

GTLT - _____9_____

**(12-21)-2S-3W
Sunoco Energy
Development Corporation
(Socorro County)**

**5-77-4; 5-77-3; 5-77-2
& 5-77-7**

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Operator	1
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NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

SUNDRY 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 ☐ Temp. Observation ☒
Low-Temp Thermal ☐ Injection/Disposal ☐

7. Unit Agreement Name

None

2. Name of Operator

Sunoco Energy Development Corporation

8. Farm or Lease Name

3. Address of Operator

12700 Park Central Pl., Suite 1500, Dallas, TX 75251

9. Well No.

5-77-4

4. Location of Well

Unit Letter P, 200 Feet From The S. Line and 400 Feet From

10. Field and Pool, or Wildcat

None

The E. Line, Section 12 Township 2S. Range 3W. NMPM.

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

5850'

G.L.

12. County

Socorro

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 referenced temperature observation well has been dropped from the drilling program and will not be drilled. The site has not been occupied by any drilling equipment.

OCT 31 1977

NEW MEXICO OIL CONSERVATION COMMISSION

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

SIGNED

TITLE VICE PRESIDENT

DATE 10/25/77

Geothermal Services, Inc.

APPROVED BY

TITLE SENIOR PETROLEUM GEOLOGIST

DATE 11/22/77

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501APR 25 1977
OIL CONSERVATION COMMISSION

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1

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

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"/>
b. Type of Well	Geothermal Producer <input type="checkbox"/>	Temp Observation <input checked="" type="checkbox"/>	Injection/Disposal <input type="checkbox"/>
	Low-Temp Thermal <input type="checkbox"/>		

7. Unit Agreement Name

none

8. Farm or Lease Name

9. Well No.

5-77-4

2. Name of Operator	SUNOCO ENERGY DEVELOPMENT CORPORATION
3. Address of Operator	12700 Park Central Pl., Suite 1500, Dallas, Texas 75251

10. Field and Pool, or Wildcat

none

4. Location of Well	UNIT LETTER <u>P</u> LOCATED <u>200</u> FEET FROM THE <u>South</u> LINE
AND <u>400</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>12</u> TWP. <u>2S</u> RGE. <u>3W</u> NMPM	

12. County

Socorro

19. Proposed Depth	500 ft	19A. Formation	unknown	20. Rotary or C.T.	rotary
21. Elevations (Show whether DF, RT, etc.)	5850 ft (GL)	21A. Kind & Status Plug, Bond	see note "A"	21B. Drilling Contractor	Geothermal Services
				22. Approx. Date Work will start	May 10, 1977

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".

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.

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED.

EXPIRES 8/11/77

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 Smith Title Chief Geologist, Services, Inc. Date April 18, 1977

(This space for State Use)

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 5/13/77
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 CONSERVATION COM		Well No. 5177-4	
Letter P	Section 12	Township 2S	Range 3W	County Socorro	

Actual Footage Location of Well:

200

feet from the

South

line and

400

feet from the

East

line

Ground Level Elev.

5850'

Producing Formation

None

Pool

None

Dedicated Acreage:

None

Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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.

Hole #5-77-4 to be located:**SE1/4SE1/4SE1/4, sec.12, T.2S, R.3W**

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

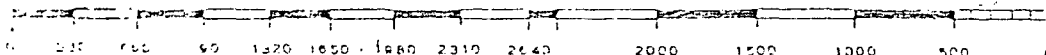
April 18, 1977

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

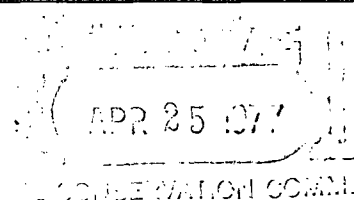
Certificate No.





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.

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

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G. S.		
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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 ☐ Temp. Observation ☒
Low-Temp Thermal ☐ Injection/Disposal ☐

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 **A**, **300** Feet From The **N.** Line and **300** Feet From
The **E.** Line, Section **15** Township **2S.** Range **3W.** NMPM.

7. Unit Agreement Name
None
8. Farm or Lease Name
None
9. Well No.
5-77-3
10. Field and Pool, or Wildcat
None

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

5990'

G.L.

12. County
Socorro

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 referenced temperature observation well has been dropped from the drilling program and will not be drilled. The site has not been occupied by any drilling equipment.

OCT 31 1977

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

SIGNED Steve Sweet TITLE VICE PRESIDENT DATE 10/25/77
Geothermal Services, Inc.APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 11/22/77

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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U. S.S.	1
Operator	1
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BLM

1

5. Indicate Type of Lease

STATE ☐FEE ☒

5.a State Lease No.

7. Unit Agreement Name

none

8. Farm or Lease Name

9. Well No.

5-77-3

10. Field and Pool, or Wildcat

none

12. County

Socorro

1a. Type of Work Drill ☒ Deepen ☐ Plug Back ☐b. Type of Well Geothermal Producer ☐Temp Observation ☒Low-Temp Thermal ☐Injection/Disposal ☐

2. Name of Operator

SUNOCO ENERGY DEVELOPMENT CORPORATION

3. Address of Operator

12700 Park Central Pl., Suite 1500, Dallas, Texas 75251

4. Location of Well UNIT LETTER A LOCATED 300 FEET FROM THE North LINEAND 300 FEET FROM THE East LINE OF SEC. 15 TWP. 2S RGE. 3W NMPM

19. Proposed Depth

500 ft

19A. Formation

unknown

20. Rotary or C.T.

rotary

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

5990 ft (GL)

21A. Kind & Status Plug. Bond

see note "A"

21B. Drilling Contractor

Geothermal Services

22. Approx. Date Work will start

May 10, 1977

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".

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.

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED.
8/11/77
EXPIRES

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

Title Chief Geologist, Services, Inc. Date April 18, 1977

(This space for State Use)

APPROVED BY

Carl Ulvog

TITLE

SENIOR PETROLEUM GEOLOGIST

DATE

5/13/77

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		Well No. 5-77-3	
Section Letter A	Section 15	Township 2S	Range 3W	County Socorro	
Actual Footage Location of Well: 300 feet from the North line and 300 feet from the East line					
Ground Level Elev. 5990'	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.

Hole #5-77-3 to be located:
NE1/4NE1/4NE1/4, sec.15, T.2S, R.3W

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
April 18, 1977

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.

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000



GEOTHERMAL SERVICES, INC.

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

APR 25 1977
GEOLOGICAL

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

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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.
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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.
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 - 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.
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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).
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 - c. Steel pipe must be used if drilling fluid temperature exceeds 100°F/40°C.
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 - 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.

GEO THERMAL SERVICES, INC.
San Diego, California
December, 1975

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NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088, Santa Fe 87501SUNDRY NOTICES AND REPORTS
ON
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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 ☒
 Low-Temp Thermal ☐ Injection/Disposal ☐

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 **D**, **600** Feet From The **W.** Line and **300** Feet From
The **N.** Line, Section **17** Township **2S.** Range **3W.** NMPM.

7. Unit Agreement Name
None

8. Farm or Lease Name

9. Well No.
5-77-2

10. Field and Pool, or Wildcat
None

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

6190'

G.L.

12. County
Socorro

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 referenced temperature observation well has been dropped from the drilling program and will not be drilled. The site has not been occupied by any drilling equipment.

OCT 31 1977

NEW MEXICO OIL CONSERVATION COMMISSION

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

SIGNED Steve Sweet TITLE **VICE PRESIDENT** DATE **10/25/77**
Geothermal Services, Inc.APPROVED BY Carl Ulvog TITLE **SENIOR PETROLEUM GEOLOGIST** DATE **11/22/77**

CONDITIONS OF APPROVAL, IF ANY:

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Operator	✓
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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.

7. Unit Agreement Name

none

8. Farm or Lease Name

9. Well No.

5-77-2

10. Field and Pool, or Wildcat

none

12. County

Socorro

1a. Type of Work

Drill ☒Deepen ☐Plug Back ☐

b. Type of Well

Geothermal Producer ☐Temp Observation ☒Low-Temp Thermal ☐Injection/Disposal ☐

2. Name of Operator

SUNOCO ENERGY DEVELOPMENT CORPORATION

3. Address of Operator

12700 Park Central Pl., Suite 1500, Dallas, Texas 75251

4. Location of Well

UNIT LETTER D LOCATED 600 FEET FROM THE West LINEAND 300FEET FROM THE N. LINE OF SEC. 17 TWP. 2S RGE. 3W NMPM

19. Proposed Depth

500 ft

19A. Formation

unknown

20. Rotary or C.T.

rotary

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

6190 ft (GL)

21A. Kind & Status Plug. Bond

see note "A"

21B. Drilling Contractor

Geothermal Services

22. Approx. Date Work will start

May 10, 1977

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".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.APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED.

EXPIRES 8/11/77

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

Title Chief Geologist, Services, Inc. Date April 18, 1977

(This space for State Use)

APPROVED BY

Carl Ulvog

TITLE

SENIOR PETROLEUM GEOLOGIST

DATE

5/13/77

CONDITIONS OF APPROVAL, IF ANY:

GEOTHERMAL RESOURCES WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section. DD 25 17

Operator Sunoco Energy Development Corp.		Lease		Well No. 5-77-2	
Letter D	Section 17	Township 2S	Range 3W	County Socorro	

Actual Footage Location of Well:

600 feet from the **West** line and **300** feet from the **North** line

Ground Level Elev. 6190'	Producing Formation None	Pool None	Dedicated Acreage: None Acres
------------------------------------	------------------------------------	---------------------	---

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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.

Hole #5-77-2 to be located:
NW1/4NW1/4NW1/4, sec.17, T.2S, R.3W

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
April 18, 1977

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.

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000



GEO THERMAL SERVICES, INC.

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

APR 25 1977

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.

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NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

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 ☐ Temp. Observation ☒
Low-Temp Thermal ☐ Injection/Disposal ☐2. Name of Operator
Sunoco Energy Development Corporation3. Address of Operator
12700 Park Central Pl., Suite 1500, Dallas, TX 752514. Location of Well
Unit Letter P, 700 Feet From The S. Line and 500 Feet From
The E. Line, Section 21 Township 2S. Range 3W. NMPM.

7. Unit Agreement Name

None

8. Farm or Lease Name

9. Well No.

5-77-7

10. Field and Pool, or Wildcat

None

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

6160'

G.L.

12. County

Socorro

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 referenced temperature observation well has been dropped from the drilling program and will not be drilled. The site has not been occupied by any drilling equipment.

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

SIGNED

TITLE VICE PRESIDENT

DATE 10/25/77

Geothermal Services, Inc.

APPROVED BY

TITLE

SENIOR PETROLEUM GEOLOGIST

DATE

11/22/77

CONDITIONS OF APPROVAL, IF ANY:

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NEW MEXICO OIL CONSERVATION COMMISSION

P. O. Box 2088, Santa Fe 87501

APR 25 1977

APPLICATION FOR PERMIT TO DRILL, DEEPEN,
OR PLUG BACK--GEOTHERMAL RESOURCES WELL5. Indicate Type of Lease
STATE ☐ FEE ☐
5.a State Lease No.

BLM

1

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		
2. Name of Operator SUNOCO ENERGY DEVELOPMENT CORPORATION	9. Well No. 5-77-7		
3. Address of Operator 12700 Park Central Pl., Suite 1500, Dallas, Texas 75251	10. Field and Pool, or Wildcat none		
4. Location of Well UNIT LETTER <u>P</u> LOCATED <u>700</u> FEET FROM THE <u>South</u> LINE AND <u>500</u> FEET FROM THE <u>East</u> LINE OF SEC. <u>21</u> TWP. <u>2S</u> RGE. <u>3W</u> NMPM	12. County Socorro		
19. Proposed Depth 500 ft	19A. Formation unknown	20. Rotary or C.T. rotary	
21. Elevations (Show whether DF, RT, etc.) 6160 ft (GL)	21A. Kind & Status Plug. Bond see note "A"	21B. Drilling Contractor Geothermal Services	22. Approx. Date Work will start May 10, 1977

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".

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.

APPROVAL VALID
FOR 90 DAYS UNLESS
DRILLING COMMENCED.
EXPIRES 8/11/77

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 Stephene Title Chief Geologist, Services, Inc. Date April 18, 1977

(This space for State Use)

APPROVED BY Carl Ulvog TITLE SENIOR PETROLEUM GEOLOGIST DATE 5/13/77
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 CONSERVATION COMMISSION		Well-No. 5-77-7
Letter P	Section 21	Township 2S	Range 3W	County Socorro

Actual Footage Location of Well:

700 feet from the **South** line and **500** feet from the **East** line

Ground Level Elev. 6160	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.

Hole #5-77-7 to be located:
NE1/4SE1/4SE1/4, sec.21, T.2S, R.3W

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

April 18, 1977

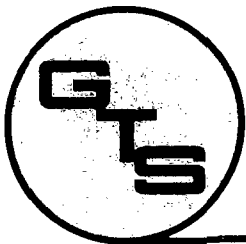
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer
and/or Land Surveyor

Certificate No.

0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 6500 7000 7500 8000 8500 9000 9500 10000



GEO THERMAL SERVICES, INC.

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

APR 25 1977

ENVIRONMENTAL COMM.

STANDARD SHALLOW TEMPERATURE GRADIENT HOLE DRILLING PROGRAM
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