGIST	

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	on U.S.A. Ir	ic.		<u>.</u>				-77
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WATER TRUCK			
			DRILL RIG
PIPE TRAILER (IF NEED	ED)	ML	JD PIT (IF NEEDED)



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FIHIBIT "R"

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WATER TRUCK		•		
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17. Describe Proposed or completed Open proposed work) SEE RULE 203.		details, and give pertinenet dates, i	ncluding estimated date of starting any
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18. I hereby certify that the information :	above is true and complete to the be	st of my knowledge and belief.	
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APPROVED BY Carl Ula	TITLE SE	NIOR PETROLEUM GEOLOGIST	DATE 12-5-77
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CONDITIONS OF APPROVAL, IF ANY:

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The Shallow Temperature Observation Hole Program, as conducted by the Chevron Resources Company, requires the drilling of 250-500 foot holes with a diameter of 4-3/4 to 5-3/8 inches. The number of holes will vary with the size of the area to be evaluated. These holes will be drilled by a state licensed drilling contractor using a truck mounted drill rig.

Once each hole is completed a 1 inch (I.D.) black steel pipe, sealed at the bottom, will be placed in the hole with the top being 8-12 inches from the ground surface. The pipe is then filled with water and capped. The hole is then back-filled with cuttings and/or drilling mud to within 10 feet of the surface. The remaining void is then filled with cement.

As necessary, the pipe is unearthed and a temperature probe is lowered to total depth. Once the series of temperature logs are completed, the pipe is then filled with cement and buried. The ground surface is then smoothed and returned to as nearly as practical to pre-drilling condition.

- 2. The following plan of operations as required by Section 270.34 of the Federal Regulations for Geothermal Operations on public acquired and withdrawn lands, covering paragraphs (a) through (h), is submitted pursuant to Section 270.78:
 - (a) The hole locations, lease numbers (Exhibit "A") and outline of a typical drill site layout (Exhibit "B") are attached.
 - (b) No new roads will be constructed for this operation. Access to sites will be along existing roads.
 - (c) No water sources on federally administered lands will be developed and no road building material will be used.
 - (d) Campsites, airstrips or other supporting facilities will not be required.
 - (e) Minimal access scars, limited mainly to tire impressions, may occur during the course of drilling the hole. All such disturbances will be restored as nearly as possible to pre-drilling condition. All materials will be removed from the area once the hole is completed.

- (f) Topographic features of the drill site areas and drainage can be observed from the attached map (Exhibit "A").
- (g) If drilling mud is used, it will be contained by an 8' x 3' x 3-1/2' steel mud pit. When the hole is completed the mud residue will be dried and spread on the ground surface.
- (h) The Chevron Resources Company will use all reasonable precautions to prevent waste of geothermal resources and other natural resources found in the area. At all times during operations the following precautions will be taken:

Site preparation will be limited to driving the truck-mounted drill rig to the site and setting it up for drilling.

Since the topography is not severe, the construction of drill pads will not be required.

All vehicles will be equipped with spark arresters and will carry the required fire-fighting equipment and all adequate fire protection measures will be taken to prevent any damage from fire.

No water or other material will be pumped onto the surface of the ground which might result in soil erosion. Appropriate care will be taken so that natural drainage will not be affected and so that no pollution can occur to surface or ground water.

Geothermal operations will have no material impact on fish and the disturbance of wildlife and vegetation in the area will be minor due to the short duration of operations and the limited number of personnel comprising the field crews. No significant damage or destruction of vegetation will occur and unavoidable dislocation of wildlife will be short term only.

Mufflers and other available devices will be used on all vehicles to control noise pollution. Minor air pollution will occur from vehicle exhaust, but all feasible measures will be used to control this pollution, in compliance with applicable laws, rules and regulations. Minor air pollution will occur from dust caused by vehicle traffic on dirt roads. Since this pollution is dependent upon natural road conditions and is temporary it therefore has no significant affect on the areas environment.



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