

CASE 3366: Application of COASTAL
STATES for a pilot pressure main-
tenance project, Lea County.

ASE No.

3366

Application,
Transcripts,
Small Exhibits
ETC.

COASTAL STATES GAS PRODUCING COMPANY

EXHIBITS FOR CASE NO. 3366

PILOT PRESSURE MAINTENANCE PROJECT

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
II EXHIBIT NO. A
CASE NO. 3366

COASTAL STATES GAS PRODUCING COMPANY

NORTH TEXAS DIVISION
614 CITIZENS NATIONAL BANK BUILDING
ABILENE, TEXAS

January 10, 1966

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

Re: Flying "M" San Andres Field,
Lea County, New Mexico
Sec 16, 17, 20, 21, 28, 29,
of T-9S, R-33E.

Gentlemen:

Coastal States Gas Producing Company requests permission to initiate a pilot pressure maintenance project in the Flying "M" San Andres Field of Lea County, New Mexico. This proposed pilot project will consist of three injection wells at the present time. We also request that provisions be made so that all additional injection wells may be approved administratively.

The three injection wells are described as follows:

Southern Minerals State 15 No. 1,
NW/4 of SW/4, Sec 15;

Southern Minerals State 21 #4,
SE/4 of NE/4, Sec 21;

Gonsales Federal 33 #4;
NW/4 of NW/4, Sec 33;

All in Township 9, South; Range 33 East.

The Southern Minerals State 15 No. 1 is presently being used as a salt water disposal well. Permission to inject produced salt water into this well was obtained by Commission Order No. R-2924 in June, 1965. This water is being injected into the aquifer below the water-oil contact in the Slaughter Zone of the San Andres. To date, 41,000 barrels have been injected at approximately 900 psi at 225 barrels oil per day. No beneficial effects have been detected as a result of this injection program.

We are requesting permission to inject produced San Andres water into two additional wells, in order to further evaluate the possibility of maintaining the reservoir pressure by bottom water injection (injecting below the water-oil contact).

The Southern Minerals State 21 No. 4 is a replacement well for the Southern Minerals State 21 No. 3, which was drilled in August, 1964, and subsequently lost due to hole problems. Attached is a plat showing the exact location of the proposed replacement well. Also attached is a diagrammatic sketch showing how this well is to be equipped for injection, utilizing 2- $\frac{1}{2}$ " plastic coated tubing for casing.

The Gonsales Federal 33 No. 4 was drilled to a total depth of 4534' in July, 1965. The Slaughter Zone was tested and found to be predominantly (98%) water productive. It is presently temporarily abandoned. Attached is a diagrammatic sketch showing the proposed method of converting this well to injection status.

Coastal States is not requesting any allowable change or transfer of allowables at this time. As soon as sufficient response has been demonstrated, efforts to unitize the entire field will be resumed.

The State Engineer, as well as all offset operators, are being notified by copies of this application.

Very truly yours,

Jack R. McGraw
Division Engineer

JRMCG/ec
Enc.

CC: NMOCC
Hobbs, New Mexico

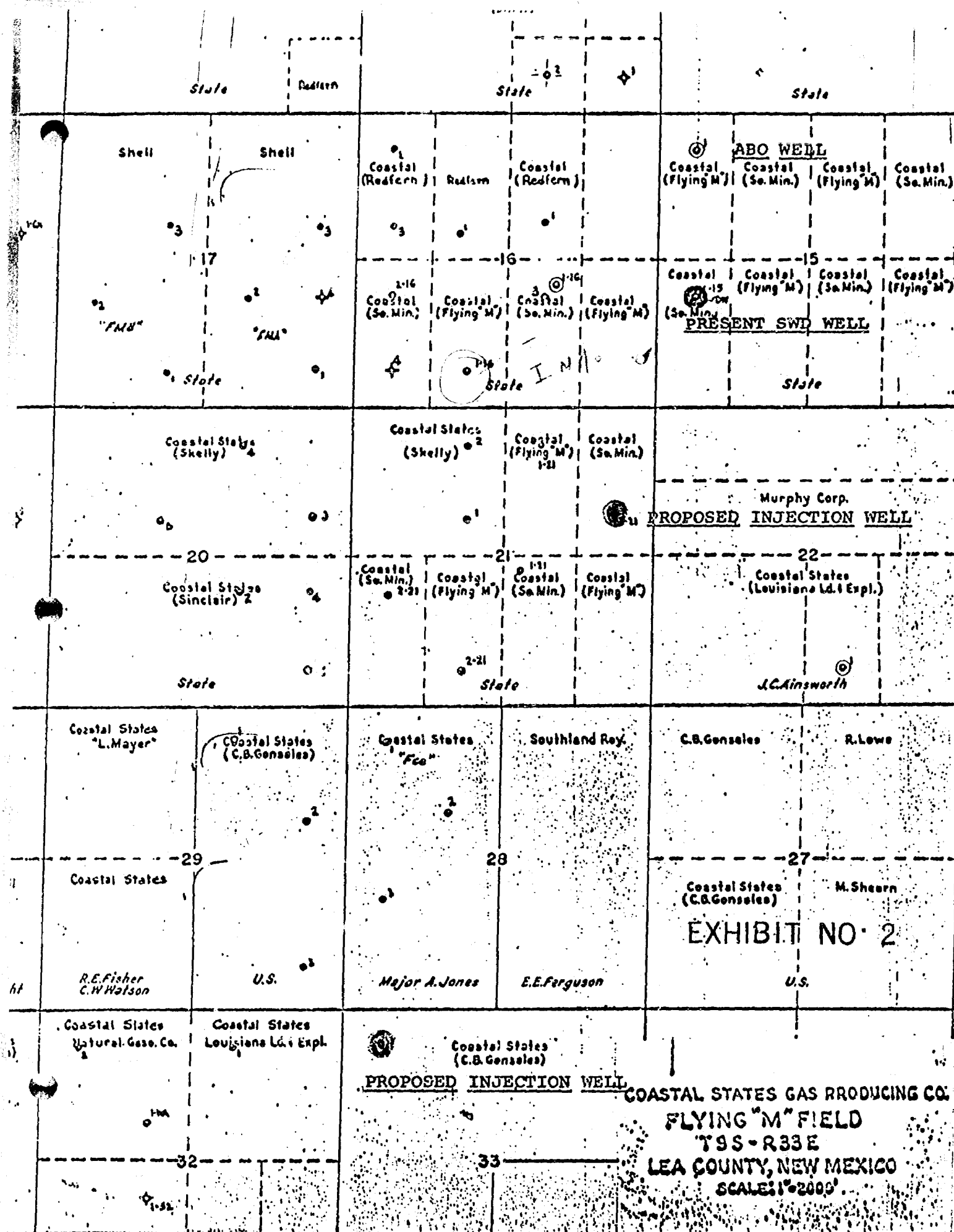
Shell Oil Company
Redfern & Herd, Inc.

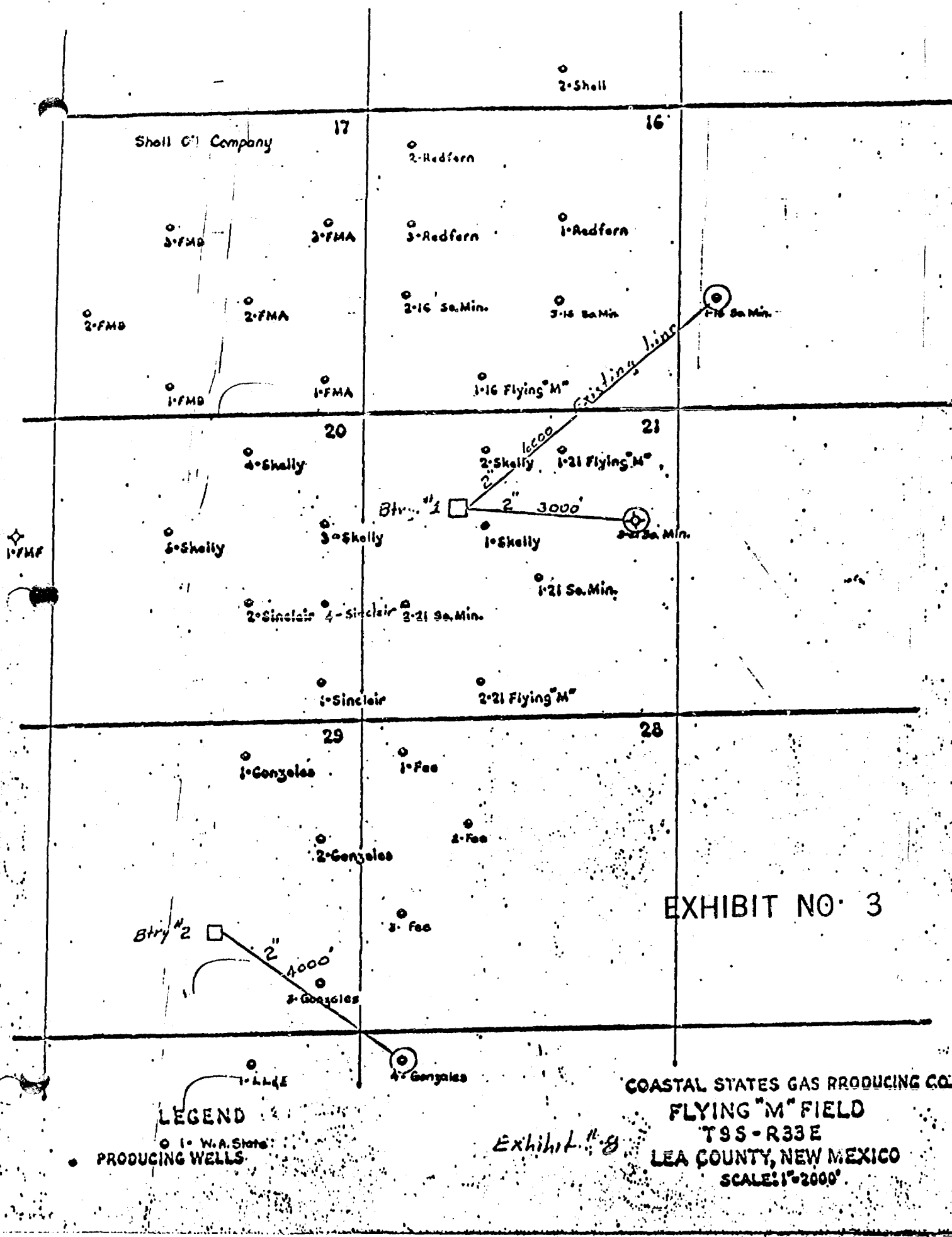
Mr. Frank Irby,
State Engineer,
Santa Fe, New Mexico

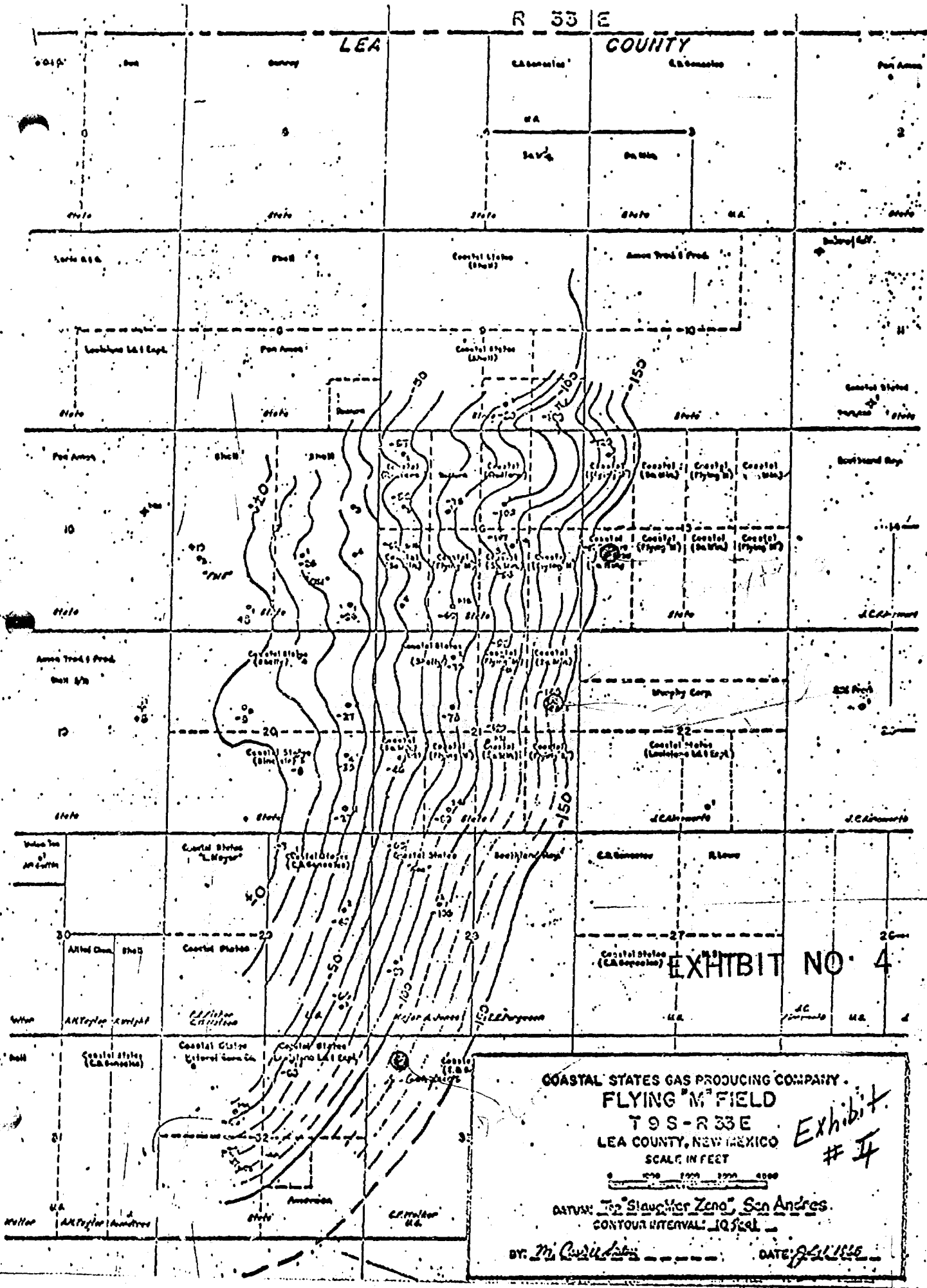
PERTINENT DATA

1. Injection will be into the Slaughter Zone of the San Andres Formation at approximately 4450'.
2. Water to be injected will be produced water from the Flying "M" San Andres Field.
3. Expected injection rate is 500 barrels water per day per well.
4. The expected injection pressure is 1700 psi.

EXHIBIT NO 1

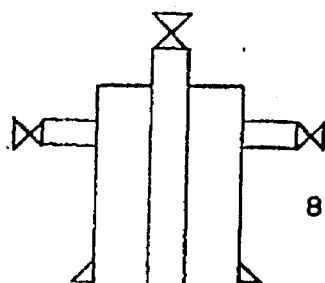






COASTAL STATES GAS PRODUCING COMPANY
SOUTHERN MINERALS STATE 21 #4

EXHIBIT NO. 5



8-5/8" set @ 250'

2-1/2" Plastic Coated Csg

Expected Top of Cement 3500'

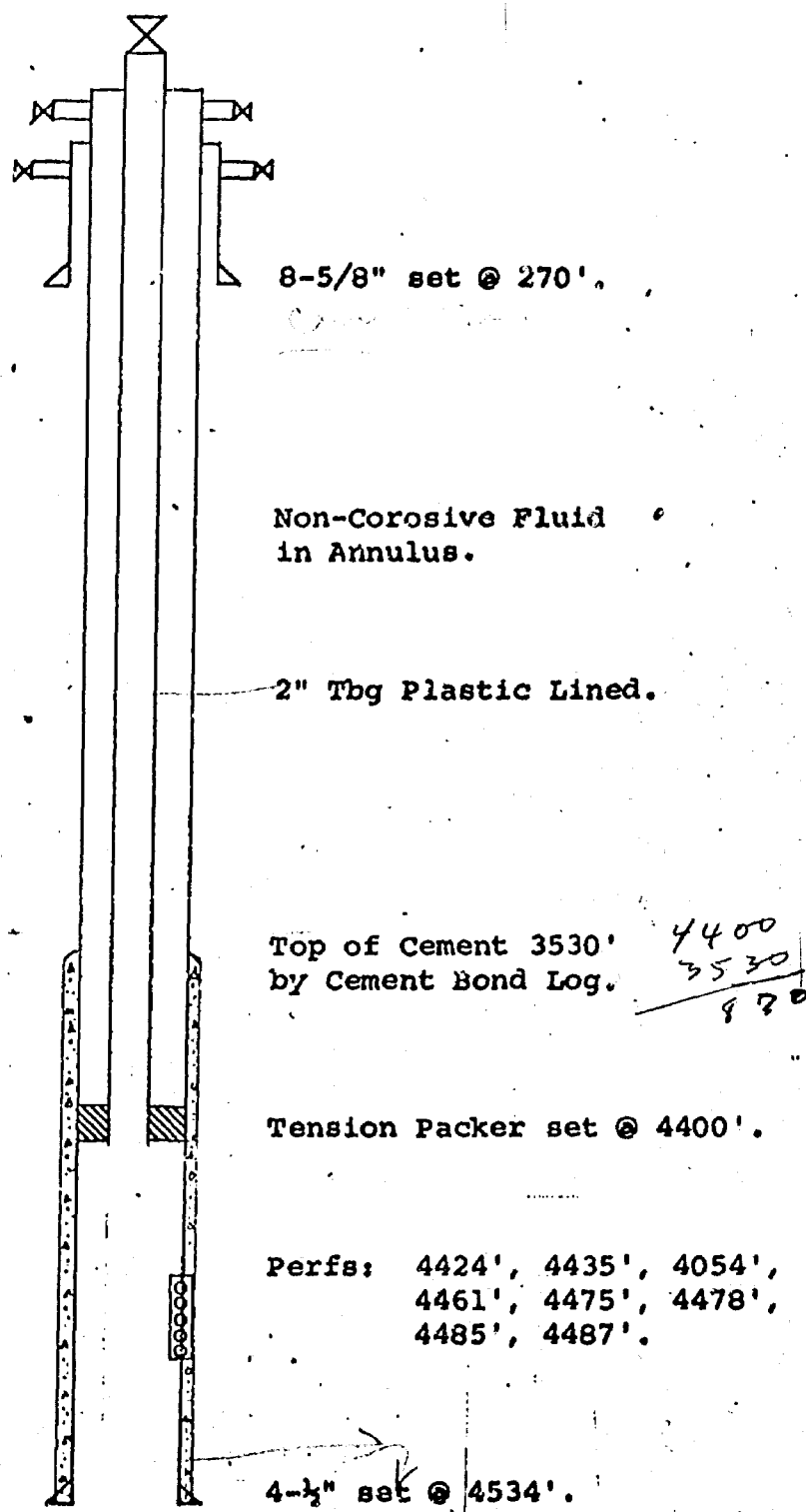
Perforate
Slaughter Zone of San Andres

4400 approx

2-1/2" Plastic Coated Csg
set @ approximately 4600'.

COASTAL STATES GAS PRODUCING COMPANY
GONSALES FEDERAL #33-4

EXHIBIT NO. 6





Acoustic-Gamma Ray Log

FILE NO.

COMPANY COASTAL STATES GAS PRODUCING COMPANY

WELL # 4 GONZALES FEDERAL

FIELD FLYING "M" (SAN ANDRES)

COUNTY LEA STATE NEW MEXICO

LOCATION:

C/W/M

SEC 33 TWP 9-S RGE 33-E

Other Services
L-3
NFL
COMPUTED
POROSITY

Permanent Datum

G.L. Elev. 4283.4

Log Measured from K.B. 11 Ft. Above Permanent Datum

Elevations:
KB 4294.4
DF 4293.4
GL 4283.4

Dilling Measured from K.B.

Date 7-25-65

Run No. ONE

Total Depth Driller 4533

Total Depth PGAC 4531

Bottom Logged Interval 4526

Coring Driller 272

Coring PGAC NOT DETECTED

Footage Logged 4426

Mud Type SALT GEL

Density Visc. 9.8 44

Max. Temp. (F) 105°F

Rec. To Rec. Spacing 2'

Trans. To Rec. Spacing 5'

Logging Instrument 15-135-83

Equip. No. ES-114

Recorded By LEWIS

Witnessed By MR. STATON

EXHIBIT NO. 7

BORE HOLE RECORD

Bit Size From To

7 7/8 272 T.D.

CASING RECORD

Csg. Size Csg. Wt. From To

8 5/8 SURFACE 272

4400

4500

BLI

MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the center of the well. **INDEX OFFICE, C. O. C.**

COASTAL STATES GAS PRODUCING CO.				SOUTHERN MINERAL SURV. CO.		Well No. 4
Unit Letter H	Section 21	Township 9 SOUTH	Range 33 EAST	County LEA		
Actual Footage Location of Well:						
1978		feet from the	NORTH	Distance 860	feet from the	EAST
Ground Level Elev. 4355	Producing Formation San Andres		Depth 80	Producing Artesian 80		Artesian

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

By: *H. L. Smith*

Agent
Coastal States Gas Producing Company

Date: December 28, 1965

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: 12-18-65

Registered Professional Engineer and/or Land Surveyor

John W. West

License No. N.M. P.E. & L.S. NO. 676

WELLS DIVISION OF THE

CHEMICAL COMPANY

FIELD LABORATORY REPORT

WATER ANALYSIS

TO: Mr. J. J. Howard

Billings, Texas

DATE SAMPLE SUBMITTED

6-6-64

SAMPLE SOURCE

Well 1190

LABORATORY LOCATION

Billings, Texas

COMPANY

Local States

FOUL

Olivine M

COUNTY

Lee

FORMATION

San Andres

SUBMITTED BY

Mr. J. J. Howard

REPORT NUMBER

1190

WELL

Northern Mineral 2-21

LOCATION

STATE

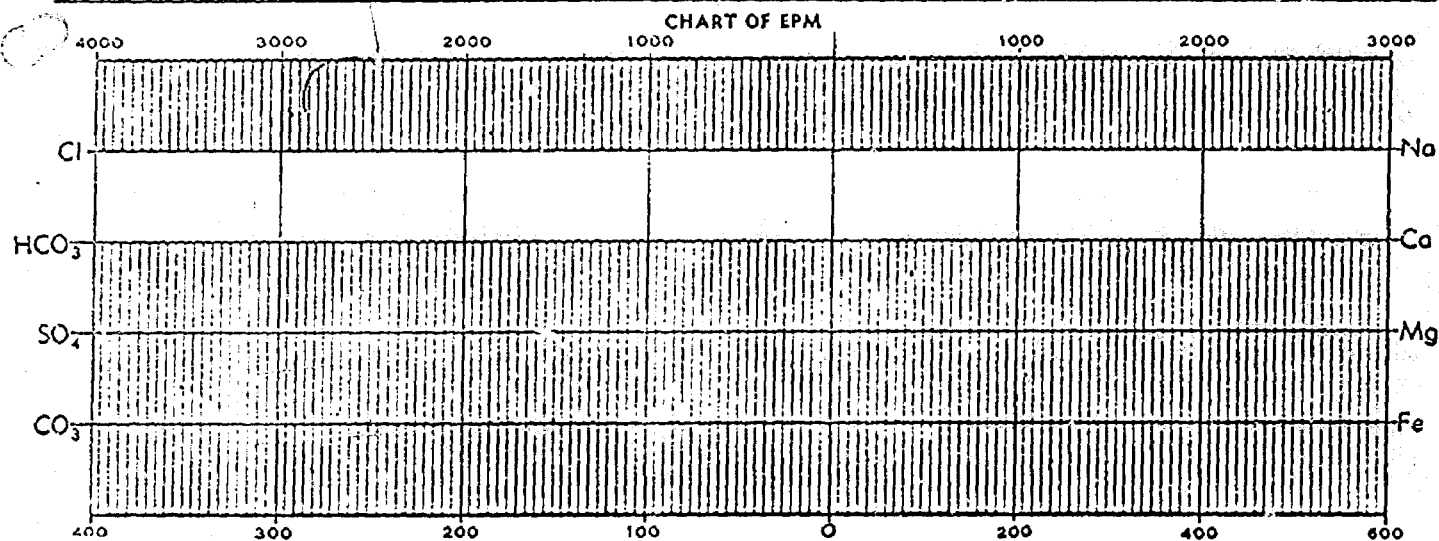
New Mexico

DEPTH

TESTS DESIRED

N/A

	PPM	EPM		PPM	EPM
CALCIUM	2260	113	CHLORIDE	11,700	3320
MAGNESIUM	915	78	SULFATE	2800	59
SODIUM	71500	3200	BICARBONATE	507	10
IRON			CARBONATE		
HYDROGEN SULFIDE	Strong Odor		HYDROXIDE		
SPECIFIC GRAVITY	1.154	AT 91	CoCl ₂ /MgCl ₂		% SALT SATURATION



REMARKS:

About Same as Redfin #1 But alot less Ca & Mg than shell State #2
(Which may have still had some spent acid water in it.)

EXHIBIT NO. 9

F.F. Flippen

6-6-64

CHEMIST

DATE

EXHIBIT NO. 10

Docket No. 4-66

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 26, 1966

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 2720: (Reopened and continued from the January 5, 1966 Examiner Hearing)

In the matter of Case No. 2720 being reopened pursuant to the provisions of Order No. R-2397-B which continued the original order for an additional year, establishing special rules governing the production of oil and gas wells in the Double-X Delaware Pool, Lea County, New Mexico, including classification of wells as gas wells when the gas-liquid hydrocarbon ratio exceeds 30,000 to one.

CASE 3365: Application of Humble Oil & Refining Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the North Cedar Hills Unit Area comprising approximately 8,500 acres of Federal, State and Fee lands in Township 20 South, Range 28 East, and Township 21 South, Range 27 East, Eddy County, New Mexico.

CASE 3366: Application of Coastal States Gas Producing Company for a pilot pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot pressure maintenance project by the injection of water into the San Andres formation through three wells in Sections 15, 21 and 33, Township 9 South, Range 33 East, Flying "M" San Andres Pool, Lea County, New Mexico; applicant further seeks rules governing said project including a provision for administrative approval for the conversion of additional wells to water injection.

CASE 3367: Application of Penroc Oil Corporation for a non-standard oil proration unit and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a non-standard oil proration unit comprising the NE/4 SW/4, N/2 SE/4, and SW/4 SE/4 of Section 7, Township 19 South, Range 32 East, Lusk-Strawn Pool, Lea County, New Mexico, said unit to be dedicated to a well to be drilled at an unorthodox location for said pool 660 feet from the South line and 1650 feet from the East line of said Section 7.

CASE 3368: Application of Standard Oil Company of Texas for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Maljamar Waterflood Project, formerly the Leonard Nichols Maljamar Waterflood Project, by the conversion to water injection of nine wells located in Sections 3, 4, 9, 10, 11 and 15, Township 17 South, Range 32 East, Lea County, New Mexico.

DRAFT

JMD/esr

Jan. 31, 1966

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CF Subj. _____

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3366

Order No. R- 3033

APPLICATION OF COASTAL STATES GAS
PRODUCING COMPANY FOR A PILOT PRES-
SURE MAINTENANCE PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
January 26, 1966, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this _____ day of February, 1966, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Coastal States Gas Producing Com-
pany, seeks authority to institute a pilot pressure maintenance
project in the Flying "M" San Andres Pool, Lea County, New Mexico,
by the injection of water into the San Andres formation through
three wells in Sections 15, 21, and 33, Township 9 South, Range
33 East, NMPM, Lea County, New Mexico.

(3) That the applicant also seeks the establishment of an
administrative procedure for approval of additional water injec-
tion wells.

(4) That the proposed pilot pressure maintenance project is
in the interest of conservation and should result in greater ulti-
mate recovery of oil, thereby preventing waste.

(5) That the proposed pilot pressure maintenance project should be approved and an administrative procedure should be established for approval of additional water injection wells.

IT IS THEREFORE ORDERED:

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to institute a pilot pressure maintenance project designated the Coastal States Flying "M" Pressure Maintenance Project in the Flying "M" San Andres Pool, Lea County, New Mexico, by the injection of water into the San Andres formation through the following-described wells in Township 9 South, Range 33 East, NMPM, Lea County, New Mexico:

Southern Minerals State 15 Well No. 1, located in Unit L of Section 15;

Southern Minerals State 21 Well No. 4, located in Unit H of Section 21; and

Gonsales Federal 33 Well No. 4, located in Unit D of Section 33.

(2) That the Secretary-Director is hereby authorized to approve additional water injection wells in the Coastal States Flying "M" Pressure Maintenance Project in accordance with the following-described administrative procedure:

A. The project operator shall file an application in accordance with the provisions of Rule 701 B of the Commission's General Rules and Regulations.

B. The applicant shall forward a copy of the application to each operator offsetting each proposed injection well and the application shall state that such notice has been furnished.

C. The Secretary-Director may approve the application upon receipt of waivers from all offset operators or if no offset operator has objected within 15 days after the Secretary-Director has received the application.

-3-
CASE No. 3366

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

COASTAL STATES GAS PRODUCING COMPANY

NORTH TEXAS DIVISION
614 CITIZENS NATIONAL BANK BUILDING
ABILENE, TEXAS

Case 3366

January 10, 1966

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

Re: Flying "M" San Andres Field,
Lea County, New Mexico
Sec 16, 17, 20, 21, 28, 29,
of T-9S, R-33E.

Gentlemen:

Coastal States Gas Producing Company requests permission to initiate a pilot pressure maintenance project in the Flying "M" San Andres Field of Lea County, New Mexico. This proposed pilot project will consist of three injection wells at the present time. We also request that provisions be made so that all additional injection wells may be approved administratively.

The three injection wells are described as follows:

Southern Minerals State 15 No. 1, *SWD now.*
NW/4 of SW/4, Sec 15;

Southern Minerals State 21 #4,
SE/4 of NE/4, Sec 21;

Gonsales Federal 33 #4;
NW/4 of NW/4, Sec 33;

All in Township 9, South; Range 33 East.

The Southern Minerals State 15 No. 1 is presently being used as a salt water disposal well. Permission to inject produced salt water into this well was obtained by Commission Order No. R-2924 in June, 1965. This water is being injected into the aquifer below the water-oil contact in the Slaughter Zone of the San Andres. To date, 41,000 barrels have been injected at approximately 900 psi at 225 barrels oil per day. No beneficial effects have been detected as a result of this injection program.

LET MAILED

*1-13-66**OK*

COASTAL STATES GAS PRODUCING COMPANY

We are requesting permission to inject produced San Andres water into two additional wells, in order to further evaluate the possibility of maintaining the reservoir pressure by bottom water injection (injecting below the water-oil contact).

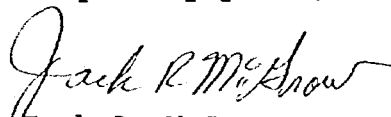
The Southern Minerals State 21 No. 4 is a replacement well for the Southern Minerals State 21 No. 3, which was drilled in August, 1964, and subsequently lost due to hole problems. Attached is a plat showing the exact location of the proposed replacement well. Also attached is a diagrammatic sketch showing how this well is to be equipped for injection, utilizing 2- $\frac{1}{2}$ " plastic coated tubing for casing.

The Gonsales Federal 33 No. 4 was drilled to a total depth of 4534' in July, 1965. The Slaughter Zone was tested and found to be predominantly (98%) water productive. It is presently temporarily abandoned. Attached is a diagrammatic sketch showing the proposed method of converting this well to injection status.

Coastal States is not requesting any allowable change or transfer of allowables at this time. As soon as sufficient response has been demonstrated, efforts to unitize the entire field will be resumed.

The State Engineer, as well as all offset operators, are being notified by copies of this application.

Very truly yours,


Jack R. McGraw
Division Engineer

JRMCG/ec
Enc.

CC: NMOCC
Hobbs, New Mexico

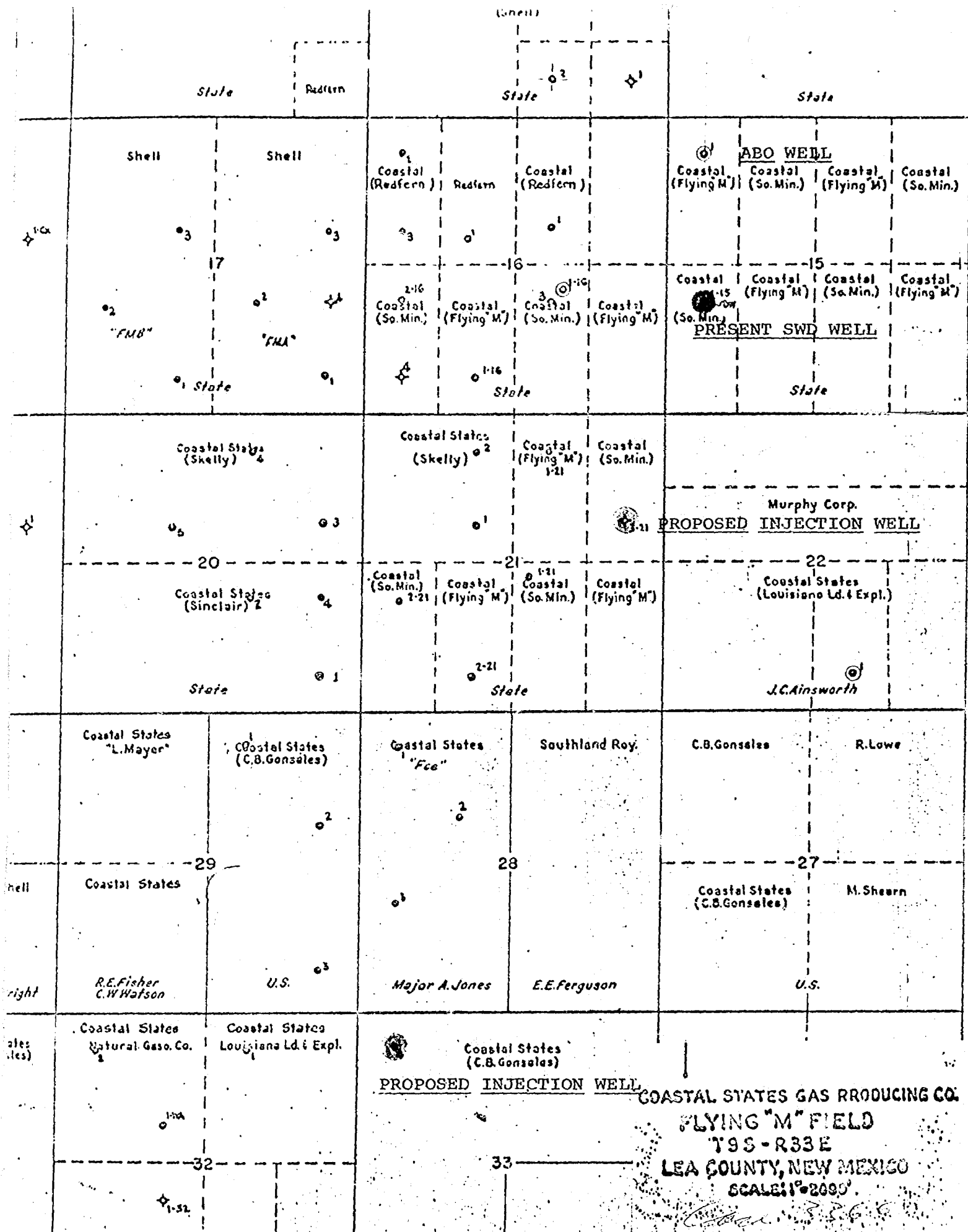
Shell Oil Company
Redfern & Herd, Inc.

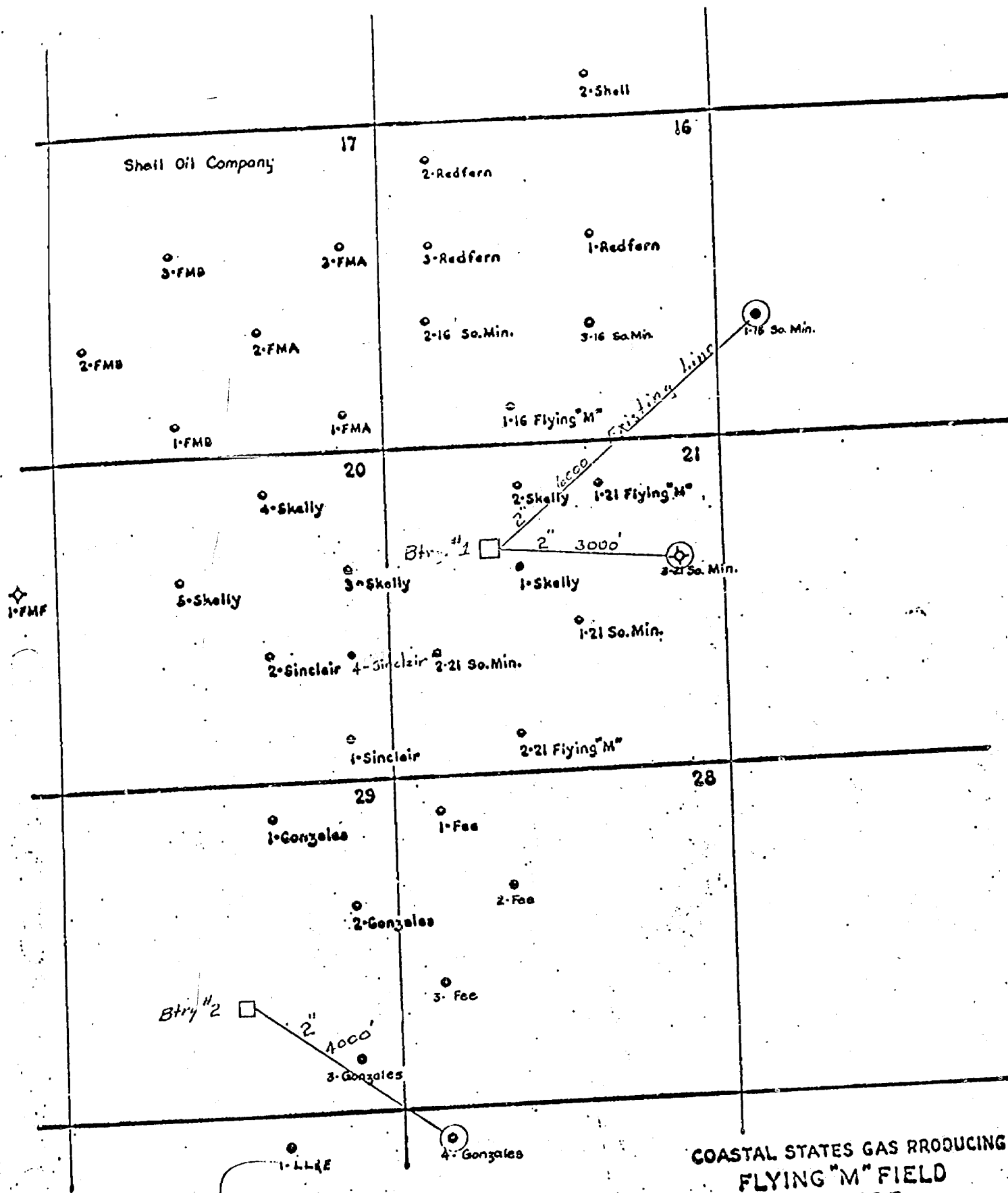
Mr. Frank Irby,
State Engineer,
Santa Fe, New Mexico

PERTINENT DATA

Page 3366

1. Injection will be into the Slaughter Zone of the San Andres Formation at approximately 4450'.
2. Water to be injected will be produced water from the Flying "M" San Andres Field.
3. Expected injection rate is 500 barrels water per day per well.
4. The expected injection pressure is 1700 psi.



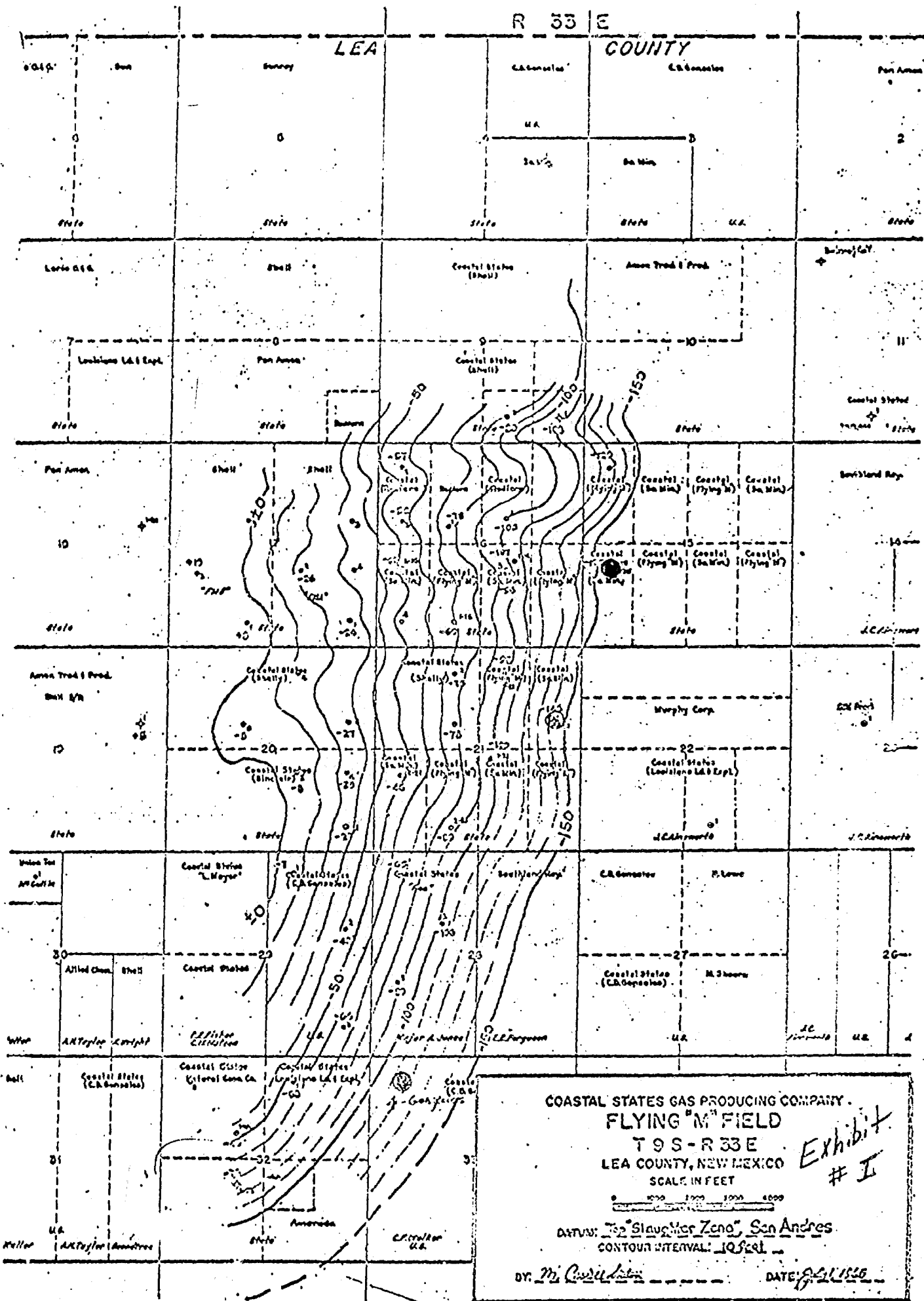


LEGEND
 • 1 - W.A. State
 • PRODUCING WELLS

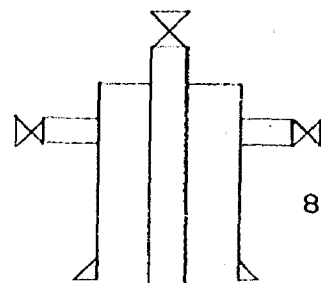
Exhibit # 8

COASTAL STATES GAS PRODUCING CO.
 FLYING "M" FIELD
 T9S - R33 E
 LEA COUNTY, NEW MEXICO
 SCALE: 1" = 2000'

Card 3366



COASTAL STATES GAS PRODUCING COMPANY
SOUTHERN MINERALS STATE 21 #4



8-5/8" set @ 250'

2-1/2" Plastic Coated Csg

Expected Top of Cement 3500'

Perforate
Slaughter Zone of San Andres

2-1/2" Plastic Coated Csg
set @ approximately 4600'.

Well 3360

MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-61

All distances must be from the outer boundary of the well.

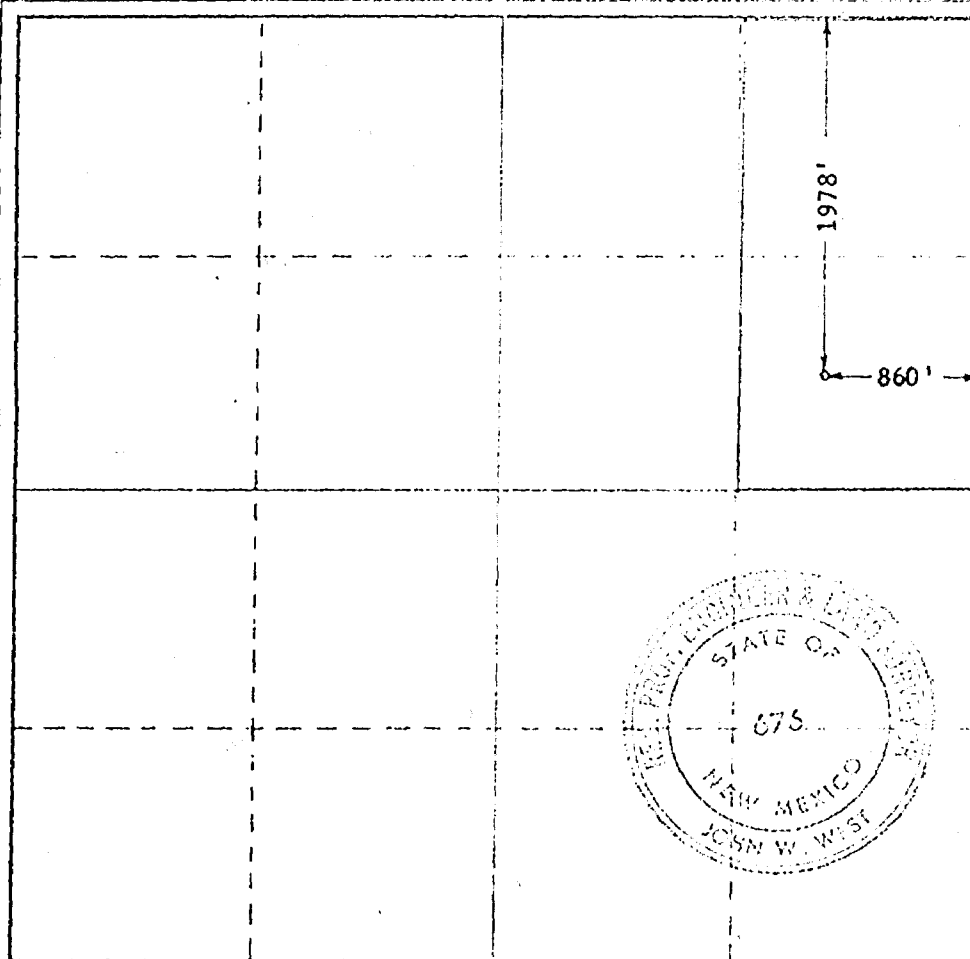
Operator COASTAL STATES GAS PRODUCING CO.		Lease SOUTHERN MINERALS STATE 521		Well No. 4
Unit Letter H	Section 21	Township 9 SOUTH	Range 33 EAST	LEA
Actual Footage Location of Well:				
1978 feet from the NORTH		860 feet from the EAST		
Ground Level Elev. 4355	Producing Formation San Andres	Flow Flying m/m	Flow Rate 80	

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

Date *H. L. Bunt*

Agent
Coastal States Gas Producing Company

Date **December 28, 1965**

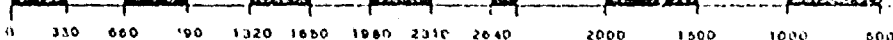
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
12-18-65

Registered Professional Engineer and/or Land Surveyor

John W. West

License No. **N.M. P.E. & L.S. No. 676**



Case 3366

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 26, 1966

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 2720: (Reopened and continued from the January 5, 1966 Examiner Hearing)

In the matter of Case No. 2720 being reopened pursuant to the provisions of Order No. R-2397-B which continued the original order for an additional year, establishing special rules governing the production of oil and gas wells in the Double-X Delaware Pool, Lea County, New Mexico, including classification of wells as gas wells when the gas-liquid hydrocarbon ratio exceeds 30,000 to one.

CASE 3365: Application of Humble Oil & Refining Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the North Cedar Hills Unit Area comprising approximately 8,500 acres of Federal, State and Fee lands in Township 20 South, Range 28 East, and Township 21 South, Range 27 East, Eddy County, New Mexico.

CASE 3366: Application of Coastal States Gas Producing Company for a pilot pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot pressure maintenance project by the injection of water into the San Andres formation through three wells in Sections 15, 21 and 33, Township 9 South, Range 33 East, Flying "M" San Andres Pool, Lea County, New Mexico; applicant further seeks rules governing said project including a provision for administrative approval for the conversion of additional wells to water injection.

CASE 3367: Application of Penroc Oil Corporation for a non-standard oil proration unit and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a non-standard oil proration unit comprising the NE/4 SW/4, N/2 SE/4, and SW/4 SE/4 of Section 7, Township 19 South, Range 32 East, Lusk-Strawn Pool, Lea County, New Mexico, said unit to be dedicated to a well to be drilled at an unorthodox location for said pool 660 feet from the South line and 1650 feet from the East line of said Section 7.

CASE 3368: Application of Standard Oil Company of Texas for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Maljamar Waterflood Project, formerly the Leonard Nichols Maljamar Waterflood Project, by the conversion to water injection of nine wells located in Sections 3, 4, 9, 10, 11 and 15, Township 17 South, Range 32 East, Lea County, New Mexico.

January 26, 1966 Examiner Hearing

- CASE 3369: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Devonian formation through perforations from 10,604 to 10,780 feet in its State "BO" Well No. 4 located in Unit M, Section 13, Township 11 South, Range 32 East, Moore-Devonian Pool, Lea County, New Mexico.
- CASE 3370: Application of Shell Oil Company for an exception to Rule 8 of Order No. R-2065 and to Rule 301, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 8 of Order No. R-2065 and to Rule 301 of the Commission rules and regulations to permit discontinuance of individual gas-oil ratio tests in its Carson Bisti-Lower Gallup Pressure Maintenance Project, Bisti-Lower Gallup Oil Pool, San Juan County, New Mexico. Applicant proposes to report gas production and ratios on a unit-wide basis rather than individual well GOR data.
- CASE 3371: Application of Midwest Oil Corporation for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Harris State Well No. 1 at an unorthodox location 660 feet from the South line and 1980 feet from the West line of Section 29, Township 13 South, Range 34 East, Nonombre-Pennsylvanian Field, Lea County, New Mexico.
- CASE 3372: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the amendment to Rule 104 F of the Commission rules and regulations to provide administrative procedure for the approval of an unorthodox location necessitated by recompletion of a well previously drilled to another horizon.
- CASE 3373: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider amendment of Rule 301 to provide executive authority for the Secretary-Director to exempt, for good cause, certain pools from the annual gas-oil ratio test requirements; further, the Secretary-Director could, where necessary, order annual oil production tests in lieu of gas-oil ratio tests.
- CASE 3374: In the matter of the hearing called by the Oil Conservation Commission on its own motion to amend Rule 302 of the Commission rules and regulations to eliminate the requirement for calibration of bottom-hole pressure test bombs prior and subsequent to each pressure test.

Case 3366.

Heard 1-26-66.

Rec. 1-27-66.

1. Approve Coastal States Pressure maintenance project for the 'Dying' M' San Andreas oil Pool.

2. (a) The So. Minerals Lt. #15 #1 unit L of 15-25-33E was approved for a SWD well by order R-2924.

(b) So. Minerals Lt 21 #4, ~~was~~ H sec. 21

(c) So. Minerals Lt. 33 #4 D - sec. 33

(b) & (c) should be approved in this order.

3. These wells shall have the cement circulated on the surface string and shall be cemented above the slaughter zone of the San Andreas formation to adequately ~~and~~ retain the injected salt water to their zone.

Internally plastic coated tubing shall be used for the injection string.

Provide a dim approval of procedure.
Injection wells. ~~at 500~~

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3366
Order No. R-3033

APPLICATION OF COASTAL STATES GAS
PRODUCING COMPANY FOR A PILOT PRES-
SURE MAINTENANCE PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on
January 26, 1966, at Santa Fe, New Mexico, before Examiner
Elvis A. Utz.

NOW, on this 3rd day of February, 1966, the Commission,
a quorum being present, having considered the testimony, the
record, and the recommendations of the Examiner, and being fully
advised in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Coastal States Gas Producing Com-
pany, seeks authority to institute a pilot pressure maintenance
project in the Flying "M" San Andres Pool, Lea County, New Mexico,
by the injection of water into the San Andres formation through
three wells in Sections 15, 21, and 33, Township 9 South, Range
33 East, NMPM, Lea County, New Mexico.

(3) That the applicant also seeks the establishment of an
administrative procedure for approval of additional water injec-
tion wells.

(4) That the proposed pilot pressure maintenance project is
in the interest of conservation and should result in greater ulti-
mate recovery of oil, thereby preventing waste.

-2-

CASE No. 3366
Order No. R-3033

(5) That the proposed pilot pressure maintenance project should be approved and an administrative procedure should be established for approval of additional water injection wells.

IT IS THEREFORE ORDERED:

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to institute a pilot pressure maintenance project designated the Coastal States Flying "M" Pressure Maintenance Project in the Flying "M" San Andres Pool, Lea County, New Mexico, by the injection of water into the San Andres formation through the following-described wells in Township 9 South, Range 33 East, NMPM, Lea County, New Mexico:

Southern Minerals State 15 Well No. 1, located
in Unit L of Section 15;

Southern Minerals State 21 Well No. 4, located
in Unit H of Section 21; and

Gonsales Federal 33 Well No. 4, located in
Unit D of Section 33.

(2) That the Secretary-Director is hereby authorized to approve additional water injection wells in the Coastal States Flying "M" Pressure Maintenance Project in accordance with the following-described administrative procedure:

A. The project operator shall file an application in accordance with the provisions of Rule 701 B of the Commission's General Rules and Regulations.

B. The applicant shall forward a copy of the application to each operator offsetting each proposed injection well and the application shall state that such notice has been furnished.

C. The Secretary-Director may approve the application upon receipt of waivers from all offset operators or if no offset operator has objected within 15 days after the Secretary-Director has received the application.

-3-
CASE No. 3366
Order No. R-3033

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

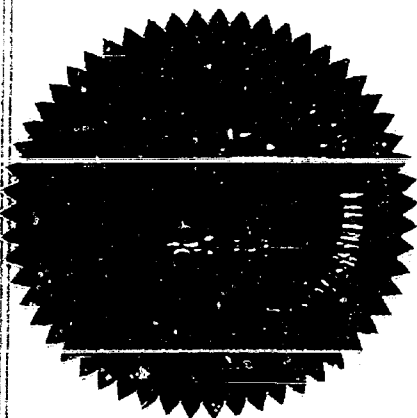
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


JACK M. CAMPBELL, Chairman


GUYTON B. HAYS, Member


A. L. PORTER, Jr., Member & Secretary



GBI/

State of New Mexico
Oil Conservation Commission



P. O. BOX 2088
SANTA FE

Other _____

*Attention
Santa Fe
Office*

COASTAL STATES GAS PRODUCING COMPANY
NORTH TEXAS DIVISION
614 CITIZENS NATIONAL BANK BUILDING
ABILENE, TEXAS

HOBBS OFFICE C. C. C.
May 12 2 43 PM '66
HOBBS OFFICE 0000
MAY 16 8 20 AM '66

May 10, 1966

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

Re: Coastal States'
Gonsales Federal 33 #4,
Unit D, Sec 33, T-9S, R33E,
Lea County, New Mexico.

Gentlemen:

Attached is Form C-108, prepared in order to convert the subject well to water injection. Permission to convert this well to water injection was obtained by Order No. R-3033 from the New Mexico Oil Conservation in January, 1966; however, Form C-108 or Federal Form 9-331 (Sundry Notices and Reports on Wells) was not submitted at that time. They are herewith attached, so that this well can be classified as a water injection well. If any further information is needed, please advise.

Very truly yours,

Jack R. McGraw
Jack R. McGraw
Division Engineer

JRMCG/ec
Enc.

CC: U. S. Department of the Interior
Geological Survey
P. O. Box 1157
Hobbs, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Coastal States Gas Producing Company		ADDRESS P. O. Box 2438, 24th St., El Paso, Texas			
LEASE NAME Gonsales Federal	WELL NO. 4	FIELD Flying "M" (San Andres)	COUNTY Lea		
LOCATION UNIT LETTER <u>D</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>North</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>33</u> TOWNSHIP <u>9-S</u> RANGE <u>33-E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8"	270'	200	Circ	Observation
INTERMEDIATE					
LONG STRING	4-1/2"	4534'	250	3530'	Cement Bond Log
TUBING	2-3/8" (EUE) 4400'	NAME, MODEL AND DEPTH OF TUBING PACKER Halliburton R-3 Tension			
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 4410'		BOTTOM OF FORMATION 4530'	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perfs		PROPOSED INTERVAL(S) OF INJECTION 4424-35', 4455-62', 4476-79', 4486-88'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil; however, produced water instead.		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 150'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 4400'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 8691'	
ANTICIPATED DAILY INJECTION VOLUME (BBL/DAY)	MINIMUM 250	MAXIMUM 800	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 1900 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Produced Water	NATURAL WATER IN DISPOSAL ZONE Same	ARE WATER ANALYSES ATTACHED? Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) John R. McGuffin, P. O. Box 66, Caprock, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Southland Royalties, 1603 First National Bank Building, Fort Worth, Texas					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

Jack R. McGuffin Division Engineer May 10, 1966
(Signature) (Title) (Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

6. LEASE DESIGNATION AND SERIAL NO.

NM-058102

6. IF INDIAN, ALLOTTED OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for such proposals.)

1.

OIL WELL ☐ GAS WELL ☐ OTHER ☒ Water Injection Well

2.

NAME OF OPERATOR
Coastal States Gas Producing Company

3.

ADDRESS OF OPERATOR
P. O. Box 2498, Abilene, Texas

4.

LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface659.5' FNL & 662' FWL, Sec 33, T9S, R33E,
Lea County, New Mexico

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, RT, GR, etc.)

4284.3' GL

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Gonsales Federal

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Flying "M" (SA)

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

33, 9S, 33E

12. COUNTY OR PARISH

Lea

13. STATE

New Mexico

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

Conversion to Water Injection X

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

July, 1965 - Well was drilled to 4534'. The Slaughter Zone of the San Andres was tested through perforations @ 4424-35', 4455-62', 4476-79', 4486-88' and found to be predominantly (98%) water productive. Well was temporarily abandoned.

April, 1966 - Plastic coated tubing with tension packer was run and set at 4400'. A corrosion inhibited fluid was placed in the annulus and the well was equipped for water injection.

18. I hereby certify that the foregoing is true and correct

SIGNED

(This space for Federal or State office use)

TITLE

Division Engineer

DATE

May 10, 1966

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

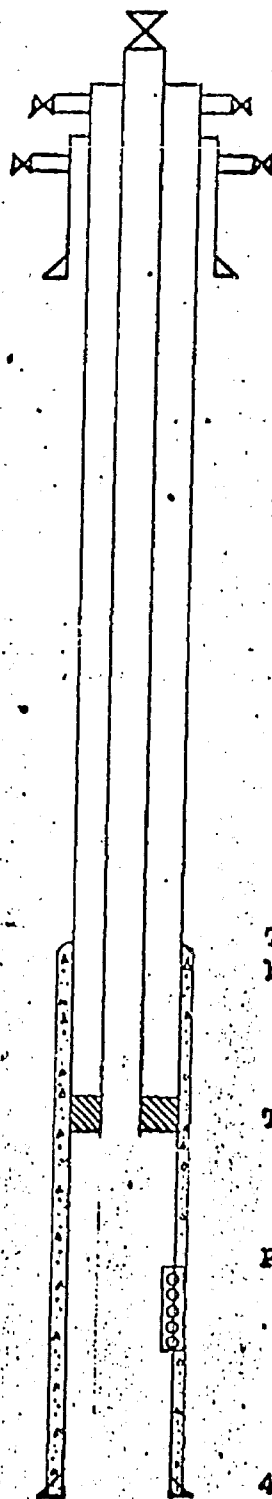
TITLE

DATE

*See Instructions on Reverse Side

COASTAL STATES GAS PRODUCING COMPANY
GONSALES FEDERAL #33-4

Exhibit No. 6



8-5/8" set @ 270'.

Non-Corrosive Fluid
in Annulus.

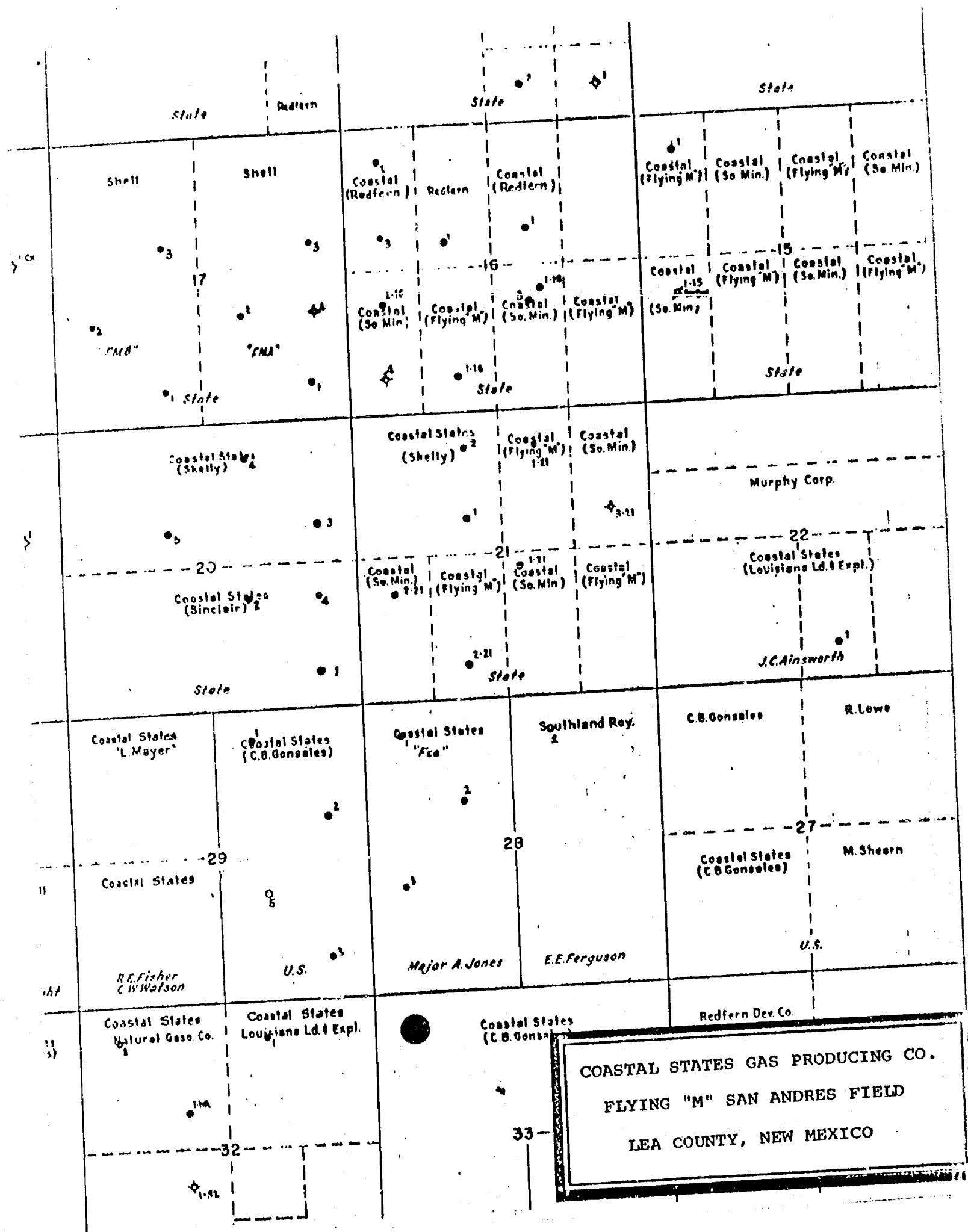
2" Tbg Plastic Lined.

Top of Cement 3530'
by Cement Bond Log.

Tension Packer set @ 4400'.

Perfs: 4424', 4435', 4054',
4461', 4475', 4478',
4485', 4487'.

4-1/2" set @ 4534'.



(A) (C) Acoustic-Gamma Ray Log

COMPANY Coastal States Gas Prod. Co.

WELL # 4 Gonzales Federal

FIELD Flying 'M' (San Andres)

COUNTY Lea STATE New Mexico

LOCATION: C / NW / NW

Other Services

LL-3

MFL

INOP

SEC 33 TWP 7-S RGE 33-E

G.L. Elev. 4293.4

Elevations: KB 4294.4

H.B. 11.2 Ft. Above Permanent Datum

DF 4295.4

from H.B.

GL 4293.4

7-25-65

ONE

4533

4531

4526

272

Not Detected

4486

5.6 ft. 6.1

9.8 44

105°

1'

5'

TS-125:93

BS-11.4

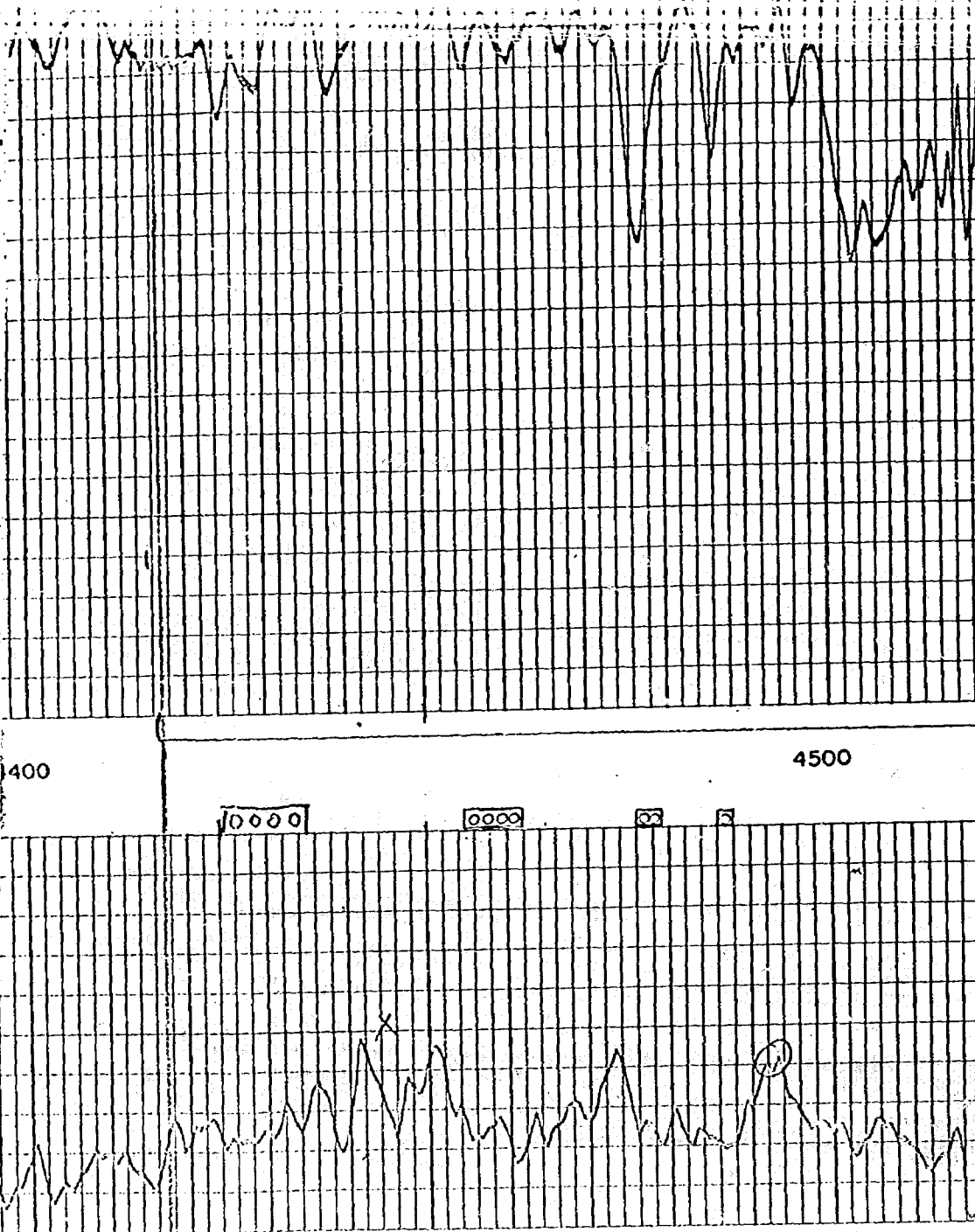
Levis

IN A. 5.1 ft. 2

CLE RECORD

CASING RECORD

From	To	Csg. Size	Csg. Wt.	From	To
<u>72</u>	<u>1.0</u>	<u>2 7/8</u>		<u>547.8</u>	<u>272</u>

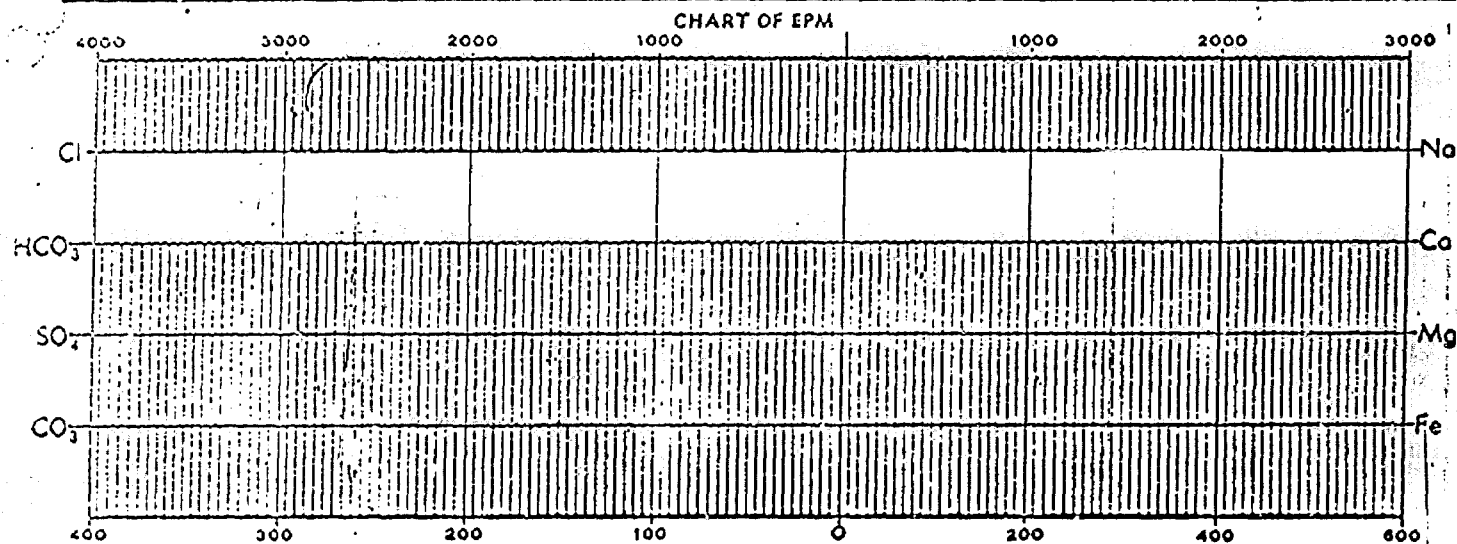


FIELD LABORATORY REPORT

WATER ANALYSIS

TO: General Electric Gas Producing
 Co. 200
 Abilene, Texas

LABORATORY LOCATION Abilene, Tex.		REPORT NUMBER 2604			
COMPANY General Electric		WELL Southern Mineral 2-21			
POUL Alvin, N		LOCATION			
COUNTY Lee		STATE New Mexico			
FORMATION San Andres		DEPTH			
SUBMITTED BY R. J. Foxand		TESTS DESIRED N/A			
DATE SAMPLE SUBMITTED 6-6-64		SAMPLE SOURCE Grab line			
PPM		EPM			
CALCIUM	2260	113	CHLORIDE	11,870.0	3320
MAGNESIUM	91.6	78	SULFATE	2800	59
SODIUM	71,500	3200	BICARBONATE	507	10
IRON			CARBONATE		
HYDROGEN SULFIDE	Strong Odor		HYDROXIDE		
SPECIFIC GRAVITY 1.154		AT 91 °F		pH 5.4	
		CoCl ₂ /MgCl ₂		% SALT SATURATION	



REMARKS:

About Same as Redfin #1 But alot less Ca & Mg than shell State #2
 (Which may have still had some spent acid water in it.)

Exhibit No. 9

F.F. Flippen

6-6-64

CHEMIST

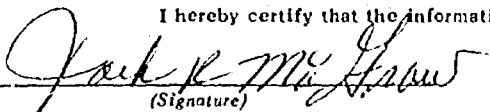
DATE

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Coastal States Gas Producing Company		ADDRESS P. O. Box 2498, Abilene, Texas			
LEASE NAME Gonsales Federal	WELL NO. 4	FIELD Flying "M" (San Andres)	COUNTY Lea		
LOCATION UNIT LETTER <u>D</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>North</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>33</u> TOWNSHIP <u>9-S</u> RANGE <u>33-E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING SURFACE CASING	SIZE 8-5/8"	SETTING DEPTH 270'	SACKS CEMENT 200	TOP OF CEMENT Circ	TOP DETERMINED BY Observation
INTERMEDIATE					
LONG STRING	4-1/2"	4534'	250	3530'	Cement Bond Log
TUBING	2-3/8" (EUE) 4400'	NAME, MODEL AND DEPTH OF TUBING PACKER Halliburton R-3 Tension			
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 4410'		BOTTOM OF FORMATION 4530'	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perfs		PROPOSED INTERVAL(S) OF INJECTION 4424-35', 4455-62', 4476-79', 4486-88'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil; however, produced water instead.		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 150'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 4400'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 8691'	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D) 250	MINIMUM 800	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Pressure	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 1900 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE. Yes		WATER TO BE DISPOSED OF Produced Water		NATURAL WATER IN DISPOSAL ZONE Same	ARE WATER ANALYSES ATTACHED? Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) John R. McGuffin, P. O. Box 66, Caprock, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Southland Royalties, 1603 First National Bank Building, Fort Worth, Texas					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-D) Yes		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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



Division Engineer

(Title)

May 10, 1966

(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE
(Other instructions on re-
verse side)Form approved
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION SERIAL NO.

NM-058102

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Gonsales Federal

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Flying "M" (SA)

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

33, 9S, 33E

14. PERMIT NO.

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

4284.3' GL

12. COUNTY OR PARISH

Lea

13. STATE

New Mexico

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

Conversion to Water Injection X

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

July, 1965 - Well was drilled to 4534'. The Slaughter Zone of the San Andres was tested through perforations @ 4424-35', 4455-62', 4476-79', 4486-88' and found to be predominantly (98%) water productive. Well was temporarily abandoned.

April, 1966 - Plastic coated tubing with tension packer was run and set at 4400'. A corrosion inhibited fluid was placed in the annulus and the well was equipped for water injection.

18. I hereby certify that the foregoing is true and correct

SIGNED

Jack H. McGraw

TITLE

Division Engineer

DATE

May 10, 1966

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Instructions

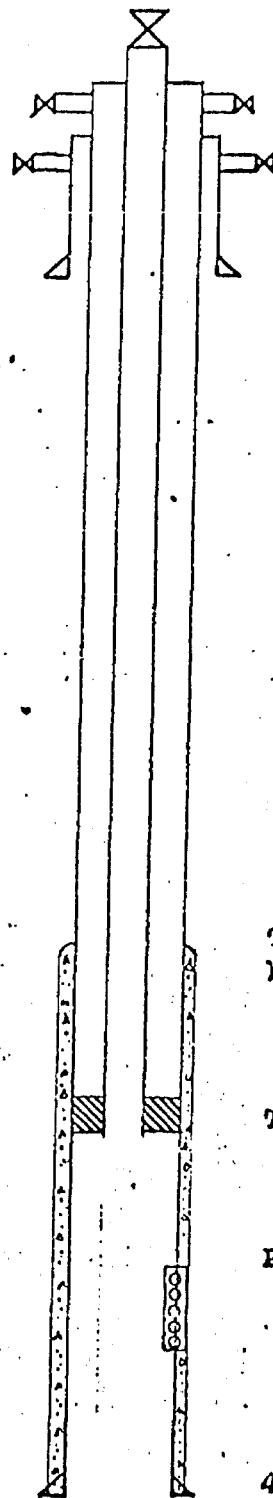
General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

COASTAL STATES GAS PRODUCING COMPANY
GONSALES FEDERAL #33-4

Exhibit No. 6



8-5/8" set @ 270'.

Non-Corrosive Fluid
in Annulus.

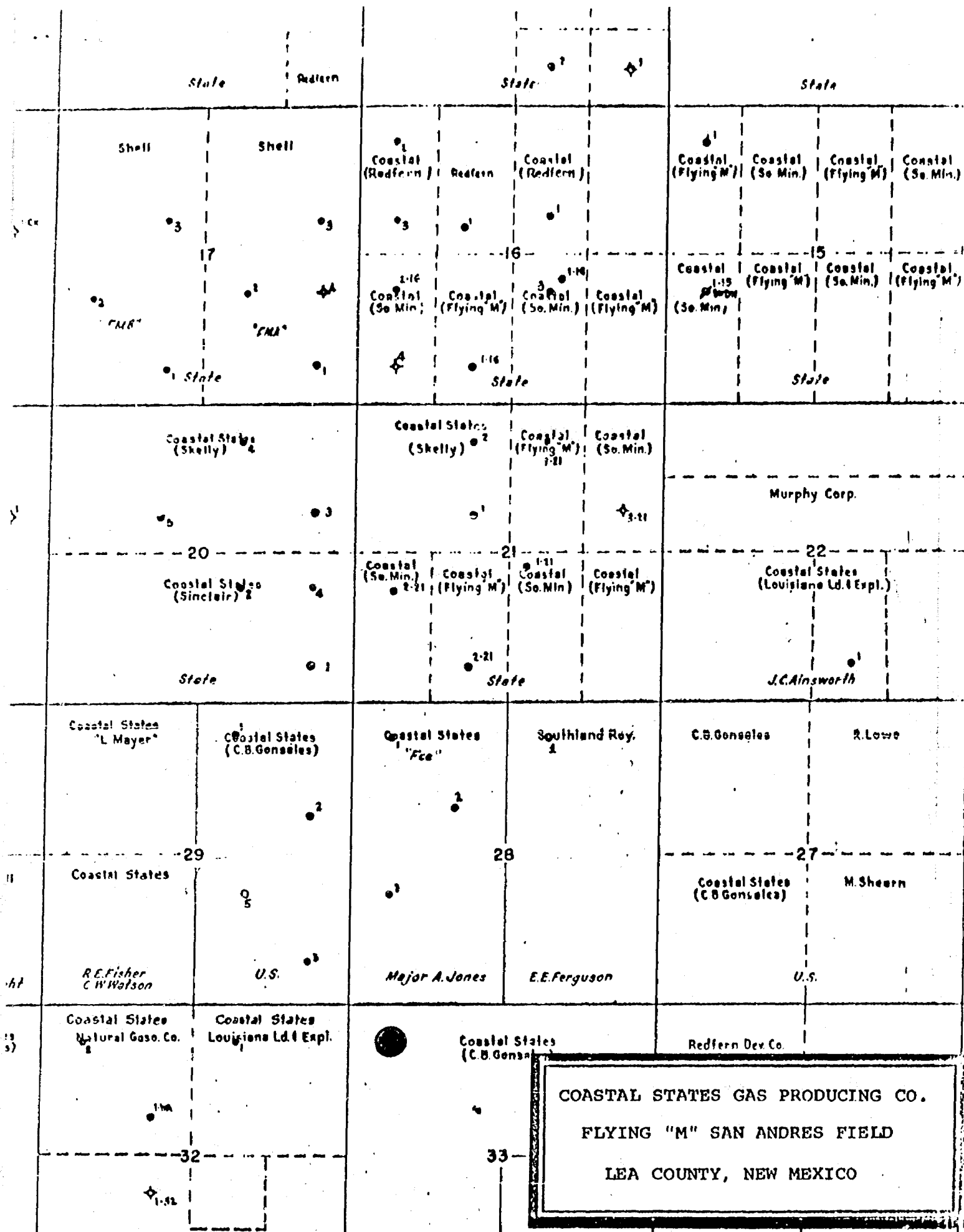
2" Tbg Plastic Lined.

Top of Cement 3530'
by Cement Bond Log.

Tension Packer set @ 4400'.

Perfs: 4424', 4435', 4054',
4461', 4475', 4478',
4485', 4487'.

4-1/2" set @ 4534'.



(A) (C) Acoustic-Gamma Ray Log

COMPANY *Coastal States Gas Prod.*
 WELL #4 *Gonzales Federal*
 FIELD *Flying 'M' (San Andres)*
 COUNTY *Lea* STATE *New Mexico*

LOCATION: *C/NW/NW*

Other Services
L-3
MFL
INDP

SEC *33* TWP *7-S* RGE *33-E*

G.L. Elev. *4293.4*
H.B. 11.2 Ft. Above Permanent Datum
 from *H.B.*

Elevations:
 KB *4294.4*
 DF *4293.4*
 GL *4293.4*

7-20-65

ONE

4533

4531

4526

272

not detected

4446

5447 541

9.9 44

105°

2'

5'

TS-135-23

BS-114

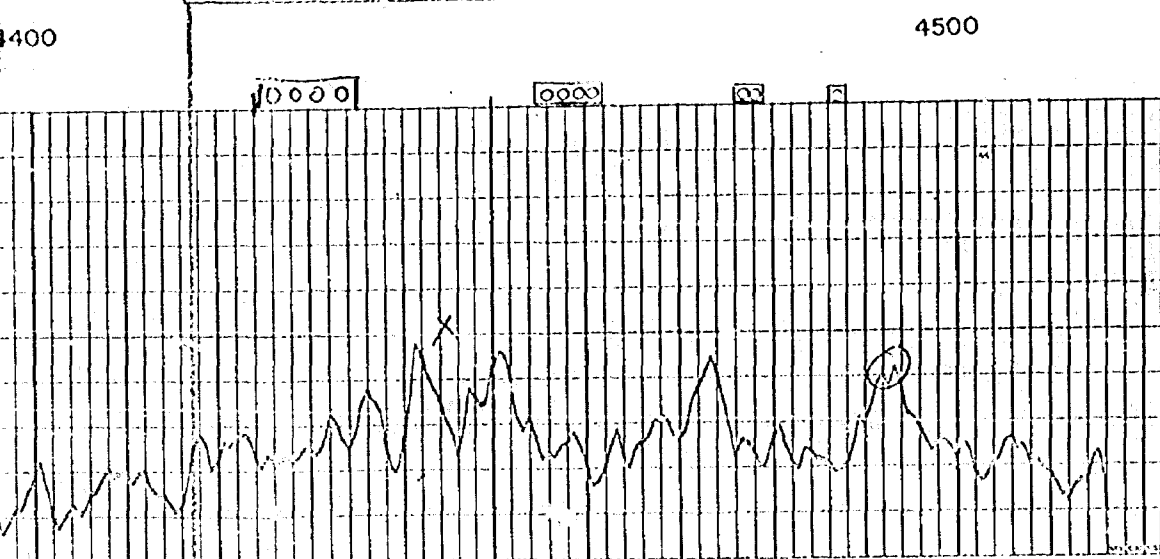
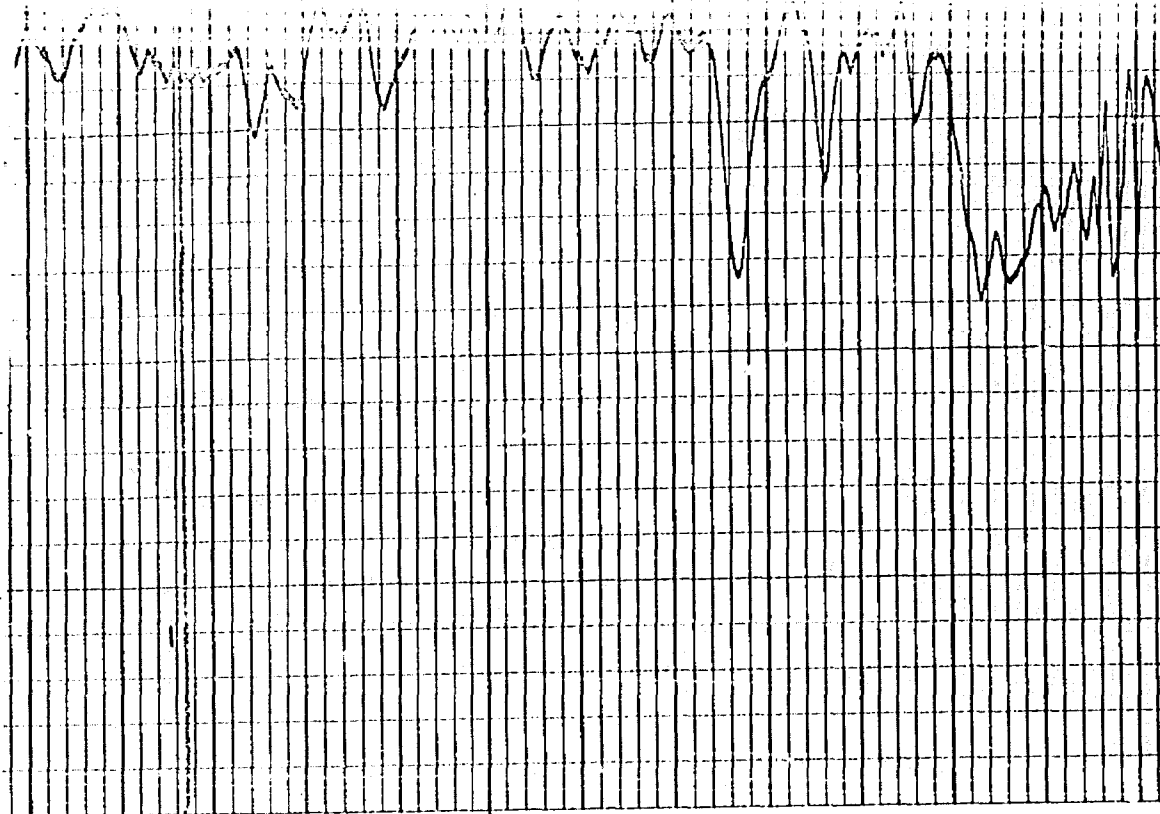
Lewis

M.A. State

SOLE RECORD

CASING RECORD

From	To	Csg. Size	Csg. Wt.	From	To
<i>22</i>	<i>1.0</i>	<i>2 1/2</i>		<i>5448</i>	<i>272</i>



WATKINS DIVISION OF THE CHEMICAL COMPANY

FIELD LABORATORY REPORT WATER ANALYSIS

TO: General Electric Gas Products
Box 3
Abilene, Texas

LABORATORY LOCATION Abilene, Tex.	REPORT NUMBER 1504
COMPANY General Electric	WELL Southern Energy 2-21
POOL Flying M	LOCATION 12
COUNTY Lee	STATE New Mexico
FORMATION San Andres	DEPTH
SUBMITTED BY Mr. J. Toward	TESTS DESIRED N/A

DATE SAMPLE SUBMITTED

5-5-64

SAMPLE NO.

Lab 1190

	PPM	EPM		PPM	EPM
CALCIUM	2260	113	CHLORIDE	118700	3320
MAGNESIUM	918	78	SULFATE	2800	59
SODIUM	71500	3200	BICARBONATE	507	10
IRON			CARBONATE		
HYDROGEN SULFIDE	Strong Odor		HYDROXIDE		

SPECIFIC GRAVITY

1.154

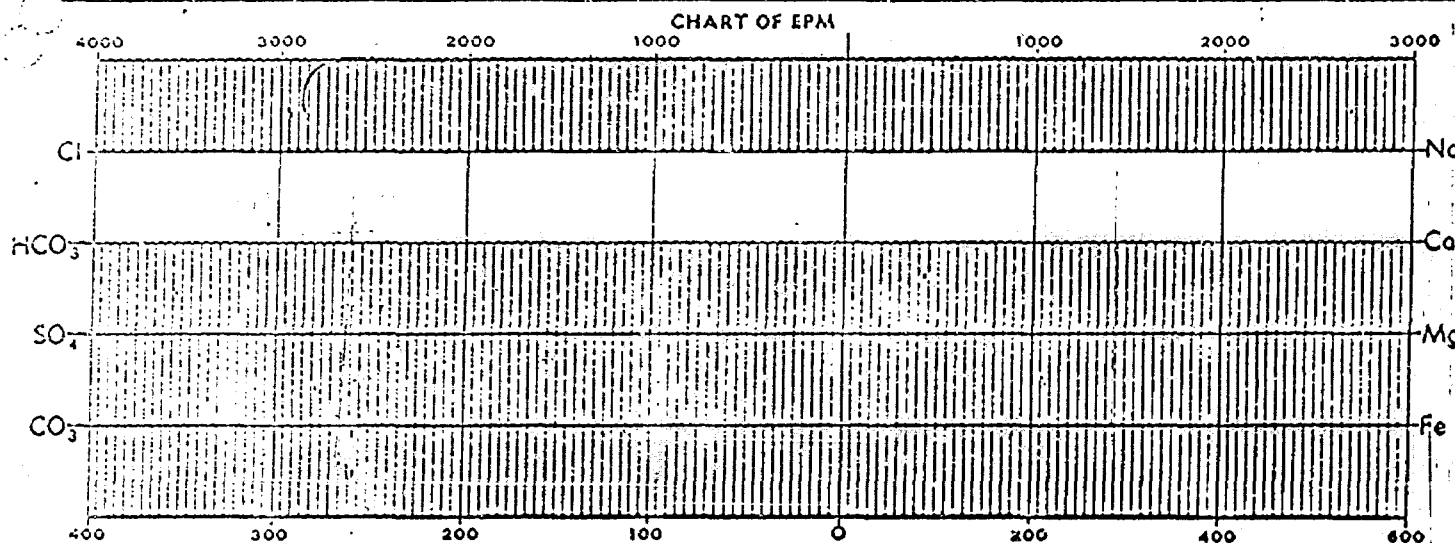
AT 91

PH

5.4

CaCl₂/MgCl₂

% SALT SATURATION



REMARKS:

About Same as Redfin #1 But alot less Ca & Mg than shell State #2
(Which may have still had some spent acid water init.)

Exhibit No. 9

F.F. Flippen

6-6-64

CHEMIST

DATE

DWL-431-B

P. O. BOX 2498

COASTAL STATES GAS PRODUCING COMPANY
NORTH TEXAS DIVISION
614 CITIZENS NATIONAL BANK BUILDING
ABILENE, TEXAS

100-405000

36 MAY 12 PM 1966

ONE OR 4-8191

May 10, 1966

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

Re: Coastal States'
Gonsales Federal 33 #4,
Unit D, Sec 33, T-9S, R33E,
Lea County, New Mexico.

Gentlemen:

Attached is Form C-108, prepared in order to convert the subject well to water injection. Permission to convert this well to water injection was obtained by Order No. R-3033 from the New Mexico Oil Conservation in January, 1966; however, Form C-108 or Federal Form 9-331 (Sundry Notices and Reports on Wells) was not submitted at that time. They are herewith attached, so that this well can be classified as a water injection well. If any further information is needed, please advise.

Very truly yours,

Jack R. McGraw

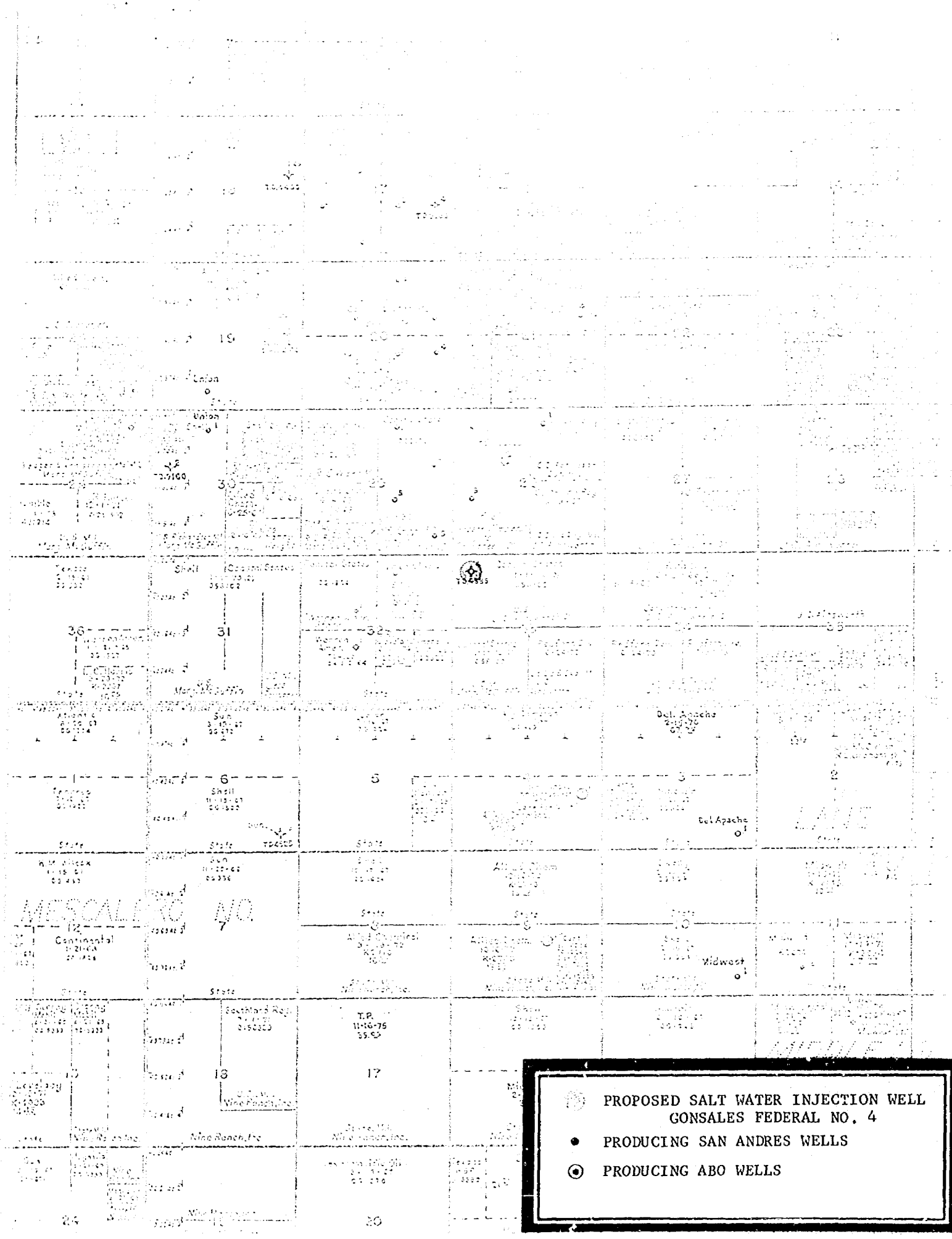
Jack R. McGraw
Division Engineer

JRMCG/ec

Enc.

CC: U. S. Department of the Interior
Geological Survey
P. O. Box 1157
Hobbs, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico



- PROPOSED SALT WATER INJECTION WELL
CONSALES FEDERAL NO. 4
- PRODUCING SAN ANDRES WELLS
- PRODUCING ABO WELLS

dearnley-maier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMMAS BLDG. • P. O. BOX 1092 • PHONE 243-6491 • ALBUQUERQUE, NEW MEXICO

PAGE 1

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 26, 1966

EXAMINER

HEARING

IN THE MATTER OF:

Application of Coastal States Gas Producing
Company for a pilot pressure maintenance
project, Lea County, New Mexico.

Case No. 3366

BEFORE:

Elvis A. Utz, Gas Engineer

TRANSCRIPT OF HEARING

MR. UTZ: Application of Coastal States Gas Producing Company for a pilot pressure maintenance project, Lea County, New Mexico.

MR. CHRISTY: Sim Christy of Hinkle, Bondurant and Christy, Roswell, New Mexico, appearing on behalf of the applicant, Coastal States. We have one witness, Mr. Examiner. Would you stand and be sworn.

(Witness sworn)

JACK R. MCGREW, a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, address, by whom you are employed and in what capacity?

A My name is Jack R. McGrew, I work for Coastal States Producing Company, Abilene, Texas, as a Production Engineer.

Q I believe you have previously testified before this regulatory body and have had your qualifications accepted?

A Yes, sir.

Q And are you familiar in what is sought in Case 3366, and the area involved?

A Yes, sir.

MR. CHRISTY: Any questions on the qualifications of the witness?

MR. UTZ: No, you may proceed.

Q (By Mr. Christy) Now, briefly would you tell the Examiner what you're seeking in this application?

A Coastal States requests permission to initiate a pilot pressure maintenance project in the Flying "M" San Andres Field of Lea County, New Mexico. This proposed pilot project will consist of three injection wells at the present time. We also request that provisions be made so that all additional injection wells may be approved administratively.

The three injection wells are described as follows:

Southern Minerals State 15 No. 1,
Northwest Quarter of Southwest Quarter,
Section 15;

Southern Minerals State 21 No. 4,
Southeast Quarter of Northeast Quarter,
Section 21;

Gonsales Federal 33 No. 4,
Northwest Quarter of Northwest Quarter,
Section 33;

All in Township 9, South; Range 33 East.

The Southern Minerals State 15 No. 1 is presently being used as a salt water disposal well. Permission to inject produced salt water into this well was obtained by Commission Order No. R-2924 in June, 1965. This water is being injected into the aquifer below the water-oil contact in the Slaughter Zone of the San Andres. To date, 41,000 barrels have been injected at approximately 900 psi at 225 barrels oil per day. No beneficial effects have been detected as a result of this

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



injection program.

We are requesting permission to inject produced San Andres water into two additional wells, in order to further evaluate the possibility of maintaining the reservoir pressure by bottom water injection (injecting below the water-oil contact).

The Southern Minerals State 21 No. 4 is a replacement well for the Southern Minerals State 21 No. 3, which was drilled in August, 1964, and subsequently lost due to hole problems. Attached is a plat showing the exact location of the proposed replacement well. Also attached is a diagrammatic sketch showing how this well is to be equipped for injection, utilizing 2-1/2" plastic coated tubing for casing.

The Gonsales Federal 33 No. 4 was drilled to a total depth of 4534' in July, 1965. The Slaughter Zone was tested and found to be predominantly (98%) water productive. It is presently temporarily abandoned. Attached is a diagrammatic sketch showing the proposed method of converting this well to injection status.

Coastal States is not requesting any allowable change or transfer of allowables at this time. As soon as sufficient response has been demonstrated, efforts to unitize the entire field will be resumed.

The State Engineer, as well as all offset operators, are being notified by copies of this application.

Q In summary, as I understand you, you're seeking permission to inject salt water below the aquefer?

A Below the water-oil contact.

Q Below the water-oil contact in these two new wells to make three that will be getting it?

A Yes.

Q You wish to use water from any available source?

A Yes, sir, we are actively seeking an outside source of water.

Q Just not getting enough?

A We would like to put in more, in other words, than we're taking out.

Q Further, as I understand you, what you seek is more or less a pilot project under the Commission Rules for transfer of allowables or anything of that nature, but more importantly that the project area be the entire field because we have to try this well and it doesn't work, and we try this one and it does work, is that it?

A Yes, we're asking for these three wells, now. However, we do plan to try additional wells in the near future and we would like for those after proper notice, to be approved administratively.

(Whereupon, Applicant's Exhibit "A" marked for identification.)

Q Mw. Mr. McGrew, there has been identified Applicant's Exhibit "A" which consists of a letter which you read to the Commission which includes 11 exhibits. Let's start with Exhibit 2, I believe that shows in yellow the present salt water disposal well and the injections wells?

A Right.

Q In line with your statement a minute ago with respect to the project area being the entire field, would you envision that you might use Southwest of Southwest of Section 16 as a salt water disposal?

A As a pressure maintenance injection well, yes, sir. We do anticipate using this well in the very near future and it was a well that was drilled to the Bo "C", and pipe is left through the San Andres and it is not a San Andres completion but we would like to go back and inject water below the contact at a later date. However, we do not ask for it at this time.

Q But this type of well is what you would seek administrative approval on or ask subsequent development of this pressure maintenance project?

A Yes, sir.

Q What I mean, you were mentioning you were going to have to drill, which is the next to your Southern Mineral, the well in the Southeast of the Northeast of Section 21, blue?

A Yes, sir.

Q Actually that well will not be the dry hole, it will be slightly to the west?

A That's true.

Q The other well in the Northwest Northwest of Section 33, that is the present existing well, that's the Gonsales well?

A That's right.

Q I believe Exhibit 3 shows the existing lines from wells producing water to where its injected on those you're proposing?

A That's right, it shows the gathering point of the salt water and our injection lines delivering this water to the injection well.

Q Right. Now, let's refer to Exhibit 4 and tell what this is?

A This is a structure map on the top of the Slaughter Zone. It shows that the wells that we propose at this time are on the down-dip side located at or below the water-oil contact, and we have, as I said, tried to hold to this. However, at a later date if we move up to the well that you mentioned previous in Section 16, Southwest Southwest, we would go deeper in the section and inject into the aquifer below the water-oil contact, although it would be deeper into the producing section.

Q Now, with respect to method of completion, let's take up the southernmost well first which is in Section 33, the one that is not producing, and I'll refer you to Exhibit 5 and ask you if that is your proposed method of completion on that type of installation where you have the existing well?

A Exhibit 5 shows the type of completion we would like to use on the well drilled primarily for injection purposes.

Q Exhibit 5 is the one you drilled for injection purposes?

A Yes.

Q I beg your pardon, let's take that up. You show 8-5/8" casing, what about your cement?

A 8-5/8" set at about 250 and the cement is circulated on that.

Q That effectively seals off the fresh water zones?

A In that area, yes, sir.

Q Then you're going to perforate below the oil-water contact as you depict here?

A Yes, sir.

Q Exhibit "C" would be an instance where you had a 4-1/2" casing already there, is that correct?

A That's right. If it's an existing well. All the wells in the field have 4-1/2" casing except for one or two

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO
1213 FIRST NATIONAL BANK EAST • PHONE 236-1294 • ALBUQUERQUE, NEW MEXICO

that might have 5-1/2. In those cases we would run 2" plastic coated tubing and inject below a packer which would be set below the cement on the long casing.

Q And again you will protect the casing?

A Yes, sir.

Q Do you have a log on any of these wells?

A On the Gonsales Number 4 we show a strip of a section of the log.

Q That is Exhibit 7, is it not?

A That's right, and it shows the perforated interval that will be used to inject into this formation.

Q And, of course, we don't have a log on the other wells since they haven't been drilled?

A No, sir.

Q All right, sir. Now, has that new well that hasn't been drilled, has it been staked?

A Yes, sir, and it is shown on Exhibit Number 8.

Q Now, how about this salt water that we're injecting, what's the content of it?

A This Exhibit 9 is an analysis of the produced San Andres water in this Flying "M" San Andres Field, and it shows that it is fairly highly mineralized and it has a high chloride content and also a high calcium content.

Q And is the field a sample of the water?

A Yes, it is.

Q I see. And Exhibit 11, I think Exhibit 10 is meaning also Exhibit 11, what is this?

A This is a plot of the bottom hole pressure versus time in the field. This has been presented in prior testimony and it has been brought up to date on this plot. The last point out there is the most recent pressure we have obtained on those, what our bottom pressure is declining. And so we need to step up our rate of developing this pressure maintenance project.

Q What would be the effect if the pressure maintenance project fails, will the field die?

A The field will continue to produce under primary mechanism until the bottom hole pressure gets down to such point it would be uneconomic.

Q So to institute pressure maintenance we're simply going to loose the entire field?

A That's right.

Q Now, again by way of quick review, as I understand you, you seek here a pressure maintenance project in an area defined as an entire field in the Flying "M" San Andres, you seek to inject both the produced water and such other water as you can obtain, you seek for administrative approval of expansion of this project and abandonment of unsuccessful

injection wells?

A Yes, sir, that's right. We would like to discontinue injecting in any well that proves to be unsuccessful and to change to another well at our discretion after proper notice has been given.

Q You assume you would envision the usual notices to offset operators and so forth?

A Yes.

Q And if any objections we would have a hearing?

A That's true.

Q Is there anything I did not ask you that you think would be of information to the Examiner?

A The only thing, the well we will drill, we will first test that well for possible oil production; it's right along the water-oil contact and would be oil productive and it will be tested and if it will produce oil we would like to produce it and drill another well at further down-dip.

Q Was this Exhibit "A" prepared by you or under your direction, supervision?

A Yes, sir.

MR. CHRISTY: I believe that's all from this witness.

CROSS-EXAMINATION

BY MR. IRBY:

Q Mr. McGrew, what is the age of these wells to be converted?

A Well, this Gonsales 4, I believe I said was drilled in July '65.

MR. CHRISTY: The other well we haven't drilled yet.

A The other well is not drilled. The 15-1 which had been on injection for about 8 months was drilled in about 1960.

Q (By Mr. Irby) Was the casing in this Gonsales well new?

A Yes, sir.

Q Now, you had another well over there to the west that you anticipated asking for later, is it an old well?

A It was drilled in '65, it was drilled to the Bo "C" and 8-5/8" was set through the San Andres, so if this is put on we will run tubing and inject through tubing with a packer set with the 8-5/8" as the casing.

Q Now, to go to your Southern Mineral State 21, Number 4, there are no specification on this plastic coated casing that you propose to put in there. What internal pressure will this casing withstand?

A We will run regular 2-7/8" tubing, J55, in this, and the internal pressure--just from memory I don't know exactly,

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TEST MONY, DAILY COPY, CONVENTIONS

1170 SIMAS BLDG. • P.O. BOX 1092 • PHONE 243-3691 • ALBUQUERQUE, NEW MEXICO
1213 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO



but it is approximately 4700 pounds and we will be injecting at a pressure not to exceed 2200 pounds.

Q Your maximum injection pressure, 2200 pounds?

A Yes, sir.

Q And you did testify that the surface casing in all instances was circulated with cement to the surface?

A Yes, sir, that is required and we do that on every one of them.

Q Now, has the Santa Rosa porosity been tested in any of the wells that have been drilled so far?

A No, sir, it hasn't.

Q I mean permeability, I'm sorry?

A The permeability of it has not been tested. We had discussed maybe drilling a cable to the well, to this Santa Rosa, to check it as a possible outside source of water. This has not been done, it has been done in the Tobac Field which is about five miles from this, and the sand is barren and does not contain water, and it's doubtful that it contains water in the Flying "M" area.

Q Do you plan to do this as a part of your drilling program on this Number 4?

A No, sir, we haven't planned to do that. It's impossible to test this effectively with a rotary rig.

Q I see. You intend to drill this with a rotary?

A Yes, sir.

MR. IRBY: That's all the questions of the witness.

MR. UTZ: The witness may be excused.

MR. CHRISTY: At this point I would like to offer
Applicant's Exhibit "A" including 1 through 11.

(Whereupon, Applicant's Exhibit
"A" offered into evidence.)

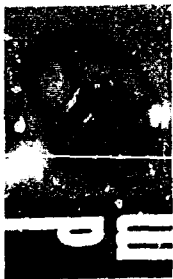
MR. UTS: Without objection the Exhibit will be
admitted.

(Whereupon, Applicant's Exhibit
"A" received into evidence.)

MR. CHRISTY: That's all.

MR. UTZ: The case will be taken under advisement
and we will recess for lunch until 1:30.

(Whereupon, the hearing was
recessed for lunch.)



I N D E X

<u>WITNESS</u>	<u>PAGE</u>
JACK R. MCGREW	
Direct Examination by Mr. Christy	2
Cross-Examination by Mr. Irby	11

E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
Applt's. A	6	14	14

Admin Approval

Added 1053000

no pay allocated

Appt of Coastal States
gas Producing Company
pilot gross measurement
7 days "7A" Gas Landed

3 inj

3000 Inducer

NW NW 35 Rwyd 1

NW SW 15

SE NE 21 to be held

95, 35E

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM (29).

1201 (4-60)

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination.

LA125 DC240

1966 JAN 21 PM 3 53

D MDA132 RX PD=WUX MIDLAND TEX 21 427 PM CST=

OIL CONSERVATION COMM=

STATE LAND OFFICE BLDG SANTA FE NMEX=

SHELL OIL COMPANY, AS AN OPERATOR IN THE FLYING "M" SAN ANDRES FIELD, HAS NO OBJECTION TO COASTAL STATES GAS COMPANY'S PROPOSAL TO INJECT WATER INTO THE SAN ANDREWS IN THREE WELLS SOUTHERN MINERALS STATE 15 NO. 1, SOUTHERN MINERALS STATE 21 NO. 4, AND GONZALES FEDERAL 33 NO. 4 AS SET FORTH IN THEIR LETTER OF JANUARY 10, 1966 TO NMOCC REQUESTING A HEARING=

SHELL OIL COMPANY J E R SHEELER WESTERN DIVISION
PRODUCTION MANAGER.=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS