# GTLT - \_\_\_\_9\_\_\_\_

# (10-27)-10N-1E Sunoco Energy Development Corporation (Bernalillo County)

## 10-76-8; 10-76-1; 10-76-2 & 10-76-9

	Form G-103
NO. OF COPIES RECEIVED NEW MEXICO OIL CONSERVATION COMMISSION	007 - 2 15. CAdopted 10/1/7
DISTRIBUTION P. O. Box 2088, Santa Fe 87501	
Fi.J I V	
N. M. B. M. I SUNDRY NOTICES AND REPORTS	
G. S I ON	5. Indicate Type of Lease
Operator I GEOTHERMAL RESOURCES WELLS	State Fee X
Land Office	5.a 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.)	
1. Type of well Geothermal Producer Temp. Observation	7. Unit Agreement Name
Low-Temp Thermal	NONE
2. Name of Operator	8. Farm or Lease Name
SUNOCO ENERGY DEVELOPMENT CORPORATION	Atrisco Grant 9. Well No.
12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 75251	8
4. Location of Well	10. Field and Pool, or Wildcat
Unit LetterB	
EAST 10 10N. 1E. The Line, Section Township Range NMPM.	
11111111111111111111111111111111111111	12. County
//////////////////////////////////////	Bernalillo
<sup>16.</sup> Check Appropriate Box To Indicate Nature of Notice, Report or Other Da	
	NT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK	
TEMPORARILY ABANDON	PLUG & ABANDONMENT
PULL OR ALTER CASING CHANGE PLANS	<u></u>
OTHER	
OTHER []	
proposed work) SEE RULE 203. This hole location was dropped from our drilling program :	and will not
be drilled in the near future.	
	-
hereby certify that the information above is true and complete to the best of my knowledge and belief.	
PROJECT SUPERVISOR	
SIGNED _ CONTROL AND TITLE GEOTHERMAL SERVICES, INC.	<u>9-10-78</u>
/	
APPROVED BY Carl Ulion TITLE SENIOR PETROLEUM GEOLOGIST	DATE 10-3-78

CONDITIONS OF APPROVAL, IF ANY:

	Form G-103
NO. OF COPIES RECEIVED 2 NEW MEXICO OIL CONSERVATION COMMISSION	PR 22 107
DISTRIBUTION P. O. Box 2088, Santa Fe 87501	
File IV	CENTED FORMA
N. M. B. M. SUNDRY NOTICES AND REPORTS	
ON	Se "Indicaté Type of Lease
Operator GEOTHERMAL RESOURCES WELLS	State D Fee X
Land Office	5.a 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	
1. Type of well Geothermal Producer Temp. Observation	7. Unit Agreement Name
Low-Temp Thermal Injection/Disposal	8. Farm or Lease Name Troum
2. Name of Operator	TOWN
	<u>of Atrisco Grant</u>
3. Address of Operator	9. Well No.
12700 Park Central Place., Suite 1500, Dallas, TX 75251	10-76-8
4. Location of Well	10. Field and Pool, or Wildcat
Unit LetterBFeet From The <u>North</u> Line and <u></u> Feet From	none
The <u>East</u> Line, Section <u>10</u> Township <u>10N</u> Range <u>1E</u> NMPM.	
()))))))))))))))))))))))))))))))))))))	12. County
5830 ft. (GL)	Bernalillo
	Bernalillo
16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Dat	Bernalillo
16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Dat	Bernalillo
16.       5830 ft. (GL)         NOTICE OF INTENTION TO:       SUBSEQUENT	Bernalillo a NT REPORT OF: ALTERING CASING
16.       5830 ft. (GL)         NOTICE OF INTENTION TO:       SUBSEQUEN         PERFORM REMEDIAL WORK       PLUG AND ABANDON       REMEDIAL WORK	Bernalillo a NT REPORT OF: ALTERING CASING
16.       5830 ft. (GL)         NOTICE OF INTENTION TO:       SUBSEQUEN         PERFORM REMEDIAL WORK       PLUG AND ABANDON       REMEDIAL WORK         TEMPORARILY ABANDON       One of the second content of the second c	Bernalillo a NT REPORT OF:

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinenet dates, including estimated date of starting any proposed work) SEE RULE 203.

The drilling of Temperature Observation Well has been postponed until Mid-1977. Anticipated start-up date will be August 1, 1977. We will notify your office approximately two weeks prior to equipment move-in; until then this project is on inactive status.

APPROVAL VALID 180 DAYS UNLESS DRILLING COMMENCED EXPIRES 10/19,

I hereby certify that the information obcre is true an SIGNED	d complete to the best of my knowledge and belief.	DATE 4/20/77
APPROVED BY Carl Ulwog	Geothermal Services,	Inc. DATE 4/22/77
CONDITIONS OF APPROVAL, IF ANY:	and the second se	

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				N 4 5 1		Form G-101 Adopted 10/1/
NO. OF COPIES RECEIVED		W MEXICO OIL CONSERV		•	e 1 1	. ,-,
DISTRIBUTION			nta Fe 87501 7 0			
File (	V		(		ý	
B.M. (	· ·		Q11_CO11_T	CT COLA	5. Indicate	Type of Lease
U.S.G.S. 1		ICATION FOR PERMI	T TO DRILL, DEEPEN	I)	STATE	FEE X
Operator /	OR PLI	JG BACKGEOTHERN	AAL RESOURCES WE	LL	5.a State Le	ase No.
Land Office	· ·				<u></u>	
1a. Type of Work Drill		Deepen 🗌	Plug Back		7. Unit Agre	ement Name
		· · .				none
b. Type of Well Geothern	mal Producer 🔲		np Observation 🗶		8. Farm or I	Lease Name Town
Low-Tem	np Thermal 🗌	. Inje	ction/Disposal			isco Grant
2. Name of Operator				1	9. Well No.	· · · · · · · · · · · · · · · · · · ·
· SUNOCO ENERGY I	DEVELOPMENT	CORPORATION				-76-8
3. Address of Operator		24- 4500 Del		4-		d Pool, or Wildcat
4. Location of Well				1	<u>1</u> ///////	none
UNIT LETT	FERLOCAT	TED <u>300</u> FEET FR	ом тне <u>NORTH</u>	LINE	HHHH	
AND 1800 FEET FROM	THE ${f East}$ line of	SEC. 10 TWP. 101	N. RGE. 1E.	NMPM	HHHH	
					12. County	
					Bernali	110
		,/////////////////////////////////////		9A. Formațio		20. Rotary or C.T.
21. Elevations (Show whether DF,			<u>500 ft</u>	unkno		rotary
-5830 ft (GL)			B. Drilling Contractor	rvices	Oct.	x. Date Work will start 1, 1976
		PROPOSED CASING AND	CEMENT PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH		05145117	
5-1/8"	3/4"	1.14#	500'	SACKS OF	CEIVIENT	EST. TOP 6" BGL
	Program- Se	ee attached "S	Standard Shal	low Tem	peratur	re Gradient
<b>*</b>		ole Drilling F			•	
	** - Se	ection lines p	projected			
		ype of bond wi	0	) Multi	nto Vol	LI Low
		emperature Wel				
	Be	ond". Bond is	s in the proc	ess of	being f	filed; a
•	bo	ond number wil	l be furnishe	ed as s	oon as	available
	. De	efore operatio	ons commence.			
Quad HI						
ad						
au						
			•			
IN ABOVE SPACE DESCRIDE PRO		f proposal is to doopon as	ntun hantu sius datu as u			
IN ABOVE SPACE DESCRIBE PRO zone. Give blowout preventer progra	.m, if any	i bioposi is to deepen or	prog back, give data on p	esent product	ive zone and	proposed new productive
I hereby certify that the information	abory is true and com	plete to the best of my kn				
A LAT	VILIT	mu Chiof Carl	Geother	rmal	~ ·	4 4050
Signea	an-~~u	_Title Chief Geol	ugist.Service	es, inc Da	ite_Sept	<u>1, 1976</u>
	7		0 ,		<b>•</b>	
(This space for Sta	ate Use)					
•	,	SENIOR PETI	·		<u> </u>	
•	llvog		ROLEUM GEOLOGIST		<u> </u>	27/76

APPROVED BY	Carl	an
CONDITIONS OF	APPROVAL,	IF ANY:

DATE 9/27/76

NEW	MEXICO		CON	SÊRVA	TION	сомм	ISSION
	PO	POY	2088	SÀNTA	FF	87501	

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Form G-102

Adopted 10/1/7

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### NEW MEXICO OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE 87501 GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PUAT

	All dist	ances must be from the ou			
Operator Sunoco Ene	rgy Developmen	t Corp.		trisco Grant	Well No. 10-76-8
Letter Secti B	on Township 10	10N.	e 1E.	County Bernal	
Actual Footage Location of 300 fe	et from the North	line and	1,800 <sub>fe</sub>	et from the East	line
Ground Level Elev. 5,830 ft.	Producing Formation None	Pool	None		Dedicated Acreage: None Acres
	one lease is dedicated		-		below. (both as to working interes
communitizat	ion, unitization, force-p	-		ve the interests of all o	owners been consolidated by
If answer is "no, necessary.)	" list the owners and t	ract descriptions which	have actually		e reverse side of this form i
					ommunitization, unitization d by the Commission.
21		• NW1/4, NE1/4	1 1 1 1	contained	CERTIFICATION certify that the information herein is true and complete to may knowledge and belief.
			 	Name Steve Position	Quiett
	\$         		         	Chief Company Geothe Date	Geologist ermal Services, I aber 1, 1976
				shown on notes of a under my	certify that the well location this plat was plotted from field ctual surveys made by me or supervision, and that the same d correct to the best of my and belief.
	+			Date Surveyed Registered Pro and/or Land S	fessional Engineer
раниции и протиски протика По 330 пьи 90 13	1 	40 2000 1500	1000 500		· · · · · · · · · · · · · · · · · · ·



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GEOTHERMAL SERVICES, INC.

7860 CONVOY COURT, SAN DIEGO, CALIFORNIA 92111 • (714) 565-4712

÷.

STANDARD SHALLOW TEMPERATURE GRADIENT HOLE DRILLING PROGRAM (500'/150m; Rubber Tired Equipment; Rotary/Mud)

- 1. Coordinate "Special Stipulations" or other unusual requirements with the Project Geologist prior to set-up and spud.
- 2. Choose location and orientation of drilling rig so as to minimize surface disturbance.
- 3. Drill 4" to 6" hole to maximum depth of 500'/150m. Take cuttings samples, cores, etc. at direction of Project Geologist.
  - If drilling with mud, use regular Bentonite drilling mud. No toxic additives are to be used in drilling fluids without permission of Project Geologist. Have supply of lost circulation material available. Use portable mud pits unless specifically directed otherwise.
  - Have a supply of Barite available in case of artesian flow. If artesian flow is encountered, comply with United States Geological Survey's Stipulations.
- 6. Mud return temperature shall be measured and recorded on "Drilling History" every 10%/3m.
  - a. If temperature reaches 120°F/50°C, <u>STOP DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, run pipe at this depth after logging is completed.
  - b. If there is a sudden increase in temperature of the drilling mud (several degrees in only a few feet) <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling <u>CAUTIOUSLY</u>, keeping a careful watch on return temperature of drilling fluid. In no case shall drilling continue after mud return temperature reaches 120°F/50°C.

- 7. Run pipe immediately after running electric logs or reaching T.D. (if hole is not logged).
  - a. Install cap on bottom of first length of pipe. (If using steel pipe, seal each joint with teflon tape to ensure watertight).
  - b. Steel pipe must be used when air temperature is 40°F or below, as PVC cement will not adhere.
  - c. Steel pipe must be used if drilling fluid temperature exceeds 100°F/40°C.
  - d. When pipe is landed, top must be 6" to 12"/ 15cm to 30cm below ground level. (Cut and thread as necessary).
  - e. Fill pipe with <u>CLEAN</u> <u>WATER</u> (water that is oily or contains solvents such as gasoline <u>MUST</u> <u>NOT</u> be used) and install cap. Do not seal.
  - f. Set paper, rag or dirt bridge down open annulus at least 10'/3m below ground level. Fill annulus with cement up to base of cap on pipe.
- 8. Clean up location THOROUGHLY.
- 9. Any excavated pits or sumps must be backfilled to conform to the original topography.
- 10. When temperature surveys are completed, fill pipe with cement from 10'/3m to top of pipe, fill excavation to original ground topography and restore location as nearly as possible to original condition.

GEOTHERMAL SERVICES, INC. San Diego, California December, 1975 2

				5 3	Form G-103
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NO. OF COPIES RECEIVED	<u> </u>	/	NEW MEXICO OIL CONSERVATION COMMISSION	1	0.07 0 4070
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File	-1			••	
N. M. B. M.	1	<u> </u>	SUNDRY NOTICES AND REPORTS	Ľ.	
G. S	1		ON .	• ••••	5. Indicate Type of Lease
Operator			GEOTHERMAL RESOURCES WELLS		Statescelle Fee X
Land Office					5.a State Lease No.
Do Not Use This Form for P For Permit —" (Form G-101) 1. Type of well Geothe Low-T 2. Name of Operator	) for : ermai	Such F Produ	Jcer Temp. Observation	lication	7. Unit Agreement Name NONE 8. Farm or Lease Name
	orv	DEV	ELORMENT CORDORATION		Atrisco Grant
3. Address of Operator	ζLι Υ	DEV	ELOPMENT CORPORATION		9. Well No.
·	`E NIT	ΓDΛI			1
4. Location of Well			PLACE, SUITE 1500, DALLAS, TX 75251		10. Field and Pool, or Wildcat
		30(	NORTH 2000		NONE
Unit LetterC			DFeet From The <u>NORTH</u> Line and <u>2000</u> Fee	et From	
The WEST	ie. Se	ection	13 Township 10N. Range 1E.	NMPM.	((((((((((((((((((((((((((((((((((((
			· · · · · · · · · · · · · · · · · · ·		
	111	<u>111</u>	15. Elevation (Show whether DF, RT, GR, etc.)		12. County
	///	7///	5800' (G.L.)		Bernalillo
16.	نححد	Checl	Appropriate Box To Indicate Nature of Notice, Report or (	Other Do	
	_	-		JBSEQUE	NT REPORT OF: .
PERFORM REMEDIAL WOR	ικ Γ	_	PLUG AND ABANDON		
TEMPORARILY ABANDON	Ĺ		COMMENCE DRILLING C	OPNS.	PLUG & ABANDONMENT
PULL OR ALTER CASING	Ļ		CHANGE PLANS	ENT JOB	
			OTHER		L
OTHER					
17. Describe Proposed or co	mple	ted O	perations (Clearly state all pertinent details, and give pertinenet de	ates, inch	uding estimated date of starting any
proposed work) SEE RU	LE 20	03.			
Thi	s h	ole	location was dropped from our drilling pro	ogram	and will not
be	dri	llec	in the near future.		
					·
ت					
19 I haraby certify that the	infor	mation	above is true and complete to the best of my knowledge and belief.		
intereby certify that the					
	~ · /	//	PROJECT SUPERVISOR		9-10-78
SIGNED /	ĽL	12	THE GEOTHERMAL SERVICES,	INC.	DATE
Ua	1	1)		••	
APPROVED BY	rl	- U	Llvog TITLE SENIOR PETROLEUM GEOLOGIST		10-3-78
CONDITIONS OF APPROVA			U .		
CONDITIONS OF APPROVA	L, 18	ANY	•		

			Form G-103
			/ Adopted 10/1/74
NO. OF COPIES RECEIVED	2 NEW MEXICO OIL CONS	SERVATION COMMISSION	,
DISTRIBUTION	P. O. Box 2088,	Santa Fe 87501	1. PR 22 10/ 1
File /	V		
N	SUNDRY NOTICE	S AND REPORTS	
U. G. S	0		5. Indicate Type of Lease"
Operator	GEOTHERMAL RE		State Fee X
Land Office			5.a State Lease No.
Do Not Use This Form for Proposa Far Permit —" (Form G-101) for S	uls to Drill or to Deepen or Plug Back to a uch Proposals.)	Different Reservoir. Use "Application	
J. Type of well Geothermal	Producer Temp. Observation	X	7. Unit Agreement Name
- Low-Temp 7	hermal 🔲 Injection/Disposal		none
2. Name of Operator			8. Farm or Lease Name TOWN
SUNOCO ENERGY DE	EVELOPMENT CORPORATION		of Atrisco Grant
3. Address of Operator			9. Well No.
12700 Park Centi	ral Place., Suite 1500	, Dallas, TX 75251	10-76-1
4. Location of Well	· · · · · · · · · · · · · · · · · · ·		10. Field and Pool, or Wildcat
Unit LetterC	300 Feet From The North	Line and 2,000 Feet From	none
		·	$\mathcal{L}(\mathcal{L}(\mathcal{L})) = \mathcal{L}(\mathcal{L}) = \mathcal{L}(\mathcal{L})$
The West Line, Sec	tion <u>13</u> Township <u>101</u>	NRange <b>LE</b> NMPM.	
	·		
HIIIIIIIIIIIIIIIIIII	15. Elevation (Show wheth	er DF, RT, GR, etc.)	12. County
	5,800 ft. (	·	Bernalillo
16. C	heck Appropriate Box To Indicate Na	ature of Notice, Report or Other Da	ita
NOTICE OF/II	NTENTION TO:	SUBSEQUE	NT REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	ALTERING CASING
TEMPORARILY ABANDON	]	COMMENCE DRILLING OPNS.	PLUG & ABANDONMENT
PULL OR ALTER CASING	CHANGE PLANS	CASING TEST AND CEMENT JOB	
· · ·	· · · ·		·
<b>·</b>		OTHER	······
OTHER			-w/

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinenet dates, including estimated date of starting any proposed work) SEE RULE 203.

The drilling of Temperature Observation Well has been postponed until Mid-1977. Anticipated start-up date will be August 1, 1977. We will notify your office approximately two weeks prior to equipment move-in; until then this project is on inactive status.

> APPROVAL VALID 180 DAYS UNLESS DRILLING COMMENCED

EXPIRES 10/19 / 1.7 .....

I thereby certify that the information above is true and correct		
SIGNED_ACH	Chief_Geologist, Geothermal_Services	
APPROVED BY Carl Ulway	TITLE SENIOR PETROLEUM GEOLOGIST	DATE 4/22/77
CONDITIONS OF APPROVAL, IF ANY:		

é. 3			•		,	Form G-101 Adopted 10/1/74
NO. OF COPIES RECEIVED	4 NEW	MEXICO OIL CONSERV	ATION COMMISSION			
DISTRIBUTION	7	P. O. Box 2088, San				
File 1					r	
N. M. i						Type of Lease
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Operator j		G BACKGEOTHERN	IAL RESOURCES WE	LL	J.a State Le	
Land Office					mim	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
			N			
1a. Type of Work Drill	Х [	Deepen 🗌	Plug Back 🔲		7. Unit Agre	ement Name
Carthan	mal Dradunar 🗔	Tor	np Observation 🗴		nor	
	mal Producer 🔲 np Thermal 🛛		ction/Disposal			Lease Name Town
		······		<u> </u>	9. Well No.	isco Grant
2. Name of Operator SUNOCO ENERGY D	EVELOPMENT CC	RPORATION			10-76-	-1
3. Address of Operator						d Pool, or Wildcat
12700 Park Cent	<u>ral Pl., Suit</u>	e 1500, Dalla	as, TX 75251		nor	<u>1e</u>
4. Location of Well** UNIT LET	TERLOCAT	ED 300 FEET FR	OM THE NORTH	LINE		
AND 2000 FEET FROM		17 - 10	1 1 <b>D</b>			
AND 2000 FEET FROM		sec. 13 тwр. 10М	• RGE. 1E.		12. County	****
					Bernali	110
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		//////////////////////////////////////		9A. Formati		20. Rotary or C.T.
21. Elevations (Show whether DF	ERT etc. 214 Kind	& Status Plug. Bond 21	500 ft	unknow	- T	x. Date Work will start
5800 ft (GL)			eothermal Se	rvices		
	Ρ	ROPOSED CASING AND	CEMENT PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF	CEMENT	EST. TOP
5-1/8"	3/4"	1.14#	500'	1.5	5 .	6" BGL
		· ·	l			
OIL CONSTRU	ATICIN COMM Bond bond bond befo	ion lines pro of bond will erature Well ". Bond is i number will re operations	e Drilling P ojected be "\$10,000 or Geotherma n the proces be furnished commence.	rogram <sup>†</sup> Multip 1 Obser s of be as soc	le-Well vation ing fil on as av	Low- Well Led; a vailable
	r gouve is true and comp		Geother		·	:
igned MAR	mey	Title Chief Geol	ogist,Servic	es, Inc,	Date _Sept	. 1, 1976
(This space for S	tate Usej					<u></u>
APPROVED BY Carl (	llvog	SENIOR PE	TROLEUM GEOLOGIST	-	9/	27/76
CONDITIONS OF APPROVAL, IF	ANY:			L	////·	
						-

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

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#### GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>rator</sup> Sunoco Ener	gy Developmer		Town of	Atrisco (	Grant Well No. 10-76-1
Letter Sect	ion Townsh 13	10N.	Range 11	County	Bernalillo
ual Footage Location	Nort		ad 2,000	feet from	the West line
und Level Elev.	Producing Formation	inte an	Pool	one	Dedicated Acreage:
,800 ft.	None None			····	rks on the plat below.
					. •
2. If more than and royalty).	one lease is dedicate	d to the well, ou	tline each and	identify the ov	wnership thereof (both as to working i
	· · · · · · · · · · · · · · · · · · ·		lipstod to the	tent the	interests of all owners been consolida
	ion, unitization, force			V SFP - 8	19:00 2:03
🗆 Yes 🔲	No If answer is	"yes," type of co	nsolidation	1. CONS	ION CONM.
			0 <sup>1</sup> s which have	L CONS	<sup>1-C</sup> onsolidated. (Use reverse side of this f
necessary.)					
					solidated (by communitization, unitized by the Commission
torced-pooling, o	otherwise) or until a	, non-standard uni	t, enminating s	uch interests, h	as been approved by the Commission.
	J				CERTIFICATION
	NEYU	NWY4	1	·	I hereby certify that the inform
			1		contained herein is true and complete the best of my knowledge and believe
	1		. 1 .		Tothe Design of the second sec
	1	-	1	,	Name
	+				Steve Quiett
	ł		1		Position Chief Geologist
	1 1		1		Geothermal Services
	1		1		Date September 1, 1976
·	· 		<u> </u>		
	1				I hereby certify that the well loc
	1				shown on this plat was plotted from notes of actual surveys made by n
	1				notes of actual surveys made by m
	1		•	• .	under my supervision, and that the
	1			· ,	under my supervision, and that the is true and correct to the best o knowledge and belief.
	1 1 1 1 1 +	· ·			• is true and correct to the best o
	1 1 1 1 +				is true and correct to the best o knowledge and belief.
	1 1 1 1 1 1 1 1				• is true and correct to the best o
	1 1 1 1 1 1 1 1 1 1				is true and correct to the best o knowledge and belief.
					is true and correct to the best o knowledge and belief. Date Surveyed Registered Professional Engineer

Form G-102 Adopted 10/1/7

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GEOTHERMAL SERVICES, INC.

7860 CONVOY COURT, SAN DIEGO, CALIFORNIA 92111 • (714) 565-4712

STANDARD SHALLOW TEMPERATURE GRADIENT HOLE DRILLING PROGRAM (500'/150m; Rubber Tired Equipment; Rotary/Mud)

- 1. Coordinate "Special Stipulations" or other unusual requirements with the Project Geologist prior to set-up and spud.
- 2. Choose location and orientation of drilling rig so as to minimize surface disturbance.
- 3. Drill 4" to 6" hole to maximum depth of 500'/150m. Take cuttings samples, cores, etc. at direction of Project Geologist.
- 4. If drilling with mud, use regular Bentonite drilling mud. No toxic additives are to be used in drilling fluids without permission of Project Geologist. Have supply of lost circulation material available. Use portable mud pits unless specifically directed otherwise.
- 5. Have a supply of Barite available in case of artesian flow. If artesian flow is encountered, comply with United States Geological Survey's Stipulations.
- 6. Mud return temperature shall be measured and recorded on "Drilling History" every 10'/3m.
  - a. If temperature reaches 120°F/50°C, <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, run pipe at this depth after logging is completed.
  - b. If there is a sudden increase in temperature of the drilling mud (several degrees in only a few feet) <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling <u>CAUTIOUSLY</u>, keeping a careful watch on return temperature of drilling fluid. In no case shall drilling continue after mud return temperature reaches 120°F/50°C.

- 7. Run pipe immediately after running electric logs or reaching T.D. (if hole is not logged).
  - a. Install cap on bottom of first length of pipe. (If using steel pipe, seal each joint with teflon tape to ensure watertight).
  - b. Steel pipe must be used when air temperature is 40°F or below, as PVC cement will not adhere.
  - c. Steel pipe must be used if drilling fluid temperature exceeds 100°F/40°C.
  - d. When pipe is landed, top must be 6" to 12"/ 15cm to 30cm below ground level. (Cut and thread as necessary).
  - e. Fill pipe with <u>CLEAN</u> <u>WATER</u> (water that is oily or contains solvents such as gasoline <u>MUST</u> <u>NOT</u> be used) and install cap. Do not seal.
  - f. Set paper, rag or dirt bridge down open annulus at least 10'/3m below ground level. Fill annulus with cement up to base of cap on pipe.
- 8. Clean up location THOROUGHLY.
- 9. Any excavated pits or sumps must be backfilled to conform to the original topography.
- 10. When temperature surveys are completed, fill pipe with cement from 10'/3m to top of pipe, fill excavation to original ground topography and restore location as nearly as possible to original condition.

GEOTHERMAL SERVICES, INC. San Diego, California December, 1975

the state of the s	
	Form G-103
	Adopted 10/1/74
NO. OF COPIES RECEIVED NEW MEXICO OIL CONSERVATION COMMISSION	· · ·
DISTRIBUTION P. O. Box 2088, Santa Fe 87501	
	OT ONCE
	JCT - 2 15.0
ON	5. Indicate Type of Lease State Fee X
Operator I GEOTHERMAL RESOURCES WELLS	State State Lease No.
Land Office	5.a 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.)	
	7. Unit Agreement Name
	NONE
Low-Temp Thermal         Injection/Disposal           2. Name of Operator	8. Farm or Lease Name
	Atrisco Grant
SUNOCO ENERGY DEVELOPMENT CORPORATION 3. Address of Operator	9. Well No.
12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 75251	2
4. Location of Well	10. Field and Pool, or Wildcat
Unit LetterFFeet From TheNORTHLine and2300Feet From	NONE
WESTLine, SectionTownshipRangeNMPM.	
15. Elevation (Show whether DF, RT, GR, etc.)	12. County
5810' (G.L.)	Bernalillo
16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Da	
	NT REPORT OF:
PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK	
TEMPORARILY ABANDON	PLUG & ABANDONMENT
PULL OR ALTER CASING CHANGE PLANS	
	_
OTHER	
OTHER	
17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinenet dates, inclu	in antimated date of starting any
proposed work) SEE RULE 203.	Iding estimated date of starting - of
This hole location was dropped from our drilling program	and will not
be drilled in the near future.	
、	
	· · ·
I hereby certify that the information above is true and complete to the best of my knowledge and belief.	
PROJECT SUPERVISOR	
SIGNED ATTM AND TITLE GEOTHERMAL SERVICES, INC.	DATE78
Signed	DATE
APPROVED BY Carl Wlog TITLE SENIOR PETROLEUM GEOLOGIST	DATE 10-3-78
CONDITIONS OF APPROVAL, IF ANY:	
CONDITIONS OF AFFROVAL, IF ANY:	

						·				Form G-101 Adopted 10/1/74
NO, OF COPIES REC	EIVED	4	1	NEW	MEXICO OIL CONSE	RVATION COMMISS	SION			
DISTRIBUTION		····			P. O. Box 2088, 5	anta Fe 87501				
File	· · · · · · · · · · · · · · · · · · ·	1	V		•					,
N 📣 M.		1						5	. Indicate	Type of Lease
U.S		1		APPL	CATION FOR PERM	IT TO DRILL DE	EEPEN	-	БТАТЕ 🗌	FEE 🗙
Operator		1			G BACKGEOTHEI				.a State Le	ase No.
Land Office					·					·····
						<u>\</u>				
1a. Type of Work	Drill	X	]	C	Deepen 🗆	Plug Back		-	7. Unit Agre	ement Name
	<b>C</b> 4				т	emp Observation	X			none
b. Type of Well	-		hal Produce			•				Lease Name Town
	Low-	lem	p Thermal			jection/Disposal				isco Grant
2. Name of Operator	-							9	. Well No.	
SUNOCO E	NERGY	<u> </u>	EVELOP	MENT C	CORPORATION					76-2
3. Address of Operato										t Pool, or Wildcat <b>10NE</b>
<u>12700 Pa</u>	<u>rk Ce</u>	ent	ral PI	., Sui	te 1500, Da	Ilas, TX 7	2525	1		
4. Location of Well *	UNIT L	ЕТ Т	ERF	LOCAT	ED 1600 FEET F	ROM THE NORTH	l	LINE		
and 2300 , F	EET FRC	ом т	HE WEST	LINE OF	SEC. 15 TWP. 1	ON. RGE. 1	LE.	NMPM	ШU	
	/////	()					////		2. County	
	ШU	$\overline{77}$	IIIII	ΙΠΠ			7777	//////I	Bernal	illo///////////////////////////////////
	/////	$\mathcal{U}$				19. Proposed Depth	19	9A. Formation		20. Rotary or C.T.
	]]]]]	$\Pi$		7/////		500 ft		unknov	vn	rotary
21. Elevations (Show 5810			RT, etc.)	21A. Kind See r	& Status Plug. Bond <b>ote</b> "A"	21B. Drilling Contra Geothermal	stor Se	rvices	22. Approx Oct.	c. Date Work will start <b>1</b> , 1976
				Ρ	ROPOSED CASING AN	ID CEMENT PROGR	АМ			
SIZE OF HOL	.E		SIZE OF C	ASING	WEIGHT PER FOOT	SETTING DEP	тн	SACKS OF (	CEMENT	EST. TOP
5-1/8"			3/4	11	1.14#	500'		1.5		6" BGL
			r							
······································								1		

Program- See attached "Standard Shallow Temperature Gradient Hole Drilling Program".

\*\* - Section lines projected

A- Type of bond will be "\$10,000 Multiple-Well Low-Temparatur Well or Geothermal Observation Well Bond". Bond is in the process of being filed; a bond number will be furnished as soon as available before operations commence.

N ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. Give blowout preventer program, if any.

hereby certify that the information bove is tr	ue and complete to the best of my knowledge and belief.	
I Atter inter	// Geothermal	
gned Alto Yull	Title Chief Geologist, Services, Inc. Date Sept. 1, 19	976
(This space for State Use)		

APPROVED BY	Carl	Ulvog	
ONDITIONS OF	APPROVAL.		

Noté

SENIOR PETROLEUM GEOLOGIST

DATE 9/27/76

	GEOTHERI	MAL RESOUR		X 2088 SAN			DICATION	PLAT	Adopted 10/
	•	All distance	es must be t		er boundarie	es of the Section	n	Well N	
Sunoco	Energy Deve	elopment	Corp.	Lease To	own of	Atrisco	Grant		)-76-2
F F	Section 15	Township	10N.	Range	1E.	County	Bernali	110	<u> </u>
al Footage Loca 1,600	ation of Well: feet from the	North	line	and 2	,300	feet from the	West	line	
5,810 ft	Producing Fo NOT	ormation 1e		Pool	None			Dedicated Act None	
<ol> <li>If more and roya</li> <li>If more commun</li> <li>Yes</li> </ol>	than one lease o hitization, unitizat	dedicated to f different own ion, force-pooli answer is "yes,"	the well, on the sip is d ng, etc? type of c	outline each edicated to consolidatio	the well,	have 8 19.	Prship thereo erests of all COV	f (both as to owners beer	consolidated b
	ne will be assig ng, or otherwise)						I hereby contained the best of Name	CERTIFICA CERTIFICA certify that therein is true of my knowled	TION the information and complete to
	   SE 1/4, 	• · Nw 14	× .	               	-		Position Chief Company Geothe Date	Quiett Geologi ermal Se nber 1,	ervices, l
							shown on notes of under my is true ar	this plat was actual surveys supervision, a	the well location olotted from field made by me or and that the same the best of my
	   			I					
	                 					·	Date Surveye Registered Pr and/or Land	ofessional Eng	ineer

-



GEOTHERMAL SERVICES, INC.

7860 CONVOY COURT, SAN DIEGO, CALIFORNIA 92111 . (714) 565-4712

STANDARD SHALLOW TEMPERATURE GRADIENT HOLE DRILLING PROGRAM (500'/150m; Rubber Tired Equipment; Rotary/Mud)

- 1. Coordinate "Special Stipulations" or other unusual requirements with the Project Geologist prior to set-up and spud.
- 2. Choose location and orientation of drilling rig so as to minimize surface disturbance.
- 3. Drill 4" to 6" hole to maximum depth of 500'/150m. Take cuttings samples, cores, etc. at direction of Project Geologist.
- 4. If drilling with mud, use regular Bentonite drilling mud. No toxic additives are to be used in drilling fluids without permission of Project Geologist. Have supply of lost circulation material available. Use portable mud pits unless specifically directed otherwise.
- 5. Have a supply of Barite available in case of artesian flow. If artesian flow is encountered, comply with United States Geological Survey's Stipulations.
- 6. Mud return temperature shall be measured and recorded on "Drilling History" every 10'/3m.
  - a. If temperature reaches 120°F/50°C, <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, run pipe at this depth after logging is completed.
  - b. If there is a sudden increase in temperature of the drilling mud (several degrees in only a few feet) <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling <u>CAUTIOUSLY</u>, keeping a careful watch on return temperature of drilling fluid. In no case shall drilling continue after mud return temperature reaches 120°F/50°C.

- 7. Run pipe immediately after running electric logs or reaching T.D. (if hole is not logged).
  - a. Install cap on bottom of first length of pipe. (If using steel pipe, seal each joint with teflon tape to ensure watertight).
  - b. Steel pipe must be used when air temperature is 40°F or below, as PVC cement will not adhere.
  - c. Steel pipe must be used if drilling fluid temperature exceeds 100°F/40°C.
  - d. When pipe is landed, top must be 6" to 12"/ 15cm to 30cm below ground level. (Cut and thread as necessary).
  - e. Fill pipe with <u>CLEAN</u> <u>WATER</u> (water that is oily or contains solvents such as gasoline <u>MUST</u> <u>NOT</u> be used) and install cap. Do not seal.
  - f. Set paper, rag or dirt bridge down open annulus at least 10'/3m below ground level. Fill annulus with cement up to base of cap on pipe.
- 8. Clean up location THOROUGHLY.
- 9. Any excavated pits or sumps must be backfilled to conform to the original topography.
- 10. When temperature surveys are completed, fill pipe with cement from 10'/3m to top of pipe, fill excavation to original ground topography and restore location as nearly as possible to original condition.

GEOTHERMAL SERVICES, INC. San Diego, California December, 1975

				<i>د</i> آر			Form G-103
		<b></b>	NEW MENICO O	·· · · · · · · · · · · · · · · · · · ·	RVATION COMMISSION		Adopted 10/1/7
NO. OF COPIES RECEIVED	, 2		. –				
DISTRIBUTION	<u>   </u>	$ \rightarrow $	P. U. Br	JX 2088, 5ª	anta Fe 87501	•	
File	$\downarrow \downarrow \downarrow$	$\checkmark$					3
M. B. M.			SUNDRY 1	JOTICES	AND REPORTS		
S. G. S				ON			5. Indicate Type of Lease
Operator	1		GEOTHERN	AL RESC	OURCES WELLS		State Fee X
Land Office						I	5.a State Lease No.
Do Nat Use This Form for P For Permit —" (Form G-101)	roposalı ) for Su	s to Drill or to Jch Proposals.)	Deepen or Plug B		ifferent Reservoir. Use "Applic	ication	
1. Type of well Geothe	ermal P	Producer	Temp. Obser	vation D	X	1	7. Unit Agreement Name
- Low-T	femp Th	iermal	Injection/Dis	posal [		·······	none
2. Name of Operator						, ,	8. Farm or Lease Name TOWN
SUNOCO ENERGY	Y DE	VELOPMEN	T CORPORA	ATION	·	·	of Atrisco Grant
3. Address of Operator					, <u> </u>		9. Well No.
12700 Park Co	entr	al Place	Suite	1500,	Dallas, TX 7525	51 _	10-76-2
4. Location of Well				·			10. Field and Pool, or Wildcat
Unit Letter F		1600_ <b>F</b>	eet From The	Jorth_	Line andFeet	et From	none
				1.14.4			<u> AIIIIIIIIIIIIIIIIIIIII</u>
The <b>West</b> Lin	ne, Secti				Range <u>IE</u>	_NMPM.	
	1111.	111111115	Elevation (Sho	w whether ]	DF, RT, GR, etc.)	1	12. County
	IIII,	<u>IIIIII</u>			)		Bernalillo
16.	Ch	eck Appropri	ate Box To Ind	icate Natu	are of Notice, Report or O	ther Dat	la
NOTICE	OF IN	ITENTION TO:			SUF	BSEQUEN	NT REPORT OF:
PERFORM REMEDIAL WOR	ак 🗋	PLUG A	ND ABANDON		REMEDIAL WORK		ALTERING CASING
TEMPORARILY ABANDON				• •	COMMENCE DRILLING OF	PNS.	PLUG & ABANDONMENT
PULL OR ALTER CASING		CHANGE	E PLANS	X	CASING TEST AND CEME	ENT JOB	
					OTHER		
OTHER				_ 🗆 📗	<u> </u>		-1-1
La Describe Bronesed on us		- Orterations //	Classic state all			inch	ding estimated date of starting any

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinenet dates, including estimated date of starting any proposed work) SEE RULE 203.

The drilling of Temperature Observation Well has been postponed until Mid-1977. Anticipated start-up date will be August 1, 1977. We will notify your office approximately two weeks prior to equipment move-in; until then this project is on inactive status.

> APPROVAL VALID 780 DAYS UNLESS DRILLING COMMENCED

EXPIRES 10/19/77

I hereby certify that the information focie is true and cor	7	
SIGNED JULY	Chief_Geologist, Geothermal_Services,	DATE 4/20/77
APEROVED BY Carl Ulway	TITLE SENIOR PETROLEUM GEOLOGIST	4/22/77
		DATE

Form	G٠	103	
Adopt	ed	10/1	174

			Adopted 10/1/74
NO. OF COPIES RECEIVED	NEW MEXICO OIL CONSE	RVATION COMMISSION	ν <b>α</b>
DISTRIBUTION	P. O. Box 2088, S	Santa Fe 87501 🕺 🕻	CT - 2:5,0
- File			
N. M. B. M.	SUNDRY NOTICES	AND REPORTS	
5. G. S	ON		5. Indicate Type of Lease
Operator I	GEOTHERMAL RES		State Fee X
Land Office			5.a State Lease No.
	l		
Do Not Use This Form for Proposals to For Permit —" (Form G-101) for Such I	Drill or to Deepen or Plug Back to a D Proposals.)	Different Reservoir. Use "Application	
1. Type of well Geothermal Prod	ucer L Temp. Observation	LX.	7. Unit Agreement Name
Low-Temp Therm	nal Injection/Disposal		NONE
2. Name of Operator			8. Farm or Lease Name
SUNOCO ENERGY DEV	ELOPMENT CORPORATION	·	Atrisco Grant
3. Address of Operator			9. Well No.
12700 PARK CENTRAL	PLACE, SUITE 1500, DALL	AS, TX 75251	9
4. Location of Well			10. Field and Pool, or Wildcat
Unit LetterC2	200 Feet From The NORTH	Line and1700Feet From	NONE
WEST Line, Section	Township10N.	RangeNMPM.	
	15. Elevation (Show whether	r DF, RT, GR, etc.)	12. County
///////////////////////////////////////	5805' (G.L.)		Bernalillo
16. Checl	k Appropriate Box To Indicate Nat	ture of Notice, Report or Other Da	nta
NOTICE OF INTE		1	INT REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	
		COMMENCE DRILLING OPNS.	
-	CHANGE PLANS	CASING TEST AND CEMENT JOE	
PULL OR ALTER CASING	CHANGE PLANS CA	CASING TEST AND CEMENT JOE	
		OTHER	
OTHER			
17. Describe Proposed or completed C	perations (Clearly state all pertinent	details, and give pertinenet dates, incl	uding estimated date of starting any
proposed work) SEE RULE 203.			
· ·			

This hole location was dropped from our drilling program and will not

be drilled in the near future.

I hereby certify that the information above is true and complete to the signed in the	he best of my knowledge and belief. PROJECT SUPERVISOR GEOTHERMAL SERVICES, INC.	
APPROVED BY Carl Ulvog . TITLE CONDITIONS OF APPROVAL, IF ANY:	SENIOR PETROLEUM GEOLOGIST	_DATE 10-3-78

		Form G-103 Adopted 10/1/7
NO. OF COPIES RECEIVED 2	NEW MEXICO OIL CONSERVATION COMMISSION	NPR 22 157 4
DISTRIBUTION	P. O. Box 2088, Santa Fe 87501	
File		An ANTERNATOL COMM.
N. M. B. M.	SUNDRY NOTICES AND REPORTS	
S. G. 5	ON	5. Indicate Type of Lease
Operator	GEOTHERMAL RESOURCES WELLS	State 🗌 Fee 🔀
Land Office		5.a State Lease No.
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
For Permit	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
1. Type of well Geothermal Producer	Temp. Observation	7. Unit Agreement Name
- Low-Temp Thermal	Injection/Disposal	none
2. Name of Operator		8. Farm or Lease Name Town
SUNOCO ENERGY DEVELOPME	ENT CORPORATION	of Atrisco Grant
3. Address of Operator		9. Well No.
	ce., Suite 1500, Dallas, TX 75	5251 <b>10-76-9</b>
4. Location of Well		10. Field and Pool, or Wildcat
Unit Letter C 200	_ Feet From The <u>North</u> Line and <u>1700</u>	_Feet FromNONC
The West Line, Section 2	27 Township 10N Range 1E	NMPM.
	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
AIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	5805 ft. (GL)	Bernalillo
16. Check Approp	priate Box To Indicate Nature of Notice, Report of	or Other Data
NOTICE OF INTENTION TO		SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK PLUG	AND ABANDON C REMEDIAL WORK	
TEMPORARILY ABANDON	COMMENCE DRILLING	G OPNS. D PLUG & ABANDONMENT
PULL OR ALTER CASING CHANG	IGE PLANS ' 🔀 CASING TEST AND CE	EMENT JOB
	OTHER	
OTHER		- 77 /
17. Describe Proposed or completed Operations	(Clearly state all pertinent details, and give pertinenet	t dates, including estimated date of starting any

The drilling of Temperature Observation Well has been postponed until Mid-1977. Anticipated start-up date will be August 1, 1977. We will notify your office approximately two weeks prior to equipment move-in; until then this project is on inactive status.

proposed work) SEE RULE 203.

APPROVAL VALID / ZO DAYS UNLESS DRILLING COMMENCED

EXPIRES 10/ 19

I hereby certify that the information above is true and co	angulate to the best of my knowledge and belief.	
SIGNED	TITLE Chief Geologist,	DATE4/20/77
	Geothermal Services, I	-11°C
APPROVED BY Carl Ulway	SENIOR PETROLEUM GEOLOGIST	DATE 4/22/77
CONDITIONS OF APPROVAL, IF ANY:		

and the second sec							Form G-101	
				RVATION COMMISSION	West 1	1	Adopted 10/1/7	
NO. OF COPIES RECEIVED	4	NEV						
DISTRIBUTION			P. O. Box 2088, S	anta Fe 87501	се на се			
	ľ			-		5. Indicate	Type of Lease	
U.S.G.S. 1 APP1			ICATION FOR PERMIT TO DRILL, DEEPEN, COMM.			STATE	FEE X	
Operator I		OR PLUG BACKGEOTHERMAL RESOURCES WELL					ase No.	
Land Office								
				Х				
1a. Type of Work Drill 🛛	Drill 🗴 Deepen 🗌 Plug Back 🗌						eement Name	
Goothorn	nal Produce	er 🗔	т	emp Observation		none		
	p Thermal			jection/Disposal		8. Farm or Lease Name Town		
· · · ·						9. Well No.	isco Grant	
2. Name of Operator SUNOCO ENERGY E	FVELOP	MENT (	CORPORATION			10-76	-9	
3. Address of Operator							d Pool, or Wildcat	
12700 Park Cent	ral Pl	., Su:	ite 1500, Dal	llas, TX 7525	51	noi	ne	
4. Location of Well** UNIT LETT	ER C	LOCA1	TED 200 FEET F	ROM THE NORTH	LINE			
			SEC. 27 TWP. 10		NMPM			
						12. County		
<i></i>	HHHH	HHH	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		HHHH	Bernal		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	HHHH	HHH	<i>41111111111111</i>	19. Proposed Depth	19A. Formatio		20. Rotary or C.T.	
				500 ft	unknov	m	rotary	
21. Elevations (Show whether DF, RT, etc.) 21A. Kind 5805 ft (GL) see			a & Status Plug. Bond note "A" Geothermal Services					
		F	PROPOSED CASING AN	D CEMENT PROGRAM				
SIZE OF HOLE	SIZE OF C	ASING	WEIGHT PER FOOT SETTING DEPTH SACKS OF			F CEMENT EST. TOP		
5-1/8"	3/	4"	1.14#	500'	1.5		6" BGL	
			·					
	Pro	gram-	See attached Hole Drillin	l "Standard Sh g Program".	nallow I	emperat	ture Gradient	
		** _	Section line	a 9				
	No	te A-	Temperature Bond". Bond bond number	will be "\$10 Well or Geoth is in the pr will be furni tions commenc	ermal O ocess o shed as	bservat f being	ion Well filed; a	
, μ/								
Quad HI	,							

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. Give blowout preventer program in any.

.

I he certify that the information above is true and co Signed	mplete to the best of my knowledge and belief. Geothermal 
(This space for State Use) APPROVED BY Carl Ulvog CONDITIONS OF APPROVAL, IF ANY:	TITLE SENIOR PETROLEUM GEOLOGIST

and the second s	N	EW MEXICO OIL						Form G-102
P. O. BOX 2088 SANTA FE 87501 GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION P					PLAT	Adopted 10/1/74		
		ances must be fro			• •	[1] J. M. S. M.		
Sunoco Ener	rgy Development	Corp.	Lease	own of	Atrisc	Grant	Well No. 10-76	-9
Utetter So	ection 27 Township	10N.	Range	1E	County	Bernali	110	
Actual Footage Locatio	feet from the Nort	h line a	nd l	,700	feet from th	e West	line	
Ground Level Elev. 5,805 ft.	Producing Formation None		Pool ·	None			Dedicated Acreage: None	Acres
1. Outline the	e acreage dedicated to the	subject well by	colored p	encil or ha	chure marks	on the plat	below.	
2. If more th and royalty	an one lease is dedicated /).	to the well, ou	tline each	1 and ident	ify the own	ership therec	of (both as to work	cing interest
	an one lease of different zation, unitization, force-p		licated to	the well,	have the int	erests of all	owners been cons	solidated by
🗆 Yes [	□ No If answer is "y	es," type of co	nsolidatio	n				
If answer is "r necessary.)	no," list the owners and t	ract description	is which l	have actual	ly been con	solidated. (U	se reverse side of	this form if
	will be assigned to th	e well until	all intere	sts have b	been consol	idated (by	communitization,	unitization,
forced-pooling,	or otherwise) or until a n	on-standard un:	t, elimina	ting such in	nterests, has	been approv	ed by the Commis	sion.
		1				1	CERTIFICATION	
			1 1		· .	l hereby	certify that the	information
	NE1/4, NW1/4		i i			contained	herein is true and o	complete to
	1					the best of	of my knowledge and	belief.
	I		1			M	the me	
	- +		-			Steve	Quiett	
	1		l t			Position Chief	Geologist	
	1		1			Company	rmal Servic	es Ind
	1		.			Date		
	· <u>1</u> · · · · · · · · · · · · · · · · · · ·		. I			Septem	ber 1, 1976	<b>)</b>
	1		Ì			I hereby	certify that the we	ell location
	1		1		·		this plat was plotted actual surveys made	
							supervision, and the	
			· · · · ·				nd correct to the b e and belief.	pest of my
	- +		+				-	
	1					Date Surveye	d	
			1					
	1		1			Registered Prand and/or Land	ofessional Engineer Surveyor	
								-
						Certificate No	).	

**NPO** 

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GEOTHERMAL SERVICES, INC.

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STANDARD SHALLOW TEMPERATURE GRADIENT HOLE DRILLING PROGRAM (500'/150m; Rubber Tired Equipment; Rotary/Mud)

- 1. Coordinate "Special Stipulations" or other unusual requirements with the Project Geologist prior to set-up and spud.
- 2. Choose location and orientation of drilling rig so as to minimize surface disturbance.
- 3. Drill 4" to 6" hole to maximum depth of 500'/150m. Take cuttings samples, cores, etc. at direction of Project Geologist.
- 4. If drilling with mud, use regular Bentonite drilling mud. No toxic additives are to be used in drilling fluids without permission of Project Geologist. Have supply of lost circulation material available. Use portable mud pits unless specifically directed otherwise.
- 5. Have a supply of Barite available in case of artesian flow. If artesian flow is encountered, comply with United States Geological Survey's Stipulations.
- 6. Mud return temperature shall be measured and recorded on "Drilling History" every 10. /3m.
  - a. If temperature reaches 120°F/50°C, <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, run pipe at this depth after logging is completed.

b. If there is a sudden increase in temperature of the drilling mud (several degrees in only a few feet) <u>STOP</u> <u>DRILLING</u> and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling <u>CAUTIOUSLY</u>, keeping a careful watch on return temperature of drilling fluid. In no case shall drilling continue after mud return temperature reaches 120°F/50°C.

- 7. Run pipe immediately after running electric logs or reaching T.D. (if hole is not logged).
  - a. Install cap on bottom of first length of pipe. (If using steel pipe, seal each joint with teflon tape to ensure watertight).
  - b. Steel pipe must be used when air temperature is 40°F or below, as PVC cement will not adhere.
  - c. Steel pipe must be used if drilling fluid temperature exceeds 100°F/40°C.
  - d. When pipe is landed, top must be 6" to 12"/ 15cm to 30cm below ground level. (Cut and thread as necessary).
  - e. Fill pipe with <u>CLEAN</u> <u>WATER</u> (water that is oily or contains solvents such as gasoline <u>MUST</u> <u>NOT</u> be used) and install cap. Do not seal.
  - f. Set paper, rag or dirt bridge down open annulus at least 10'/3m below ground level. Fill annulus with cement up to base of cap on pipe.
- 8. Clean up location THOROUGHLY.
- 9. Any excavated pits or sumps must be backfilled to conform to the original topography.
- 10. When temperature surveys are completed, fill pipe with cement from 10'/3m to top of pipe, fill excavation to original ground topography and restore location as nearly as possible to original condition.

GEOTHERMAL SERVICES, INC. San Diego, California December, 1975