

GTLT - ____9____

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

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

OCT - 2 1978

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

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SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease
State <input type="checkbox"/> Fee <input checked="" type="checkbox"/>
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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name NONE
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	8. Farm or Lease Name Atrisco Grant
3. Address of Operator 12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 75251	9. Well No. 8
4. Location of Well Unit Letter B 300 Feet From The NORTH Line and 1800 Feet From The EAST Line, Section 10 Township 10N. Range 1E. NMPM.	10. Field and Pool, or Wildcat NONE
15. Elevation (Show whether DF, RT, GR, etc.) 5830' (G.L.)	12. County Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	
PULL OR ALTER CASING <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including 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 best of my knowledge and belief.

SIGNED Barry Williams PROJECT SUPERVISOR
TITLE GEOTHERMAL SERVICES, INC. DATE 9-10-78APPROVED BY Carl Velazquez TITLE SENIOR PETROLEUM GEOLOGIST DATE 10-3-78

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

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S. G. S.	
Operator	1
Land Office	

5. Indicate Type of Lease
State ☐ Fee ☒

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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name none
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	8. Farm or Lease Name Town of Atrisco Grant
3. Address of Operator 12700 Park Central Place., Suite 1500, Dallas, TX 75251	9. Well No. 10-76-8
4. Location of Well Unit Letter B 300 Feet From The North Line and 1800 Feet From The East Line, Section 10 Township 10N Range 1E NMPM.	10. Field and Pool, or Wildcat none
15. Elevation (Show whether DF, RT, GR, etc.) 5830 ft. (GL)	12. County Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐ CHANGE PLANS ☒
OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING
COMMENCE DRILLING OPNS. ☐ PLUG & ABANDONMENT
CASING TEST AND CEMENT JOB ☐
OTHER

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent 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 10/19/77

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

SIGNED Steve P. Smith TITLE Chief Geologist, DATE 4/20/77
Geothermal Services, Inc.APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 4/22/77

CONDITIONS OF APPROVAL, IF ANY:

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NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APPLICATION FOR PERMIT TO DRILL, DEEPEN,
OR PLUG BACK--GEOTHERMAL RESOURCES WELL

5. Indicate Type of Lease

STATE ☐FEE ☒

5.a State Lease No.

1a. Type of Work	Drill <input checked="" type="checkbox"/>	Deepen <input type="checkbox"/>	Plug Back <input type="checkbox"/>
b. Type of Well	Geothermal Producer <input type="checkbox"/>	Temp Observation <input checked="" type="checkbox"/>	Low-Temp Thermal <input type="checkbox"/>
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION			
3. Address of Operator 12700 Park Central Pl., Suite 1500, Dallas, TX 75251			
4. Location of Well UNIT LETTER <u>B</u> LOCATED <u>300</u> FEET FROM THE <u>NORTH</u> LINE AND <u>1800</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>10</u> TWP. <u>10N.</u> RGE. <u>1E.</u> NMPM			

7. Unit Agreement Name

none

8. Farm or Lease Name Town
of Atrisco Grant

9. Well No.

10-76-8

10. Field and Pool, or Wildcat

none

12. County

Bernalillo

19. Proposed Depth 500 ft	19A. Formation unknown	20. Rotary or C.T. rotary
21. Elevations (Show whether DF, RT, etc.) 5830 ft (GL)	21A. Kind & Status Plug. Bond see note "A"	21B. Drilling Contractor Geothermal Services
		22. Approx. Date Work will start Oct. 1, 1976

PROPOSED 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	6" BGL

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

** - Section lines projected

Note A- Type of bond will be \$10,000 Multiple-Well Low-
Temperature 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.

Quad 41

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, if any.

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

Signed [Signature] Title Chief Geologist, Geothermal Services, Inc. Date Sept. 1, 1976

(This space for State Use)

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 9/27/76
CONDITIONS OF APPROVAL, IF ANY:

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

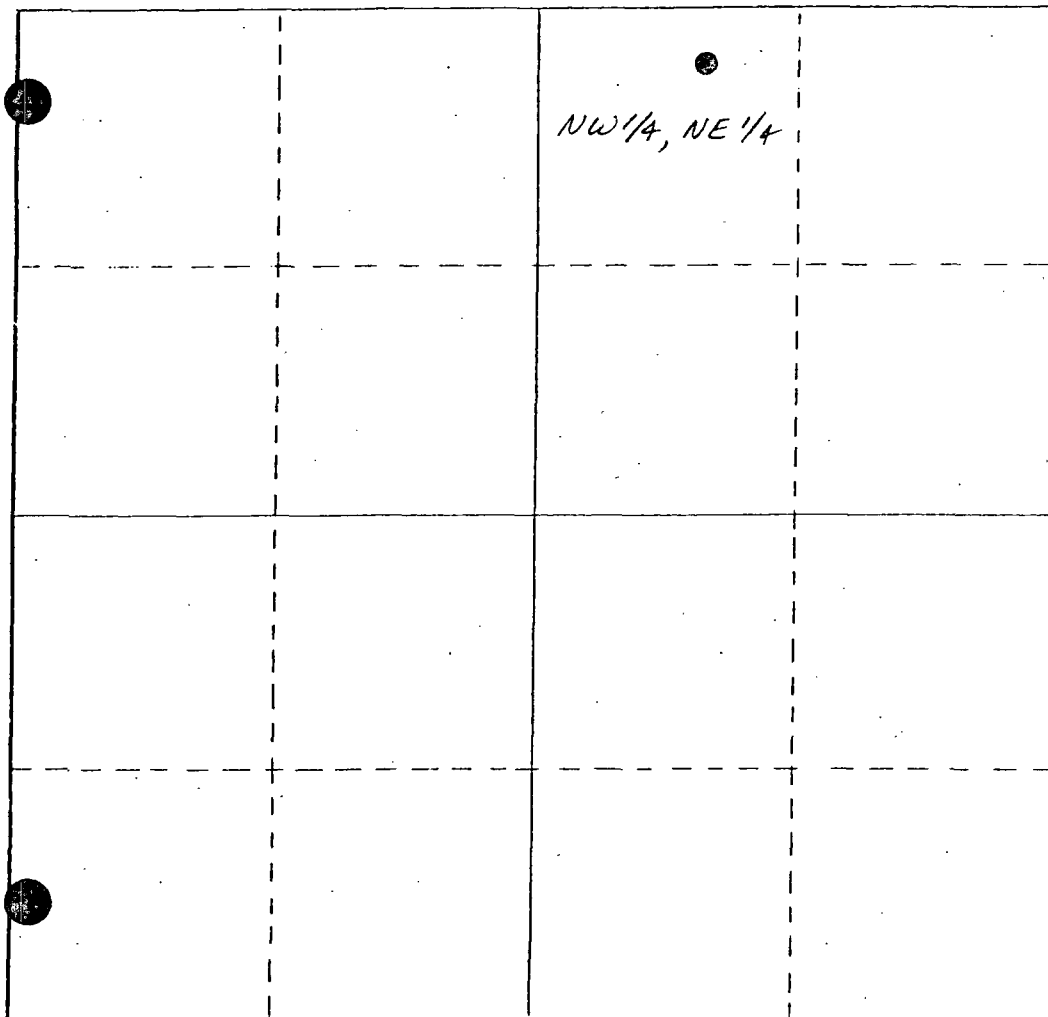
Operator Sunoco Energy Development Corp.		Lease Town of Atrisco Grant		Well No. 10-76-8	
Letter B	Section 10	Township 10N.	Range 1E.	County Bernalillo	
Actual Footage Location of Well: 300 feet from the North line and 1,800 feet from the East line					
Ground Level Elev. 5,830 ft.	Producing Formation None		Pool None		Dedicated Acreage: None 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 ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No 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 Commission.



CERTIFICATION

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

Steve Quiett

Name
Steve Quiett

Position
Chief Geologist

Company
Geothermal Services, Inc

Date
September 1, 1976

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.

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600



GEO THERMAL 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, STOP DRILLING 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) STOP DRILLING and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling CAUTIOUSLY, 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 CLEAN WATER (water that is oily or contains solvents such as gasoline MUST NOT 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

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N. M. B. M.	1	
G. S.	1	
Operator	1	
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NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

OCT - 2 1978

SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease
State <input type="checkbox"/> Fee <input checked="" type="checkbox"/>
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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name NONE
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	8. Farm or Lease Name Atrisco Grant
3. Address of Operator 12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 75251	9. Well No. 1
4. Location of Well Unit Letter C 300 Feet From The NORTH Line and 2000 Feet From The WEST Line, Section 13 Township 10N. Range 1E. NMPM.	10. Field and Pool, or Wildcat NONE
15. Elevation (Show whether DF, RT, GR, etc.) 5800' (G.L.)	12. County Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	
PULL OR ALTER CASING <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including 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.

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

SIGNED Barry Williams PROJECT SUPERVISOR
TITLE GEOTHERMAL SERVICES, INC. DATE 9-10-78APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 10-3-78

CONDITIONS OF APPROVAL, IF ANY:

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File	1 ✓
N. M. B. M.	
U. S. G. S.	
Operator	1
Land Office	

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS5. Indicate Type of Lease
State ☐ Fee ☒

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 <input type="checkbox"/>	Temp. Observation <input checked="" type="checkbox"/>
	Low-Temp Thermal <input type="checkbox"/>	Injection/Disposal <input type="checkbox"/>
2. Name of Operator	SUNOCO ENERGY DEVELOPMENT CORPORATION	
3. Address of Operator	12700 Park Central Place., Suite 1500, Dallas, TX 75251	
4. Location of Well	Unit Letter <u>C</u> <u>300</u> Feet From The <u>North</u> Line and <u>2,000</u> Feet From The <u>West</u> Line, Section <u>13</u> Township <u>10N</u> Range <u>1E</u> NMPM.	

7. Unit Agreement Name

none

8. Farm or Lease Name Town
of Atrisco Grant

9. Well No.

10-76-1

10. Field and Pool, or Wildcat

none

15. Elevation (Show whether DF, RT, GR, etc.)

5,800 ft. (GL)

12. County

Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER <input type="checkbox"/>	

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent 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 10/19/77

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

SIGNED [Signature] TITLE Chief Geologist, DATE 4/20/77
Geothermal Services, Inc.APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 4/22/77

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APPLICATION FOR PERMIT TO DRILL, DEEPEN,
OR PLUG BACK---GEOTHERMAL RESOURCES WELL

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Operator	1
Land Office	

5. Indicate Type of Lease
STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
5.a State Lease No.

1a. Type of Work	Drill <input checked="" type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/>	7. Unit Agreement Name	none
b. Type of Well	Geothermal Producer <input type="checkbox"/> Temp Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	8. Farm or Lease Name	Town of Atrisco Grant
2. Name of Operator	SUNOCO ENERGY DEVELOPMENT CORPORATION	9. Well No.	10-76-1
3. Address of Operator	12700 Park Central Pl., Suite 1500, Dallas, TX 75251	10. Field and Pool, or Wildcat	none
4. Location of Well**	UNIT LETTER C LOCATED 300 FEET FROM THE NORTH LINE AND 2000 FEET FROM THE WEST LINE OF SEC. 13 TWP. 10N. RGE. 1E. NMPM	12. County	Bernalillo
19. Proposed Depth	500 ft	19A. Formation	unknown
20. Rotary or C.T.	rotary	21. Elevations (Show whether DF, RT, etc.)	5800 ft (GL)
21A. Kind & Status Plug. Bond	see note "A"	21B. Drilling Contractor	Geothermal Services
22. Approx. Date Work will start	Oct. 1, 1976		

PROPOSED 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	6" BGL

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

-Section lines projected

-Type of bond will be "\$10,000 Multiple-Well Low-
Temperature 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.

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, if any.

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

Signed Steve Luey Title Chief Geologist, Services, Inc. Date Sept. 1, 1976

(This space for State Use)

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 9/27/76
CONDITIONS OF APPROVAL, IF ANY:

GEOHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

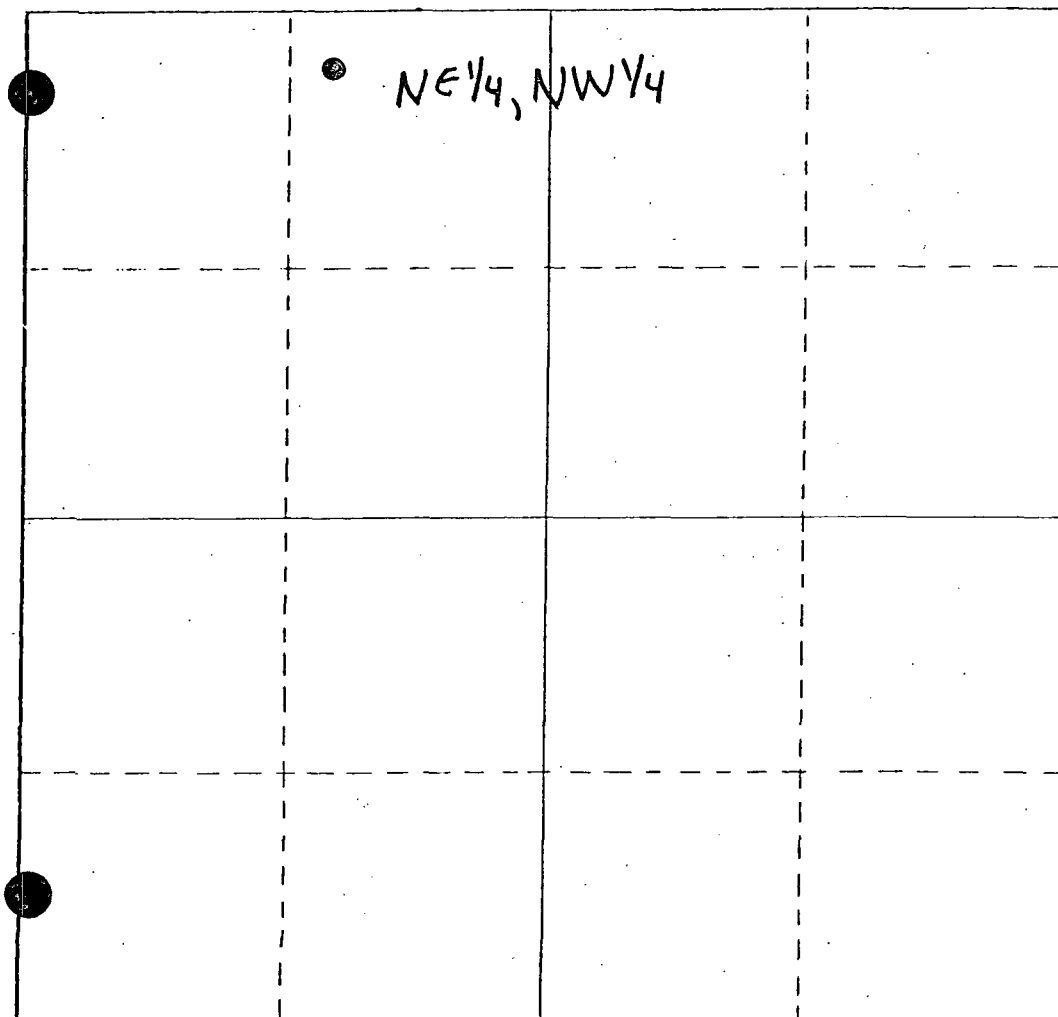
Operator Sunoco Energy Development Corp.		Lease Town of Atrisco Grant		Well No. 10-76-1	
Unit Letter C	Section 13	Township 10N.	Range 1E.	County Bernalillo	
Actual Footage Location of Well: 300 feet from the North line and 2,000 feet from the West line					
Ground Level Elev. 5,800 ft.	Producing Formation None		Pool None		Dedicated Acreage: None 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 ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No 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 Commission.



CERTIFICATION

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

Name
Steve Quiett

Position
Chief Geologist

Company
Geothermal Services, Inc

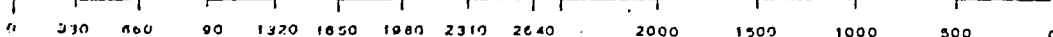
Date
September 1, 1976

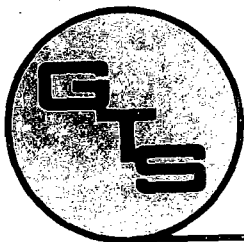
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed _____

Registered Professional Engineer and/or Land Surveyor _____

Certificate No. _____





GEO THERMAL 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, STOP DRILLING 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) STOP DRILLING and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling CAUTIOUSLY, 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 CLEAN WATER (water that is oily or contains solvents such as gasoline MUST NOT 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.

NO. OF COPIES RECEIVED		
DISTRIBUTION		
File	1	✓
N. M. B. M.	1	
G. S.	1	
Operator	1	
Land Office		

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

OCT - 2 1978

5. Indicate Type of Lease
State ☐ Fee ☒5.a State Lease No. _____
Santa Fe

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 ☒
Low-Temp Thermal ☐ Injection/Disposal ☐2. Name of Operator
SUNOCO ENERGY DEVELOPMENT CORPORATION3. Address of Operator
12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 752514. Location of Well
Unit Letter F 1600 Feet From The NORTH Line and 2300 Feet From
The WEST Line, Section 15 Township 10N. Range 1E. NMPM.7. Unit Agreement Name
NONE8. Farm or Lease Name
Atrisco Grant9. Well No.
210. Field and Pool, or Wildcat
NONE15. Elevation (Show whether DF, RT, GR, etc.)
5810' (G.L.)12. County
Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐ CHANGE PLANS ☒OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG & ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐OTHER ☐

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including 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 best of my knowledge and belief.

SIGNED Barry Williams PROJECT SUPERVISOR
TITLE GEOTHERMAL SERVICES, INC. DATE 9-10-78APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 10-3-78

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APPLICATION FOR PERMIT TO DRILL, DEEPEN,
OR PLUG BACK--GEOTHERMAL RESOURCES WELL

NO. OF COPIES RECEIVED	4
DISTRIBUTION	
File	1
N. M.	1
U.S.S.	1
Operator	1
Land Office	

5. Indicate Type of Lease

STATE ☐FEE ☒

5.a State Lease No.

7. Unit Agreement Name

none

8. Farm or Lease Name Town
of Atrisco Grant

9. Well No.

10-76-2

10. Field and Pool, or Wildcat
none

12. County

Bernalillo

1a. Type of Work	Drill <input checked="" type="checkbox"/>	Deepen <input type="checkbox"/>	Plug Back <input type="checkbox"/>
b. Type of Well	Geothermal Producer <input type="checkbox"/>	Temp Observation <input checked="" type="checkbox"/>	Low-Temp Thermal <input type="checkbox"/>
2. Name of Operator	SUNOCO ENERGY DEVELOPMENT CORPORATION		
3. Address of Operator	12700 Park Central Pl., Suite 1500, Dallas, TX 75251		
4. Location of Well**	UNIT LETTER F LOCATED 1600 FEET FROM THE NORTH LINE AND 2300 FEET FROM THE WEST LINE OF SEC. 15 TWP. 10N. RGE. 1E. NMPM		
19. Proposed Depth	500 ft	19A. Formation	unknown
20. Rotary or C.T.	rotary		
21. Elevations (Show whether DF, RT, etc.)	5810 ft (GL)	21A. Kind & Status Plug. Bond	see note "A"
21B. Drilling Contractor	Geothermal Services		22. Approx. Date Work will start
			Oct. 1, 1976

PROPOSED 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	6" BGL

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

** - Section lines projected

Note A- Type of bond will be "\$10,000 Multiple-Well Low-Temperature
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.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, if any.

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

Signed [Signature] Title Chief Geologist, Services, Inc. Date Sept. 1, 1976

(This space for State Use)

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 9/27/76

CONDITIONS OF APPROVAL, IF ANY:

GEOHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

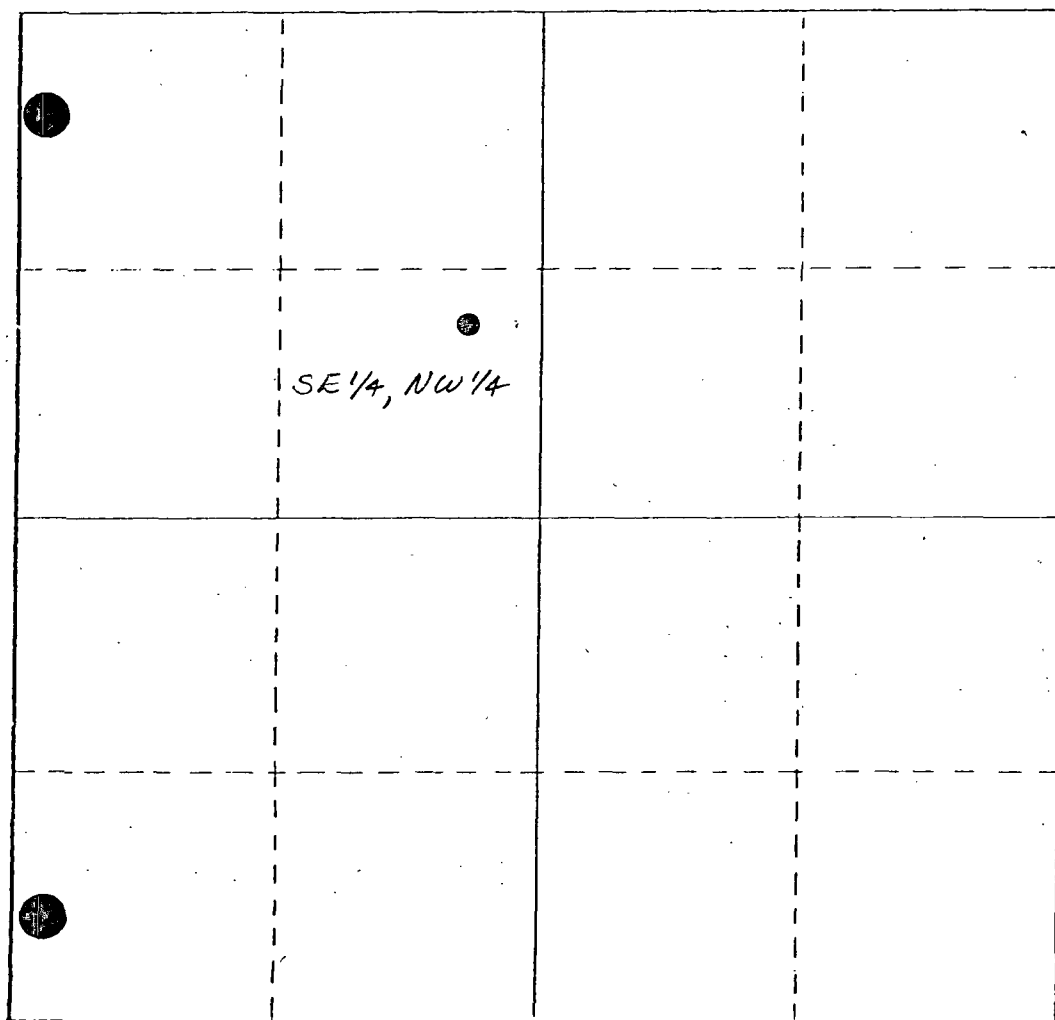
Operator Sunoco Energy Development Corp.		Lease Town of Atrisco Grant		Well No. 10-76-2	
U.S. Letter F	Section 15	Township 10N.	Range 1E.	County Bernalillo	
Actual Footage Location of Well: 1,600 feet from the North line and 2,300 feet from the West line					
Ground Level Elev. 5,810 ft.	Producing Formation None		Pool None		Dedicated Acreage: None 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 ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No 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 Commission.



CERTIFICATION

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

[Signature]

Name
Steve Quiett

Position
Chief Geologist

Company
Geothermal Services, Inc.

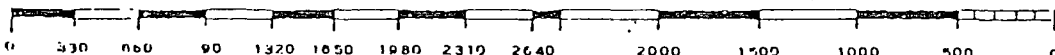
Date
September 1, 1976

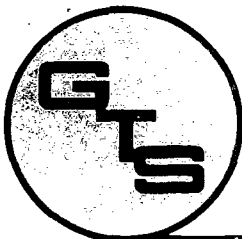
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.





GEO THERMAL 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, STOP DRILLING 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) STOP DRILLING and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling CAUTIOUSLY, 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 CLEAN WATER (water that is oily or contains solvents such as gasoline MUST NOT 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.

NO. OF COPIES RECEIVED	2
DISTRIBUTION	
File	1
N. M. B. M.	
S. G. S.	
Operator	1
Land Office	

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS5. Indicate Type of Lease
State ☐ Fee ☒
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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name none
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	8. Farm or Lease Name Town of Atrisco Grant
3. Address of Operator 12700 Park Central Place., Suite 1500, Dallas, TX 75251	9. Well No. 10-76-2
4. Location of Well Unit Letter F 1600 Feet From The North Line and 2300 Feet From The West Line, Section 15 Township 10N Range 1E NMPM.	10. Field and Pool, or Wildcat none
15. Elevation (Show whether DF, RT, GR, etc.) 5810 ft. (GL)	12. County Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐ CHANGE PLANS ☒
OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG & ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐
OTHER ☐

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent 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 10/19/77

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

SIGNED Steve Pruitt TITLE Chief Geologist, DATE 4/20/77
Geothermal Services, Inc.APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 4/22/77

CONDITIONS OF APPROVAL, IF ANY:

NO. OF COPIES RECEIVED		
DISTRIBUTION		
File	1	✓
N. M. B. M.	1	
S. G. S.	1	
Operator	1	
Land Office		

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

OCT - 2 1978

SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease State <input type="checkbox"/> Fee <input checked="" type="checkbox"/>
5.a State Lease No.
7. Unit Agreement Name NONE
8. Farm or Lease Name Atrisco Grant
9. Well No. 9
10. Field and Pool, or Wildcat NONE
12. County Bernalillo

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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION
3. Address of Operator 12700 PARK CENTRAL PLACE, SUITE 1500, DALLAS, TX 75251	4. Location of Well Unit Letter C 200 Feet From The NORTH Line and 1700 Feet From The WEST Line, Section 27 Township 10N. Range 1E. NMPM.
15. Elevation (Show whether DF, RT, GR, etc.) 5805' (G.L.)	

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

NOTICE OF INTENTION TO:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>

SUBSEQUENT REPORT OF:	
REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG & ABANDONMENT <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent dates, including 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 best of my knowledge and belief.

SIGNED Barry Williams PROJECT SUPERVISOR
TITLE GEOTHERMAL SERVICES, INC. DATE 9-10-78APPROVED BY Carl Veloz TITLE SENIOR PETROLEUM GEOLOGIST DATE 10-3-78

CONDITIONS OF APPROVAL, IF ANY:

NO. OF COPIES RECEIVED	2
DISTRIBUTION	
File	1 ✓
N. M. B. M.	
S. G. S.	
Operator	1
Land Office	

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501

Form G-103
Adopted 10/1/77
APR 22 1977
CONSERVATION COM.

SUNDRY NOTICES AND REPORTS
ON
GEOTHERMAL RESOURCES WELLS

5. Indicate Type of Lease
State ☐ Fee ☒
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 <input type="checkbox"/> Temp. Observation <input checked="" type="checkbox"/> Low-Temp Thermal <input type="checkbox"/> Injection/Disposal <input type="checkbox"/>	7. Unit Agreement Name none
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	8. Farm or Lease Name Town of Atrisco Grant
3. Address of Operator 12700 Park Central Place., Suite 1500, Dallas, TX 75251	9. Well No. 10-76-9
4. Location of Well Unit Letter <u>C</u> <u>200</u> Feet From The <u>North</u> Line and <u>1700</u> Feet From The <u>West</u> Line, Section <u>27</u> Township <u>10N</u> Range <u>1E</u> NMPM.	10. Field and Pool, or Wildcat none
15. Elevation (Show whether DF, RT, GR, etc.) 5805 ft. (GL)	12. County Bernalillo

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐ CHANGE PLANS ☒
OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG & ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐
OTHER ☐

17. Describe Proposed or completed Operations (Clearly state all pertinent details, and give pertinent 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
120 DAYS UNLESS
DRILLING COMMENCED
EXPIRES 10/19/77

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

SIGNED Steph J. Smith TITLE Chief Geologist, DATE 4/20/77
Geothermal Services, Inc.

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 4/22/77

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK--GEOTHERMAL RESOURCES WELL

5. Indicate Type of Lease

STATE ☐ FEE ☒

5.a State Lease No.

7. Unit Agreement Name

none

8. Farm or Lease Name **Town
of Atrisco Grant**

9. Well No.

10-76-9

10. Field and Pool, or Wildcat

none

12. County

Bernalillo

19. Proposed Depth

500 ft

19A. Formation

unknown

20. Rotary or C.T.

rotary

21. Elevations (Show whether DF, RT, etc.)

5805 ft (GL)

21A. Kind & Status Plug. Bond

see note "A"

21B. Drilling Contractor

Geothermal Services

22. Approx. Date Work will start

Oct. 1, 1976

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE

5-1/8"

SIZE OF CASING

3/4"

WEIGHT PER FOOT

1.14 #

SETTING DEPTH

500'

SACKS OF CEMENT

1.5

EST. TOP

6" BGL

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

** - Section lines projected

Note A- Type of bond will be "\$10,000 Multiple-Well Low-Temperature 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.

Quad 41

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, if any.

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

Signed Steph L. Smith Title Chief Geologist, Services, Inc. Date Sept. 1, 1976

(This space for State Use)

APPROVED BY

Carl Ulvog

TITLE

SENIOR PETROLEUM GEOLOGIST

DATE

9/27/76

CONDITIONS OF APPROVAL, IF ANY:

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section.

Operator Sunoco Energy Development Corp.		Lease Town of Atrisco		Grant 10-76-9	
Section C	Section 27	Township 10N.	Range 1E.	County Bernalillo	
Actual Footage Location of Well: 200 feet from the North line and 1,700 feet from the West line					
Ground Level Elev. 5,805 ft.	Producing Formation None		Pool None		Dedicated Acreage: None 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 ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No 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 Commission.

NE 1/4, NW 1/4

CERTIFICATION

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

Name
Steve Quiett

Position
Chief Geologist

Company
Geothermal Services, Inc.

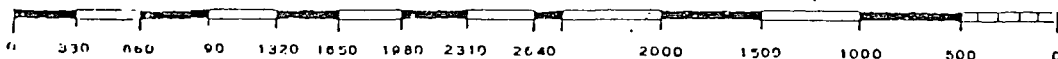
Date
September 1, 1976

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.





GEO THERMAL 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, STOP DRILLING 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) STOP DRILLING and circulate for 30 minutes, monitoring mud temperature and pit volume for possible hot artesian flow. If no flow, continue drilling CAUTIOUSLY, 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 CLEAN WATER (water that is oily or contains solvents such as gasoline MUST NOT 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.