

April 12, 1985

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Dick Staments

Case 8592

RE: Form C-108
Caudill SWD #G-32
FM01-001-032

Dear Mr. Staments:

Attached please find two (2) copies of the Form C-108 on the above referenced well.

This well is currently permitted to dispose of produced water in the Devonian formation.

The casing in this well is in relatively poor condition. It is our plan to remove the old 6-5/8" casing from surface to 4950', and then cement a new string of 7" casing back to surface. We would like to obtain permission from the OCD to increase our injection interval from the Devonian 14472 - 14474' to the entire interval below our new casing 4950 - 14474'.

Please place this matter on the docket for the next available hearing date. If you have any questions, please feel free to contact our office.

Sincerely yours,

J. T. Janica Jr., PE
NRE, Agents for
Fannie Lee Mitchell Inc.

Enclosures

cc: chrono
file
J. Sexton - OCD Hobbs
F.L.M. Inc.

BEFORE EXAMINER QUINTANA	
OIL CONSERVATION DIVISION	
MITCHELL	EXHIBIT NO. <u>1</u>
CASE NO.	<u>8592</u>

Case 8592

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no
- II. Operator: Fannie Lee Mitchell
Address: P. O. Box 1327 Lovington, New Mexico 88260
Contact party: JT Janica NRE, Agents for FL Mitchell Phone: 397-6319
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project SWD-17
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
NA
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: J. T. Janica Title NRE, Agents for FL Mitchell
Signature: [Signature] Date: April 12, 1993

- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal.

Fannie Lee Mitchell
Caudill SWD G-32
C-108

ILLEGIBLE

I. See Form C-108

II. See Form C-108

III. Well Data

Lease Name: Caudill SWD

Well #: G-32

Location: Unit G, 1980' FNL & 1830' FEL
Sec. 32, T-15-S, R-36-E

See Well Bore Sketch for information on casing,
tubing, and packer.

IV. See Form C-108

V. Attachment A is a map showing wells and leases
within a two mile radius with a 1/2 mile radius, area
of review, marked.

VI. There are no wells within the area of review which
penetrate the proposed injection zone.

VII. Operational Data

1. Average injection rate: 1300 bbls./day

Maximum injection rate: 1700 bbls./day

2. The system is closed.

3. Average injection pressure: 0

Maximum injection pressure: 0

VIII. Proposed injection interval is from 4950' - TD of well
14480' ($\pm$ 9530' interval).

<u>FORMATION</u>	<u>TOP</u>	<u>BASE</u>	<u>THICKNESS</u>	<u>LITHOLOGY</u>
San Andres	4775'	6420'	1645'	Dolomite, Anhydrite
Glorieta	6420'	7010'	590'	Sands, Dolomite, Anhydrite
Clearfork	7010'	7612'	602'	Anhydritic Dolomite
Tubb	7612'	8370'	758'	Siltstone, Shale, Dolomite, Anhydrite
Abo	8370'	9852'	1482'	Shale, Dolomite, Anhydrite
Hueco	9852'	10917'	1065'	Limestone, Shale, Dolomite
Penn	10917'	13190'	2273'	Limestone, Shale
Miss	13190'	14031'	841'	Limestone, Chert
Woodford	14031'	14171'	140'	Shale
Devonian	14171'	14433'	262'	Dolomite

Fannie Lee Mitchell
Caudill SWD G-32
C-108

- VIII. Depth to base of the Ogallala fresh water aquifer in area is 350'±. No known fresh water occurs below this depth in the immediate area.
- IX. No stimulation program is planned.
- X. Well logs are on file with the Oil Conservation Division.
- XI. Attached are water analyses from wells within the area of review.
- XII. We have examined available geological and engineering data and find no evidence of open faults or other hydrological connection between the proposed disposal zone and any underground source of drinking water.
- XIII. We are contacting the offset operators within the area of review via mail (return receipt requested) and have furnished them with a copy of this application. We will furnish copies of the return receipts to the Commission when we receive them.

NEW-TEX LAB

P. O. BOX 1181
MOORE, N.M. 88240

CERTIFICATE OF ANALYSIS

No. 6795
Run No. _____
Date of Run 4-11-85
Date Secured 4-10-85

A Sample of L. Richards (650 Northeast)
Secured from Fannie Lee Mitchell
At Box 1327 Secured by _____
Lovington, N. Mex. 88260 Time _____ Date _____
Sampling conditions _____ Press _____
Temp. _____
Station No. _____

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 587
PH = 7.17

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	4	80.1
MAGNESIUM	(MG)+2	2.2	26.8
SODIUM	(NA), CALC.	2.4	56.7

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	3.2	195.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	2.4	118.
CHLORIDES	(CL)-1	3	110

DISSOLVED GASES		
CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON(TOTAL)	(FE)	NOT RUN
BARIUM	(BA)+2	NOT RUN
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .013

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	1.56
CALCIUM CARBONATE SCALING	LIKELY
CALCIUM SULFATE INDEX	-16.
CALCIUM SULFATE SCALING	UNLIKELY



[Handwritten signature]

NEW-TEX

LAB

P. O. BOX 1181
HOBBS, N.M. 88240

No. 6796

Run No. _____

Date of Run 4-11-85

Date Secured 4-10-85

CERTIFICATE OF ANALYSIS

A Sample of Jimmy Williams (600 Yards East)

Secured from Fannie Lee Mitchell

At Box 1327 Secured by _____

Lovington, N. Mex. 88260 Time _____ Date _____

Sampling conditions _____ Press _____

Temp. _____

Station No. _____

SPECIFIC GRAVITY = 1

TOTAL DISSOLVED SOLIDS = 985

PH = 6.88

		ME/L	MG/L
CATIONS			
CALCIUM	(CA)+2	9	180.
MAGNESIUM	(MG)+2	1.4	17.0
SODIUM	(NA), CALC.	4.1	95.1

		ME/L	MG/L
ANIONS			
BICARBONATE	(HCO3)-1	3.4	207.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	5.1	295
CHLORIDES	(CL)-1	5	190

		ME/L	MG/L
DISSOLVED GASES			
CARBON DIOXIDE	(CO2)	NOT RUN	
HYDROGEN SULFIDE	(H2S)	NOT RUN	
OXYGEN	(O2)	NOT RUN	

		ME/L	MG/L
IRON(TOTAL)	(FE)	NOT RUN	
ARIUM	(BA)+2	NOT RUN	
MANGANESE	(MN)	NOT RUN	

NIC STRENGTH (MOLAL) = .023

SCALING INDEX	TEMP
	30C
	86F
CARBONATE INDEX	.999
CALCIUM CARBONATE SCALING	LIKELY

SCALING INDEX	TEMP
CALCIUM SULFATE INDEX	-12.



ILLEGIBLE

NEW-TEX
LAB

P. O. BOX 1181
MC885, N.M. 88240

No. 6797

Run No.

Date of Run 4-11-85

Date Secured 4-10-85

CERTIFICATE OF ANALYSIS

A Sample of Mobil Oil Northeast (500 Yards)
Secured from Fannie Lee Mitchell
At Box 1327 Lovington, N. Mex. 88260 Secured by _____ Date _____
Sampling conditions Press _____ Temp _____ Station No. _____

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 952
= 6.63

		ME/L	MG/L
CATIONS			
LIUM	(CA)+2	8	160.
NIUM	(MG)+2	1.4	17.0
DIUM	(NA),CHLO.	4.1	95.6

ANIONS			
CARBONATE	(HCO3)-1	5.4	329.
RBONATE	(CO3)-2	0	0.
DROXIDE	(OH)-1	0	0
LFATE	(SO4)-2	4.1	200
DRIDES	(CL)-1	4	150

DISSOLVED GASES			
EBON DIOXIDE	(CO2)	NOT RUN	
ROGEN SULFIDE	(H2S)	NOT RUN	
GEN	(O2)	NOT RUN	

N(TOTAL)	(FE)	NOT RUN	
IUM	(BA)+2	NOT RUN	
GANESE	(MN)	NOT RUN	

IC STRENGTH (MOLAL) = .021

SCALING INDEX

TEMP

30C

86F

ONATE INDEX

1.02

IUM CARBONATE SCALING

LIKELY

IUM SULFATE INDEX

-13.

IUM SULFATE SCALING

UNLIKELY



ILLEGIBLE

NEW-TEX
L&B

P. O. BOX 1161
HOBBS, N.M. 88240

No. 6798

Run No. _____

Date of Run. 4-11-85

Date Secured. 4-10-85

CERTIFICATE OF ANALYSIS

A Sample of Lea County Coop Well #3 (400 Yards)

Secured from Fannie Lee Mitchell

At Box 1327

Secured by _____

Lovington, N. Mex. 88260

Time _____

Date _____

Sampling conditions _____ Press _____

Temp. _____

Station No. _____

SPECIFIC GRAVITY = 1
TOTAL DISSOLVED SOLIDS = 608
H = 6.82

ME/L

MG/L

CATIONS

CALCIUM	(CA)+2	3.6	72.1
MAGNESIUM	(MG)+2	1	12.1
SODIUM	(NA), CALC.	4.2	97.4

ANIONS

BICARBONATE	(HCO3)-1	3.6	219.
CARBONATE	(CO3)-2	0	0
HYDROXIDE	(OH)-1	0	0
SULFATE	(SO4)-2	2.2	107.
CHLORIDES	(CL)-1	3	100

DISSOLVED GASES

CARBON DIOXIDE	(CO2)	NOT RUN
HYDROGEN SULFIDE	(H2S)	NOT RUN
OXYGEN	(O2)	NOT RUN

IRON(TOTAL)	(FE)	NOT RUN
BARIUM	(BA)+2	NOT RUN
MANGANESE	(MN)	NOT RUN

IONIC STRENGTH (MOLAL) = .012

SCALING INDEX

TEMP

50C

86F

1.30

CARBONATE INDEX
CALCIUM CARBONATE SCALING

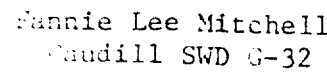
LIKELY

CALCIUM SULFATE INDEX
CALCIUM SULFATE SCALING

-17.
UNLIKELY



ILLEGIBLE



WELL BORE SKETCH

OPERATOR/LEASE/WELL Fannie Lee Mitchell / Caudill SWD / G-32
NRE JOB NUMBER FM01-001-032 DATE April 12, 1985
FIELD/POOL Caudill / Devonian
PLUG BACK DEPTH 14480' KB ELEVATION 3901' GL

