GTLT - ____2

NMSU-DT-4 UL: J 14-29S-8W Luna County Plugged & Abandoned

YEAR: 7/20/1981

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

> CASE NO. 7259 Order No. R-6773

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION ON ITS OWN MOTION TO PERMIT NEW MEXICO STATE UNIVERSITY AND FIREMEN'S FUND INSURANCE COMPANY TO APPEAR AND SHOW CAUSE WHY TWO CERTAIN GEOTHERMAL WELLS, BEING THE NEW MEXICO STATE UNIVERSITY WELL NO. TG-3 and WELL NO. DT-4, BOTH LOCATED IN THE NW/4 SE/4 OF SECTION 14, TOWNSHIP 29 SOUTH, RANGE 8 WEST, LUNA COUNTY, NEW MEXICO, SHOULD NOT BE ORDERED PLUGGED AND ABANDONED IN ACCORDANCE WITH A DIVISION-APPROVED PLUGGING PROGRAM.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 26, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 24thday of September, 1981, the Division Director, having considered the record and the recommendations of the Examiner and being fully advised in the premises,

FINDS:

That Case No. 7259 is hereby dismissed.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO

OLL CONSERVATION DIVISION

Joe D. Bamey

Director

DATE 7/24/81

				Form G-103 Adopted 10/1/7
NO. OF COPIES RECEIVED	T		NEW MEXICO OIL CONSERVATION COMMISSION	Adopted 10/1//
DISTRIBUTION			P. O. Box 2088, Santa Fe 87501	
File	7	-		
N. M. B. M.	1		CUMPRY MOTICES AND DEPORTS	
U. S. G. S	1		SUNDRY NOTICES AND REPORTS ON	5. Indicate Type of Lease
Operator	' ,		GEOTHERMAL RESOURCES WELLS	State Fee X
Land Office	-		GEOTHERIMAL RESOURCES WELLS	5.a State Lease No.
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Do Not Use This Form for F For Permit —" (Form G-101	ropos) for :	als to Such F	Drill or to Deepen or Plug Back to a Different Reservoir. Use "Application roposals.)	
1. Type of well Geoth	ermal	Produ	cer Temp. Observation X	7. Unit Agreement Name
Low-T	emp '	Therm	ał 🗌 Injection/Disposal 🔲	···
2. Name of Operator N	ew N	1exi	co State University	8. Farm or Lease Name
C	. A .	Swan	nberg, Principal Investigator	NMSU .
3. Address of Operator	aa (720.00	Nov. Morrico 88003	9. Well No.
L	as (Luce	es, New Mexico 88003	D1-4
4. Location of Well Unit Letter	2	2828	.4 Feet From The North Line and 2,043.3 Feet From	10. Field and Pool, or Wildcat Columbus
			1/	
The <u>East</u> Li	ne, Se	ction _	14	
	////	////	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
			3997 MSL	Luna
16.	-	Check	Appropriate Box To Indicate Nature of Notice, Report or Other Da	ita
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PULL OR ALTER CASING	-	<u> </u>	CHANGE PLANS CASING TEST AND CEMENT JOE	
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OTHER				
17. Describe Proposed or of proposed work) SEE RU			perations (Clearly state all pertinent details, and give pertinenet dates, incl	luding estimated date of starting any
The following w	ork	was	performed by LarJon Drilling Company:	
1. The 1" ID s	tee]	l ca	sing (981 feet) was pulled from the well.	
2. The hole wa	s wa	ashe	d to the original diameter of 5.25" to a depth ϵ	of 660 ft.
3. Cement was 2 ft. below 100 sacks o	the	e su	into the well using the drill casing as the confrace. The cementing process was completed in t.	duit from 660 ft. to four stages and used
4. The surface	was	s re	stored to the original condition.	
The work commen was encountered		on .	July 7 and was completed on July 16, 1981. No witnessed by	

SIGNED Karry Scenner TITLE Director, Energy Institute DATE July 20, 1981

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

NO. OF COPIES RECEIVED DISTRIBUTION	NEW MEXICO OIL CONSE P. O. Box 2088, S	RVATION COMMISSION	GP 103 Adopted 10/1/74 AY 22 1981
File N. M. B. M. U. S. G. S Operator	SUNDRY NOTICÉS ON GEOTHERMAL RES		SAN Indicate Type of Lease State Fee
Land Office		·	5.a State Lease No.
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3. Address of Operator	perg, Principal Investig	gator	NMS U 9. Well No.
4. Location of Well	s, New Mexico 88003	2 042 2	DT-4 10. Field and Pool, or Wildcat
	Feet From The North 14 Township 29S		Columbus
	15. Elevation (Show whether 3997 MSL	r DF, RT, GR, etc.)	12. County Luna
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Driller will exercise is maintained throughout		ash-over tool and heavy	mud to assure circulation
18. I hereby certify that the information	·	•	1P DATE 20 May 81
APPROVED BY Carl U	·	NIOR PETROLEUM GEOLOGIST	DATE 6/4/81

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Land Office			5.a State Lease No.
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Las truce	s, New Mexico 88003		DT-4
4. Location of Well Unit Letter J 2828.4	Feet From The North	Line and 2,043.3 Feet From	10. Field and Pool, or Wildcat Columbus
The East Line, Section	14	Range R8W NMPM.	
	15. Elevation (Show wheti 3997 MSL	ier DF, RT, GR, etc.j	12. County Luna
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18. I hereby certify that the information	n above is true and complete to the t	pest of my knowledge and belief.	
SIGNED Harold	P. Daw_TITLE_	Classoc. Clead. U	P DATE 20 May 81
Osrl Uli		SENIOR PETROLEUM GEOLOGIST	6/4/41

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3. Address of Operator			9. Well No.	
Las Cru	ces, New Mexico 88003		DT-4	
4. Location of Well Unit Letter J 2828.4	Feet From The North	2,043.3	10. Field and Pool Columbus	ol, or Wildcat
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O. K. OVIAX	//	scooiste Professor	:(/ /	15/1/

SENIOR PETROLEUM GEOLOGIST

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	exico State University Swanberg, Principal Inv	vestigator	8. Farm or Lease Name NMSU
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HIGNED Choulel A	Sureulue TITLE	Associate Professor	DATE 5/15/8/

SENIOR PETROLEUM GEOLOGIST

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- 2. The 1" casing will be pulled and resort to 650 feet eining, while drill casing is etill in place.
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Santa Fe, New Mexico 87501

may 18,1981

Dear Mr. Ramey:

Please find enclosed a copy of Forms G-103 for the two geothermal wells in Luña County. The formation and temperature logs are attached.

A second mailing will contain this same material in triplicate as per the OCD Rules and Regulations. Thank you for your patience in this matter.

Sincerely yours,

Lay Juna

Larry Icersan Director

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Enclosure

DT-4

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NMSU DT-4
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\$	22.40		150	26.18
10	21.13		155	25.44
15	21.27	·	160	26.72
20	21.32		165	26.99
25	21.78		1,70	27.25
30	22.02		175	27.53
- 35	22.35		180	27.78
40	22.76		185	28.06
45	23.21		190	28.32
50	23.63		395	28-57
55	23.80		200	28.84
60	23.99		203	29.07
65	24.07		210	29.28
70	24.15		215	29.53
75	24.23		220	29.74
80	24.73		225	29.96
85	24,43		230	30.20
90	24.27		233	30.47
95	25.26		240	30.69
100	24.52		245	30.99
105	24.66		250	31.24
110	24.74		255	31.47
115	24.75	÷	260	31.67
120	24.88		265	31.88
125	25.05	÷.	270	32.10
130	23.26		275	32.32
135	25,49		280	32.58
140	25.70		285	32,85
145	25.93		290	33.09
			295	33.39
			296	33.40

Z1

10-

77

NMSU DT-4 Test Hole No. 18

Columbus, New Mexico Logged 17 March, 1981

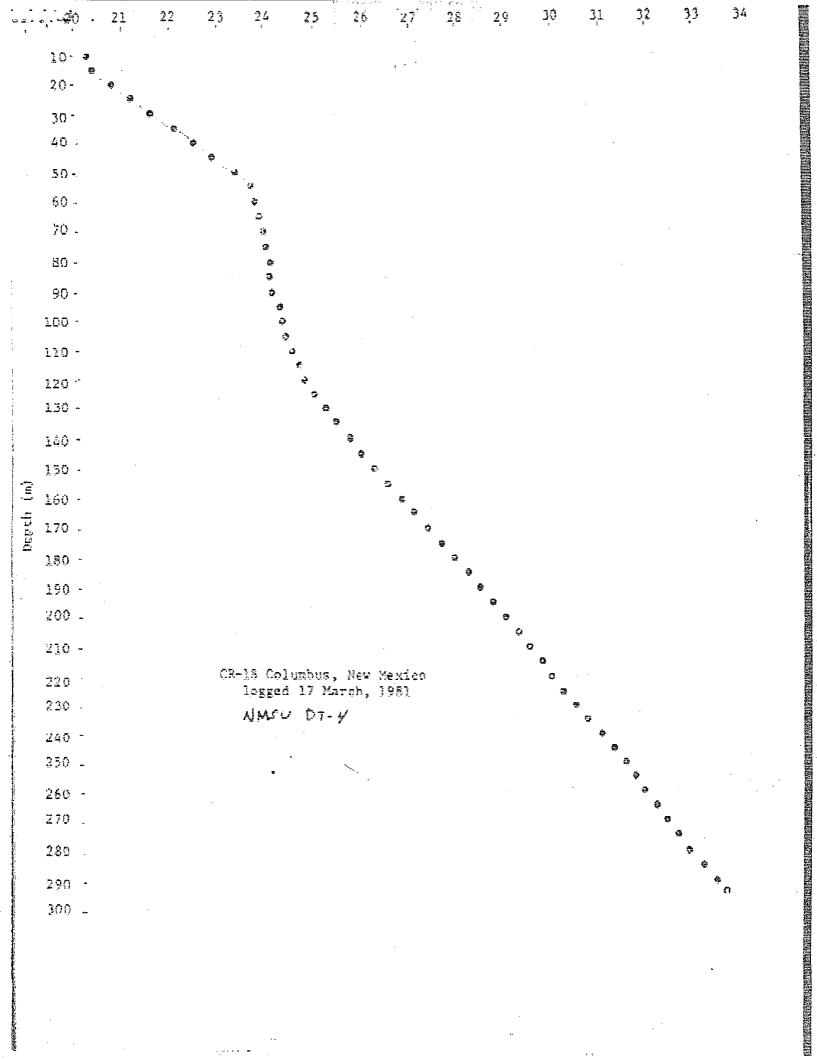
Darth(m)	Temp. (*C)	<u> Papch (m)</u>	Teme. (°0)
5	3 to 70	3.7.7	the ear
10	19.79 20.32	155	26.45
	20.37	160	26.73
15 20		165	27.01
26 25	20.77	170	27.29
	23.16	175	27.57
30	21.62	180	27.85
35	22.05	185	28.14
40	22.51	190	28.41
45	22.88	195	28.68
50	23.35	200	28.93
<u>도</u> 교 # :	23.70	205	29.19
60	23,77	210	29.42
65	23.86	213	49.64
70	23.93	220	29.85
75	23.99	225	30.08
80	24.07	230	30.35
85	24.05	235	30.61
9O .	24.11	240	30.89
95	24.25	245	31,15
100	24.30	250	31.38
105	24.38	255	31.60
110	24.50	260	31.80
115	24.55	265	32.02
120	24.74	270	32.23
125	24.96	275	32.47
130	25.19	280	32.71
1 35	25.38	283	32.97
140	25.57	29 0	33.25
145	25.91	293	33.43
150	26.18	** * **	*चर्च्ये

 $\frac{\Delta T}{\Delta z} = 50.5 \pm 0.3 \text{ °C/km}$

T = 18.70 ± 0.07°C

for 130 to 293 a

34 pts.



Memo

offset.

From

CARL ULVOG

Jo File NMSU # DT-4

J-14-295-8W Luna Co.

10-1-80: Drilling underway. No representative of NMSU present. Driller advised depth of ± 750'. Water coming in uphale giving trouble. Water was

encountered in 100' gradient hale

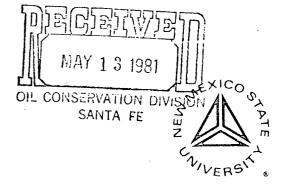
4/29/81: I row pipe being from angle irons in open hole. Water standing at shallow depth in annulus of 1"-1"4" pipe and + 7" uncased hole. (See picture)

no reports submitted since G-101 & G-102 as of 4/30/81.

NEW MEXICO ENERGY INSTITUTE

OFFICE OF THE DIRECTOR Box 3EI/Las Cruces, New Mexico 88003 Telephone (505) 646-1745

May 11, 1981



File DT-4

Mr. Carl Ulvog Senior Geologist Oil Conservation Division State Land Office Building P.O. Box 2088 Santa Fe, New Mexico 87501

Dear Mr. Ulvog:

Please find enclosed copies of the well logs for two geothermal temperature gradient wells, NMSU TG-3 and NMSU DT-4, that were drilled near Columbus, New Mexico. Wells $\overline{\text{TG-3}}$ and $\overline{\text{DT-4}}$ were permitted for 100 ft. and 1,000 ft., respectively.

If I can be of any further assistance in this matter, please do not hesitate to contact me.

Sincerely yours,

Larry Icerman

Director

cjs

Enclosure

ARD SARVELS	DE	PIH IN METERS NM.	SU Identification Number	DT-4	DAT
2 CLAY 2007 62:59 3		F		Carrier Carrier Control	2/29
22 CLAY 22 CLAY 24 25 25 25 25 25 25 25					
22 CLAY 22 CLAY 24 25 25 25 25 25 25 25	7 ///				
22 CLAY 22 CLAY 24 25 25 25 25 25 25 25		3/,2/5			
250 2	/				
250 2	•				
250 2					
THE DESCRIPTION OF COST CIRCULATION Sept Sept			CLAY -		7/3 11/11/11/11/11/11
2007 33.35 S CLAN, GRAVELS S CANCELS S CANCELS S CLAN, GRAVELS S CLAN, GRAVELS S CLAN, GRAVELS S CANCELS S	207'	-62.50			
2007 33.35 S CLAN, GRAVELS S CANCELS S CANCELS S CLAN, GRAVELS S CLAN, GRAVELS S CLAN, GRAVELS S CANCELS S		3			
73.25 73.25	260' 2		HARD BASALTIC 2002	7	70//
CLAY, GRAVELS 725 A GRAVELS A	240' \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		ZONE OF LOST	CIRCULATION POLLS	7/2
225 25 27 287.282 2 3 3 20NE 05 COST CIRCULATION: 215.75 2 3 4 4 20 3 2 3 3 4 4 2 2 3 3 2 3 4 4 2 3 3 3 4 4 2 3 3 3 4 4 2 3 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 4 3 3 4 4 4 3 3 4 4 4 3 3 4 4 4 3 3 4 4 4 3 3 4 4 4 3 4	52 309'	73,75			
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(156.25 177.50 1		725			
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ZIS 7.5 ZIS 7.5 RAPED BASALTIC ROCK PERMERBILLITY ZONE (GLAYS, GRAVELS) PAR' 281:25 1930' 2000 COST CIRCULATION PERMERBILLITY ZONE (GLAYS, GRAVELS) PAR' 281:25					
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ZIS 75 REPUBLISHED BASALTIC ROLL VERY, HARD ROCK PERMERBILITY ZONE (GLRYS, GRAVELS) PAR' 281:25 10 10 10 10 10 10 10 10 10 1					
ZIS 75 REPUBLISHED BASALTIC ROLL VERY, HARD ROCK PERMERBILITY ZONE (GLRYS, GRAVELS) PAR' 281:25 10 10 10 10 10 10 10 10 10 1					
ZIS 75 REPUBLISHED BASALTIC ROLL VERY, HARD ROCK PERMERBILITY ZONE (GLRYS, GRAVELS) PAR' 281:25 10 10 10 10 10 10 10 10 10 1	4.01	787.50±	GRAVELS		
PERMERBILITY ZONE (GLAYS, GRAVELS) 1 430' 218-75 R HARD BASALTIC ROLL 44. PERMERBILITY ZONE (GLAYS, GRAVELS) 2057 CIRCUARTION	620 }>			CIRCUIATION	10/0
TO HARD BASALTIC ROCK 250 9 VERY HARD ROCK PERMERBILITY ZONE (CLAYS, GRAVELS) 200 100	6,20				
TARD BASALTIC ROCK 250 9 VERY HARD ROCK PERMERBILITY ZONE (CLAYS, GRAVELS) 20ST CIRCUMATION 10					
TARD BASALTIC ROCK 250 9 VERY HARD ROCK PERMERBILITY ZONE (GLAYS, GRAVELS) 205T CIRCUMATION 101		215.75			
TARD BASALTIC ROCK 250 9 VERY HARD ROCK PERMERBILITY ZONE (CLAYS, GRAVELS) 20ST CIRCUMATION 10					
TARD BASALTIC ROCK 250 9 VERY HARD ROCK PERMERBILITY ZONE (CLAYS, GRAVELS) 20ST CIRCUMATION 101					
250 9 VERY HARD ROCK PERMERBILITY ZONE (CLAYS, GRAVELS) 281. 25 10 10					
928' 281.25 (CLAYS, GRAUELS) + 930' 70	J	8	HARD BASALTIC	ROCZ	//
928' 281.25 (CLAYS, GRAVELS) + 930' 70		5011	VERY HARD ROCA		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
4930' 281.25		7			
4930' 281.25					
4930' 281.25 100 ± 930' 100			11 1 PERMERBILIT	(CIRCUIATION)	
	928'	281.25			
	+ 930	70			10/
COARSE ROCK	, -				
COARSE ROCK					
	1-21	3/2.50	COARSE ROCK		,0/

DATE 12/11/80

											Form G-101 Adopted 10/1/7
NO OF CODIES PECE	-IV/ED		NFW	MEXICO OII	CONSERV	ATION COMM	NSSION				,-,
NO. OF COPIES RECE			1424			ta Fe 87501	11331014				
DISTRIBUTION File		1		1.0.00	2000, 3411	ta 1 e 6/501			*		
N.M.B.M.									5. Indicate	Type of Le	ase
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Operator						I TO DRILL, IAL RESOUF			5.a State Le		
Land-Office BLM			3111 200	J D NO N G L	-01111	AL NESCOT	·				
						,					
1a. Type of Work	Drill 🛚	X	De	eepen` 🗆		Plug Bac	k 🗀		7. Unit Agre	eement Nam	e
b. Type of Well	Geothern	mal Producer			Ter	np Observatio	on 🛚		8. Farm or I	Lease Name	
	Low-Tem	np Thermal			Inje	ction/Disposa	I 🗆		NMS		
2. Name of Operator		Mexico Sta . Swanber			nvestig	ator		•	9. Well No.	4	
3. Address of Operator				•					10. Field an	d Pool, or W	[/] ildcat
	Las_	Cruces, No	ew Mex	ico					Co1	umbus	
4. Location of Well	UNIT LET	TER J	_LOCATE	_{.D} _2043.2	27 Ft.	West and	188.35	Ft.			
South of the E								NMPM			
									12. County		
HHHHH	11////		11111	///////	<i>HHH</i>		11111		Luna	Him	
					111/133	Proposed Dep	oth 19	A. Formati alluvia		20. Rotary Rota	
21. Elevations (Show	whether DF,	, RT, etc.) 2	1A. Kind	& Status Plug.		B. Drilling Cor			22. Appro	x. Date Wor	_*
3997 MSL	Grin			n's Fund Bond No	L 6358	ar Jon Dr 015	Cruces	Co., La	.si 9/	29/80	
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SIZE OF HOLI	E	SIZE OF CA	SING	WEIGHT PER	R FOOT	SETTING D	DEPTH	SACKS O	CEMENT	ES.	Т. ТОР
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									016	DI.A.	÷
IN ABOVE SPACE DES			RAM: If	proposal is to	deepen or	plug back, give	data on pi	resent produ	ctive zone and	d proposed r	new productive
I hereby certify that the	information	n above is true	and comp	lete to the bes	st of my kr	nowledge and be	elief.				
Signed Lamy	Mu	direc	od	_{Title} Eng	ineer a	nd Land S	urveyo	r	Date Dec.	9,1980	
(This	space for Si	tate Use) '							-		

TITLE <u>SENIOR PETROLEUM GEOLOGIST</u>

APPROVED BY Carl Ulvog
CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE 87501

Form G-102 Adopted 10/1/74

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section. Well No. Lease Operator New Mexico State University DT-4 C.A. Swanberg, Principal Investigator Range County Township Section Unit Letter T29S Actual Footage Location of Well: 2043.27 Ft. West and 188.35 Ft. South of the East Quarter Corner of said Section 14 Dedicated Acreage: Pool Ground Level Elev. Producing Formation 3997 Acres 1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat 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 ownersip is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? If answer is "yes," type of consolidation_ ☐ Yes ☐ No 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 Commission. CERTIFICATION I hereby certify that the information NE_cor. 14 NW cor. 14 contained herein is true and complete to the best of my knowledge and belief. Name Position Company East Quarter Date 188.35' Corner 14 2043.27' I hereby certify that the well location West Quarter shown on this plat was plotted from field Corner 14 notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my UNDER knowledge and belief. Dec. 9,1980 Lann MM Registered Professional Engineer and/or Land Surveyor Larry O. Underwood P.E. and L.S. # 5983 Certificate No. 660 2000

1500

1000

500

1320 1650 1980 2310



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR LARRY KEHOE

October 23, 1980

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-2434

Prof. Chandler A. Swanberg New Mexico State University College of Arts & Science Dept. of Physics Box 3D Las Cruces, New Mexico 88001

Dear Professor Swanberg:

Attached please find certain forms that you have filed for geothermal wells in Luna County. These are returned because they cannot be processed as submitted.

No geothermal operator can commence drilling operations until he has an approved geothermal plugging bond on file with the Division and has had his G-101 approved by the Division.

In your submissions you have no lease name or well number. Further, your G-102 is not signed by a Professional Engineer or Land Surveyor. The deeper test does not have sufficient casing to protect any shallow ground water that may be present in the area. Sufficient copies were not submitted.

For your information I am also attaching a copy of our Geothermal Rules and Regulations.

I would suggest you contact Mr. Carl Ulvog of this office and meet with him to determine what can be done to straighten out this mess.

Yours very truly,

JOE D. RAMEY Director

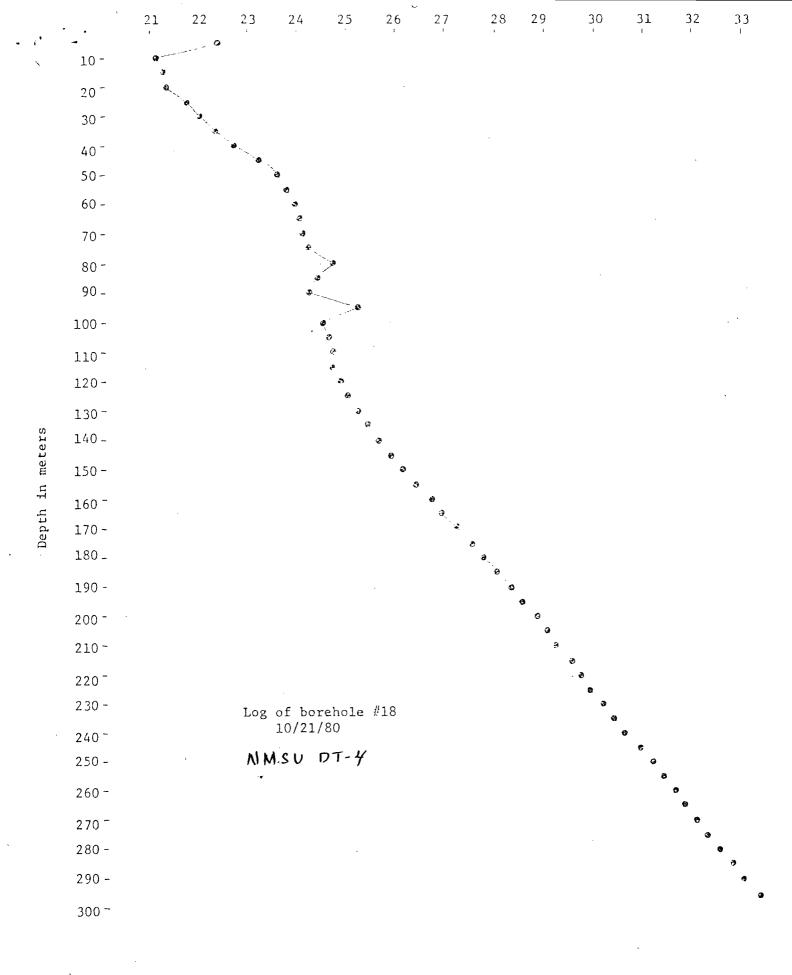
JDR/fd

cc: Carl Ulvog

	DEPIH IN	METERS	NMSU	1 dentification	Number	DT-4.		, , my w. min)	e the energy field and	a die eteri auranti janon
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**.										
			2	CLAY						
	62.50									
			-3-							
			4	HARD BAS						
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	3/2.	50		COARSE	ROCK					THE LONG.

NMSU DT-4
Test Hole #18, Columbus, N.M.
10/21/80

Depth	Temp.	Depth	Temp.
m			
. 5	22.40	150	26.18
10	21.13	155	26.44
15	21.27	. 160	26.72
20	21.32	165	26.99
25	21.78	170	27.25
30	22.02	175	27.53
35	22.35	180	27.78
40	22.76	185	28.06
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110	24.74	255	31.47
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130	25.26	275	32.32
135	25.49	280	32.58
140	25.70	285	32.85
145	25.93	290	33.09
		295	33.39
		296	33.40



NMSU DT-4

Test Hole No. 18

Columbus, New Mexico Logged 17 March, 1981

•			
Depth(m)	Temp. (°C)	Depth(m)	Temp. (°C)
5	19.79	155	26.45
10	20.32	160	26.73
15	20.37	165	
20	20.77	170	27.01 27.29
25	21.16	175	27.57
30	21.62	180	27.85
35	22.05	185	28.14
40	22.51	190	28.41
45	22.88	195	28.68
50	23.36	200	28.93
55	23.70	205	29.19
60	23.77	210	29.42
65	23.86	215	29.64
70	23.93	220	29.85
75 75	23.99	225	30.08
80	24.07	230	30.35
85	24.06	235	30.61
90 .	24.11	240	30.89
95	24.26	245	31.15
100	24.30	250	31.38
105	24.38	255	31.60
110	24.50	260	31.80
115	24.65	265	32.02
120	24.74	270	32.23
125	24.96	275	32.47
130	25.19	280	32.71
135	25.38	285	32.97
140	25.67	290	33.25
145	25.91	293	33.43
150	26.18		221.3
			_
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 $\frac{\Delta T}{\Delta z}$ = 50.5 ± 0.3 °C/km

 $T_o = 18.70 \pm 0.07$ °C

for 130 to 293 m 34 pts.

