

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

30-031-20861

Form C-101
Revised 10-1-78

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DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

3A. Indicate Type of Lease
STATE ☐ FEDERAL ☒
5. State Oil & Gas Lease No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER WATER INJECTION SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		8. Farm or Lease Name SANTA FE PACIFIC RR
2. Name of Operator GEO ENGINEERING INC		9. Well No. 19
3. Address of Operator PO BOX 29166, SANTA FE NM 87504-1966		10. Field and Pool, or Wildcat CHACO WASH MV
4. Location of Well UNIT LETTER P LOCATED 500 FEET FROM THE SOUTH LINE AND 660 FEET FROM THE EAST LINE OF SEC. 21 TWP. 20N RGE. 9W NMPM		12. County MC KINLEY
21. Elevations (Show whether DF, RT, etc.) 6405 GL		19. Proposed Depth 360'
21A. Kind & Status Plug. Bond BLANKET		19A. Formation MENEFFEE
21B. Drilling Contractor CO. TOOLS		20. Rotary or C.T. ROTARY
22. Approx. Date Work will start FEB 20, 1984		

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
6 1/4"	4 1/2"	10.5	360	80	SURFACE

BEFORE EXAMINER CATANACH

OIL CONSERVATION DIVISION

OCD

EXHIBIT NO.

2

CASE NO.

11813

PROPOSES TO DRILL THIS WELL
A WATER INJECTION WELL IN THE
EXPANSION OF THE CHACO WASH
POOD. THIS WELL WILL BE LOGGED
THE MENEFFEE

APPROVAL EXPIRES 8-3-84
UNLESS DRILLING IS COMMENCED.
SPUD NOTICE MUST BE SUBMITTED
WITHIN 10 DAYS.

PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCE-

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

Signed Jim Saw Title PETROLEUM ENGINEER Date 1-19-84

(This space for State Use)

APPROVED BY Frank D. Carg TITLE SUPERVISOR DISTRICT # 3 DATE FEB 03 1984

CONDITIONS OF APPROVAL, IF ANY:

W FX required before injection

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2000
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

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

Operator GEO ENGINEERING INC		Lease SANTA FE PACIFIC RR		Well No. 19
Unit Letter P	Section 21	Township 20 NORTH	Range 9 WEST	County MC KINLEY
Actual Footage Location of Well: 500 feet from the SOUTH line and 660 feet from the EAST line				
Ground Level Elev. 6405	Producing Formation MURKREEK	Pool CHACO WASH M/V	Dedicated Acreage: 40 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 Division.

RECEIVED

FEB 03 1984
OIL CON. DIV.
DIST. 3

CERTIFICATION

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

Name J. M. Law
Position PETROLEUM ENGINEER
Company GEO ENGINEERING INC

Date 1-20-84

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 1-4-84
Registered Professional Engineer and/or Land Surveyor [Signature]

Certificate No. 4051

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

Operator GEO ENGINEERING INC		Lease SANTA FE PACIFIC RR		Well No. 19
Unit Letter D	Section 21	Township 20 N	Range 9 W	County McKINLEY
Actual Footage Location of Well: 5700 feet from the S line and 660 feet from the E line				
Ground Level Elev. 6405	Producing Formation MENEFEE	Pool CHACO WASH M/V	Dedicated Acreage: 40 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 Division.

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APR 11 1986

OIL CON. DIV.)

DIST. 3

660'

CERTIFICATION:

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

Name _____

Position

Company _____

Date _____

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 3/1/96

Registered Professional Engineer
and/or Land Surveyor

Certificate No. _____

P

30-031-20861

2-3-84

F. Loc. 500/S; 660/E

Elev. 6405 GL

Spd.

Comp.

TD

PB

Casing S.
Csg. Perf.

@

W

Sx

Int.

@

W

Sx

Pr.

@

W

Sx

T

@

Prod. Stim.

T
R
A
N
S

I.P. BO/D MCF/D After Hrs. SICP PSI After Days GOR Grav. Ist Del.

TOPS	NITD X	Well Log	TEST DATA						
Kirtland	C-103	Plot X	Schd.	PC	Q	PW	PD	D	Ref.
Fruitland	C-104	Electric Log							
Pictured Cliffs		C-122							
Cliff House	Ditr	Dfa							
Menafee	Datr	Dac							
Point Lookout	WFX Required before injection								
Mancos									
Gallup									
Sanostee									
Greenhorn									
Dakota									
Morrison									
Entrada									
		40							

P

Chaco

Wash MV

Co. MCKs 21

T 20N R 9W

UP

Obr. Geo Engineering Inc. 120. Santa Fe Pacific RR. 19



TONY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-8178

September 24, 1984

Geo Engineering, Inc.
P.O. Box 1417
Socorro, NM 8781

Re: Santa Fe Pacific RR #19 P-21-20N-9W

Gentlemen:

Your permit to drill the referenced well has expired. At such time as you desire to drill this well you will have to file a new permit.

If you have any questions, please contact this office.

Sincerely,

A handwritten signature in dark ink, appearing to read "Frank T. Chavez".

Frank T. Chavez
District Supervisor

FTC/dj

xc: Well File
Santa Fe

ABANDONED LOCATION



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

March 29, 1984

APPLICATION OF GEO ENGINEERING, INC.
TO EXPAND ITS WATERFLOOD PROJECT
IN THE CHACO WASH MESA VERDE POOL IN
MCKINLEY COUNTY, NEW MEXICO

ORDER No. WFX-525

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Order No. R-6538 has made application to the Division on February 29, 1984 for permission to expand its Chaco Wash Mesaverde Waterflood Project in the Chaco Wash Mesaverde Pool in McKinley County, New Mexico.

NOW, on this _____ day of March, 1984, the Division Director finds:

1. That application has been filed in due form.
2. That satisfactory information has been provided that all offset operators have been duly notified of the application.
3. That no objection has been received within the waiting period as prescribed by Rule 701B.
4. That the proposed injection well is eligible for conversion to water injection under the terms of Rule 701.
5. That the proposed expansion of the above referenced waterflood project will not cause waste nor impair correlative rights.
6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Geo Engineering, Inc., be and the same is hereby authorized to inject water into the Menefee

formation through plastic-lined tubing set in a packer at approximately 30 feet above the uppermost perforations in the following described wells for purposes of waterflood to wit:

Chaco Wash Mesaverde Well No. 7
660' FNL and 990' FEL, Sec. 28,
T-20N, R-9W, McKinley County, NM,
Maximum Surface Injection Pressure Limit - 66 psi

Chaco Wash Mesaverde Well No. 11
330' FNL and 660' FEL, Sec. 28,
T-20N, R-9W, McKinley County, NM,
Maximum Surface Injection Pressure Limit - 61 psi

Chaco Wash Mesaverde Well No. 12
990' FNL and 660' FEL, Sec. 28,
T-20N, R-9W, McKinley County, NM,
Maximum Surface Injection Pressure Limit - 65 psi

Chaco Wash Mesaverde Well No. 19
500' FNL and 660' FEL, Sec. 21,
T-20N, R-9W, McKinley County, NM,
Maximum Surface Injection Pressure Limit - 61 psi

IT IS FURTHER ORDERED:

That the operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

That the casing-tubing annulus (in each well) shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection wells or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 0.2 psi/ft. depth of the highest perforations.

That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected fluid from the Menefee formation. That such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

That the operator shall notify the supervisor of the Division's Aztec District Office before injection is commenced through said wells.

That the operator shall immediately notify the Supervisor of the Division's Aztec District Office of the failure of the tubing, casing, or packer in said wells or the leakage of water from or around said wells and shall take such steps as may be timely or necessary to correct such failure or leakage.

That the subject wells shall be governed by all provisions of Division Order No. R-6538 and Rules 702, 703, 704, 705, and 706 not inconsistent herewith.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



JOE D. RAMEY,
Division Director

S E A L



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONY ANAYA
GOVERNOR

May 16, 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Geo Engineering
P. O. Box 2966
Santa Fe, New Mexico 87504-2966

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DEC 02 1985
CON. DIV.
DIST. 3

Attention: Jim M. Law, Petroleum Engineer

Re: Pressure Allowable Increase
Chaco Wash Mesaverde Waterflood
Wells Nos. 11 and 19
McKinley County, New Mexico

Dear Mr. Law:

I have completed a review of your request for an increase of injection pressure allowables on the subject wells. The following maximum injection pressure limits have been approved for the subject wells.

<u>Well Number</u>	<u>Maximum Injection Pressure Limit</u>
11	135 PSIG
19	170 PSIG

These limits were approved based on the step-rate tests you submitted to this office and after a 10 PSI safety factor was subtracted from the fracture pressure limit of each well.

Sincerely,

Gilbert P. Quintana

GILBERT P. QUINTANA
UIC Director/Petroleum Engineer

GPQ/fd

cc: R. L. Stamets, Division Director
File WFX-525 ✓
Case File 7039
Frank Chavez, Aztec District