

**CASE 4222: Application of CONSTITUTIONAL  
PRINCIPLES FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.**

Case Number

4000

Application  
Transcripts.

Small Exhibits

ETC.

**dearnley-meier reporting service, inc.**

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

1120 SIMMS BLDG. • P. O. BOX 1072 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
December 19, 1968

IN THE MATTER OF:

Application of Coastal States Gas  
Producing Company for salt water  
disposal, Lea County, New Mexico

Case No. 4000

BEFORE: DANIEL S. NUTTER

TRANSCRIPT OF HEARING

## NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARINGSANTA FE, NEW MEXICOHearing Date DECEMBER 19, 1968TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Jerry L. Zweig	Atlantic Richfield	Roswell
Nina S. DuJume	R.W. Byram & Co.	Santa Fe - Austin
Jack R. McGraw	Coastal, State Grs	Midland, Tex
Paul W. Eaton, Jr.	Hinkle, Soudant, Chinty	Amell
Jason Kellah	Kellah & Fox	Santa Fe
Burton Defeto	Mokers & Antweil	HOBBs
Richard S. Merrin	Montgomery et al	Santa Fe
W. J. Butler	Marathon Oil Company	Midland, Tex
D. C. Miller	Marathon Oil Co.	Midland Tex.
A. L. Porter, Jr.	N. M. O.C.C.	Santa Fe.

MR. NUTTER: The hearing will come to order, please.  
The first case this morning will be case 4,000.

MR. HATCH: Application of Coastal States Gas  
Producing Company for salt water disposal, Lea County, New  
Mexico.

MR. EATON: Paul Eaton, of the firm of Hinkle,  
Bondurant and Christy, P.O.Box 10, Roswell, New Mexico,  
representing the applicant; we have one witness.

(Witness sworn.)

(Whereupon, Applicant's Exhibits  
1 through 5 marked for identification)

\* \* \* \* \*

JACK McGRAW, called as a witness, having been first  
duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. EATON:

Q Please state your name, residence, occupation and  
employer.

A My name is Jack McGraw. I work for Coastal States  
Gas Producing Company as Division Petroleum Engineer, in  
Midland, Texas.

Q Are you familiar with the application of Coastal  
States in this case?

A Yes, I am.

Q Are you familiar with the property, and the proposed injection well involved in this case?

A Yes, sir.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A Yes, sir.

Q Have your qualifications been previously accepted by the Commission?

A Yes, they have.

MR. EATON: Are the witness's qualifications acceptable?

MR. NUTTER: They are.

Q (By Mr. Eaton) What does Coastal States seek by this application?

A Coastal States is seeking permission to inject produced salt water into the Delaware Formation in our Conoco-Federal Well No. 2 which is located in the northwest quarter of the northeast quarter of Section 15, Township 26 South, Range 33 East.

Q Mr. McGraw, I refer to what has been marked as Applicant's Exhibit No. 1 and ask you to state what it reflects.

A Exhibit No. 1 is a Xerox copy of a section of the County map, which shows the Salado Draw Field Area. This

Field is located in Section 10 and Section 15. There's only six wells in the field producing at this time. Coastal States has four wells, excuse me, Coastal States has four wells at this time, including the one that we intend to use as a disposal well. Continental Oil Company, then, has four wells that are producing at this time. All other wells have been plugged and abandoned.

Q What formations are those wells producing from?

A They're all producing from the Delaware Sand, at approximately 5000 feet.

Q Would you please give the history of the proposed injection well?

A Yes. This well was drilled in 1962 and completed producing 30 barrels of oil and 12 barrels of water per day, and it has produced 17,034 barrels of oil to 11-1-'68. It is now producing only 5 barrels of oil and 19 barrels of water per day, and is at or near the economic limit. It will cost us less to sacrifice this five barrels of oil than to truck oil out of the, or dispose of this water by any other means.

Q Mr. McGraw, I refer you to what has been marked as Applicant's Exhibit No. 2 and ask you to state what that reflects?

A Exhibit No. 2 is a porosity log on the proposed disposal well. It shows the Delaware Sand in this well

begins at 5000 feet and extends for the remainder of the hole that is drilled, about 5300 feet. The pay zone in this well is at 5050 to 5055. This Delaware Sand in this area, oil productive portion of it, is in the very top of the main porosity zone. We intend to inject water back into this zone and feel that we might actually receive some benefit from doing this, since there has been at least one successful water-flood in the Delaware Sand in the last two years.

Q Now, Mr. McGraw, I refer you to what has been marked as Exhibit No. 3 and ask you to state what that reflects?

A Exhibit No. 3 is a diagrammatic sketch of the method we plan to use in equipping this well for water injection. This shows that we will run a plastic-coated tubing string with a packer, set below the calculated cement top; we will inject through tubing with a packer set and we will place a non-corrosive fluid in the annular space between tubing and casing.

Q This exhibit reflects that the tubing will be plastic-lined?

A Yes, that is true.

Q What kind of fluid will be injected, and what is the source of that fluid?

A The fluid source is the produced water in the field,



just our produced water at this time. Possibly later it might include what little Continental has, but it is produced salt water, very saline, has a chloride content of 134,000 parts per million.

Q Do you have a water analysis?

A Yes, that is shown as Exhibit 4.

Q What volume of salt water do you anticipate will be injected?

A Oh, 30 to 50 barrels per day.

Q Will this water be injected under pressure?

A No, sir, we feel that that small volume will go in under vacuum conditions.

Q Now, I believe you stated that the annulus will be filled with some inert fluid?

A Yes.

Q Will a pressure gauge be attached to the annulus?

A Yes, it will.

Q In your opinion, will injection of water in the interval from 5051 to 5055 be detrimental to any existing oil production in the area?

A No, I don't think it would be detrimental, I think it might be helpful.

Q In your opinion, is the well cased and cemented in

such fashion that there will be no danger to any oil or gas or fresh water reservoirs encountered by the well?

A Yes.

Q Have you advised Continental Oil of this proposed injection?

A Yes, and Exhibit 5 is a copy of the letter that we received from them in which they suggested that this would be acceptable to them if we converted this well to water injection.

Q Have these Exhibits 1 through 3 been prepared by you or under your supervision?

A Yes, sir.

Q In your opinion will approval of the subject application prevent waste and protect correlative rights?

A Yes.

MR. EATON: Mr. Examiner, we move the admission of Exhibits 1 through 5.

MR. NUTTER: Coastal States' Exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5 offered and admitted in evidence.)

MR. EATON: I have no further questions of this witness.

MR. NUTTER: Are there any questions of Mr. McGraw?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. McGraw, now, as I understand your plat here, the well that's circled is the one that would be placed on injection?

A Yes, sir.

Q You have a producing well directly to the west, is that correct?

A This is true.

Q And two Continental wells to the north?

A Yes, sir.

Q And two more Coastal States Wells?

A Yes, s'r.

Q And Conoco has a well, this Goadeke No. 2 --

A Yes, sir.

Q -- up in Section 10 and also the No. 3?

A Yes, sir, that is true.

Q In their letter here to you, they stated that they weren't interested in putting No. 2 Goadeke on water injection. Had you proposed to them that a flood be instituted in the pool and that more than one well be placed on injection or what?

A No, sir, we had suggested to them that we buy their

No. 2 well and use that well and they decided they would rather keep it.

Q At this time, they're not going to join your disposal system as stated in their letter, they will truck their water?

A That is true.

Q But later, if they start producing more, your well would be made available to them?

A Yes, it would be, and I feel like this would be the situation because I can't see how they can continue to truck it away and they don't have very much anyway. We could get rid of it very easily.

MR. NUTTER: Are there any other questions of Mr. McGraw? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Eaton?

MR. EATON: No, sir, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4000? We will take the case under advisement.

I N D E X

<u>WITNESS</u>		<u>PAGE</u>
<u>JACK McGRAW</u>		
Direct Examination by Mr. Eaton		2
Cross Examination by Mr. Nutter		8
<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's 1 through 5	2	7

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand this 19th day of December, 1968.

Ada Dearnley  
 ADA DEARNLEY

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4000 heard by me on 12/19 1968.

Arthur, Examiner  
 New Mexico Oil Conservation Commission

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

P. O. BOX 2000  
SANTA FE

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

December 23, 1968

Mr. Paul Eaton  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Re: Case No. 4000  
Order No. B-3638  
Applicant:

Coastal States Gas Producing

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Aztec OCC       

Other State Engineer Office

Mr. Harold Berends - Bureau of Land Management

**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. 4000  
Order No. R-3638**

**APPLICATION OF COASTAL STATES GAS  
PRODUCING COMPANY FOR SALT WATER  
DISPOSAL, LEA COUNTY, NEW MEXICO.**

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:**

This cause came on for hearing at 9 a.m. on December 19, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 23rd day of December, 1968, 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 Company, is the owner and operator of the Conoco-Federal Well No. 2, located in Unit B of Section 15, Township 26 South, Range 33 East, NMRM, Salado Draw-Delaware Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Delaware formation, with injection into the perforated interval from approximately 5051 feet to 5055 feet:

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 5000 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

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CASE No. 4000  
Order No. R-3638

be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

**IT IS THEREFORE ORDERED:**

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to utilize its Concco-Federal Well No. 2, located in Unit B of Section 15, Township 26 South, Range 33 East, NMPN, Salado Draw-Delaware Pool, Lea County, New Mexico, to dispose of produced salt water into the Delaware formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 5000 feet, with injection into the perforated interval from approximately 5051 feet to 5055 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(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

  
DAVID E. CARGO, Chairman

GUSTON B. HAYS, Member

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



Docket No. 40-68

DOCKET: EXAMINER HEARING - THURSDAY - DECEMBER 19, 1968

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

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

CASE 4000: Application of Coastal States Gas Producing Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware Sand formation in the perforated interval from 5051 feet to 5055 feet in its Conoco-Federal Well No. 2 located in Unit B of Section 15, Township 26 South, Range 33 East, Salado Draw-Delaware Pool, Lea County, New Mexico.

CASE 4001: Application of Tamarack Petroleum Company, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 4862 feet to 4892 feet in its Union State Well No. 2, located in Unit K of Section 15, Township 19 South, Range 35 East, Pearl-Queen Pool, Lea County, New Mexico.

CASE 4002: Application of Marathon Oil Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Dallas Ranch Unit Area comprising 8,929 acres, more or less, of State lands in Township 9 South, Ranges 26 and 27 East, Chaves County, New Mexico.

CASE 3968: (Continued and Readvertised)

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 into the Devonian formation in the open-hole interval from approximately 12,400 feet to 12,550 feet in its U. D. Sawyer Well No. 4 located in Unit O of Section 34, Township 9 South, Range 36 East, Crossroads-Devonian Pool, Lea County, New Mexico.

December 19, 1968, Examiner Hearing  
Docket No. 40-68

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CASE 4003: Application of Morris R. Antweil for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formation in the perforated and open-hole interval from 3049 feet to 3159 feet in his Martha Forrest Well No. 1 located in Unit L of Section 24, Township 25 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

CASE 4004: Application of Atlantic-Richfield Company for the amendment of Order No. R-3507, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3507 to permit the disposal of produced salt water into the Lower Queen formation in the interval from 5160 feet to 5380 feet, as well as the previously authorized interval from 4820 feet to 4830 feet in the Upper Queen formation, in its State BF Well No. 1, located in Unit D of Section 13, Township 19 South, Range 34 East, Quail-Queen Pool, Lea County, New Mexico.



Exhibit # 3

Coastal States Gas Co.  
Conoco Federal No. 2.  
Lea County, N.M.

134,000 PPM chloride  
30-50 BWD  
gravity

339' - 8 5/8"  
Cmt w/ 200 sacks  
Cmt circulated

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
APLN EXHIBIT NO. 3  
CASE NO. 4000

inlet fluid

2 3/8" Tubing, plastic  
coated — yes

Johnson 101-S Packer  
5000'

Prts. 5051-5055

5302' - 9 1/2" Cmt w/ 150  
sacks - Top Cmt 4365'

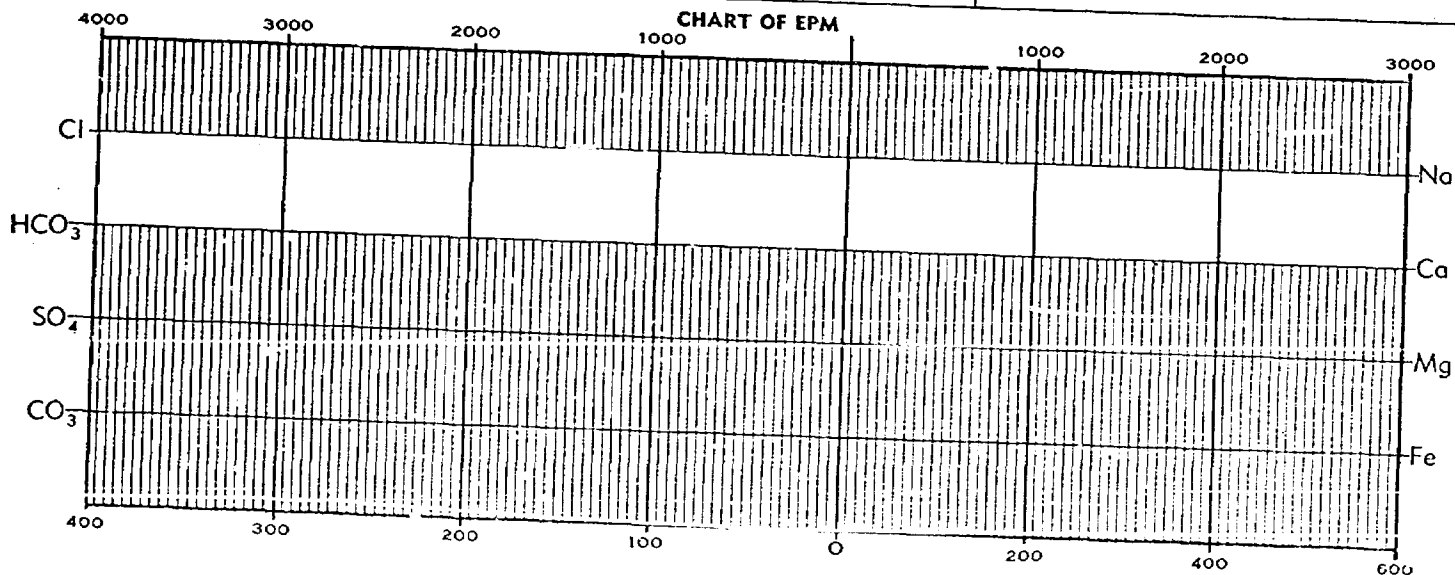


WELL DIVISION OF THE CHEMICAL COMPANY  
FIELD LABORATORY REPORT  
WATER ANALYSIS

TO: Coastal States  
Gas Producing Co.  
Box 385  
Abilene, Texas

Exhibit #4

DATE SAMPLE SUBMITTED 1-13-64		LABORATORY LOCATION Hobbs, N.M.		REPORT NUMBER 4790	
SAMPLE SOURCE ?		COMPANY Coastal States		WELL Conoco #2	
		POOL Salado Draw		LOCATION	
		COUNTY Lea		STATE	
		FORMATION Delaware		DEPTH	
		SUBMITTED BY Joe Howard		TESTS DESIRED W/A	
	PPM	EPM		PPM	EPM
CALCIUM	22430	1120	CHLORIDE	134000	3780
MAGNESIUM	3100	248	SULFATE	Nil	
SODIUM	55600	2413	BICARBONATE	100	1
IRON			CARBONATE		
HYDROGEN SULFIDE			HYDROXIDE		
SPECIFIC GRAVITY 1.204		AT 70 °F pH 11.5		% SALT SATURATION	
		CaCl <sub>2</sub> /MgCl <sub>2</sub>			



REMARKS:

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
APLs EXHIBIT NO. 4  
CASE NO. 4000

PAT BLASCO  
JAN 31 1965

C.M. Rosson 1-14-65

CHEMIST

DATE

Exhibit # 5



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Afternoon EXHIBIT NO. 5  
CASE NO. 4000

# CONTINENTAL OIL COMPANY

P. O. Box 460  
HOBBS, NEW MEXICO 88240

PRODUCTION DEPARTMENT  
HOBBS DIVISION  
L. P. THOMPSON  
Division Manager  
G. C. JAMIESON  
Assistant Division Manager

November 7, 1968

1001 NORTH TURNER  
TELEPHONE 393-4141

Mr. Clarence Murray, Jr.  
Coastal States Gas Producing Company  
Wilco Building  
Midland, Texas 79701

Dear Mr. Murray:

In reply to your letter dated November 1, 1968, concerning salt water disposal in the Salado Draw Delaware Pool, Continental is planning to truck produced water from the Goedeke Lease to the El Mar Salt Water Disposal System.

Since the Goedeke No. 2 is still a commercial oil well, Continental is not interested in allowing it to be converted to an injection well. However, as an offset operator, Continental has no objection to converting the other well mentioned, the Coastal States-operated Continental Federal No. 2, to an injection well.

If any further information is requested, please contact Mr. J. Roger Porter in the Hobbs Division Office.

Very truly yours,

G CJ-BF

CSGP CQ.  
Dirg. & Prod. Dept.  
Midland Div.  
NOV 12 1968

To	In	Out
JRC/H/L		✓
CW		
JRC		
File	✓	

COASTAL STATES GAS PRODUCING COMPANY

NORTH TEXAS DIVISION  
WILCO BUILDING  
MIDLAND, TEXAS  
79701

November 27, 1968

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.  
Secretary-Director

Re: Proposed Salt Water Disposal Well  
Coastal States Gas Producing Company  
Conoco Federal No. 2  
Salado Draw Field  
Lea County, New Mexico

Dear Sir:

Coastal States Gas Producing Company respectfully requests that a hearing be scheduled to approve the use of our Conoco Federal No. 2, located in the NW/4 of the NE/4 of Section 15, T-26-S, R-33-E, Lea County as a salt water disposal well.

The well is currently producing at an uneconomic rate from the Delaware sand. We plan to inject produced salt water from the other Delaware wells on our leases. Injection will be in the same zone that produces oil.

Attached is a plat showing the location of the subject well, a water analysis, a sketch of the proposed completion and an electric log.

Very truly yours,

*Jack R. McGraw*  
Jack R. McGraw  
Division Petroleum Engineer

JRMCG:CM:10  
Attachments

cc: Continental Oil Corp., Box 460, Hobbs, New Mexico 88240  
Humble Oil Co., Box 2100, Hobbs, New Mexico 88240  
Malcolm R. Madera, Box 94, Orla, Texas 79770  
United States Dept. of the Interior,  
Geological Survey  
P. O. Box 1157  
Hobbs, New Mexico 88240

DOCKET MARKED

Date 12-5-68

PERTINENT INFORMATION

1. Disposal zone - Delaware Sand 5051-5055.
2. Kind of fluid to be disposed of - produced salt water from the Salado Draw Field. Analysis is attached.
3. Anticipated volume - 30-50 BPD.
4. Anticipated pressure - vacuum.



Case 4000

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR <b>Coastal States Gas Producing Company</b>		ADDRESS <b>P. O. Box 235, Midland, Texas 79701</b>	
LEASE NAME <b>Conoco Federal</b>	WELL NO. <b>2</b>	FIELD <b>Salado Draw Delaware</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>B</b> ; WELL IS LOCATED <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1710</b> FEET FROM THE <b>East</b> LINE, SECTION <b>15</b> TOWNSHIP <b>26S</b> RANGE <b>33E</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>8-5/8</b>	<b>339</b>	<b>200</b>
INTERMEDIATE			
LONG STRING	<b>4-1/2</b>	<b>5302</b>	<b>150</b>
TUBING	<b>2-3/8</b>	<b>5000</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Johnson 101S 5000</b>
NAME OF PROPOSED INJECTION FORMATION <b>Delaware</b>		TOP OF FORMATION <b>5049</b>	BOTTOM OF FORMATION <b>5104</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforations</b>	PROPOSED INTERVAL(S) OF INJECTION <b>5051-5055</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Cil</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>940'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>Unknown</b>
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>25</b>	MINIMUM <b>50</b>	MAXIMUM <b>50</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>
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 - <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>	NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Malcolm R. Madera, Box 94, Orla, Texas 79770</b>		ARE WATER ANALYSES ATTACHED? <b>Yes</b>	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Continental Oil Company, P. O. Box 460, Hobbs, New Mexico</b>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		THE NEW MEXICO STATE ENGINEER	
SURFACE OWNER <b>Yes</b>		<b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		ELECTRICAL LOG	
PLAT OF AREA <b>Yes</b>		<b>Yes</b>	
		DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

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

(Signature) Div. Prod. Supt. (Title) November 27, 1968 (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.

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

Case 4000

OPERATOR		ADDRESS	
Coastal States Gas Producing Company		P. O. Box 235, Midland, Texas 79701	
LEASE NAME	WELL NO.	FIELD	COUNTY
Conoco Federal	2	Salado Draw Delaware	Lee
LOCATION			
UNIT LETTER	WELL IS LOCATED	FEET FROM THE	LINE AND
B	660	North	1710
LINE, SECTION	TOWNSHIP	RANGE	NMPM.
East 15	268	332	
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING			
INTERMEDIATE	8-5/8	339	200
LONG STRING			
TUBING	4-1/2	5302	150
NAME OF PROPOSED INJECTION FORMATION		DEPTH OF TUBING	DEPTH OF CEMENT
2-3/8		5000	5000
IS INJECTION THROUGH DELINEATION, OR ANNULUS?		PERFORATIONS OR OPEN HOLES	INTERVAL(S) OF INJECTION
Delaware		5049	5104
IS THIS A NEW WELL DISPOSAL?	IF ANSWER IS NO, FOR PERFORATIONS	WELL ORIGINALLY	HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE?
Tubing	Perforations	5051-5055	No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
No			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA	
940'		None	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM	MAXIMUM	APPROX. PRESSURE (PSI)
940'	50	50	Unknown
ANSWER YES OR NO WHETHER FOLLOWING WATER ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE		NATURAL WATER IN DISPOSAL ZONE	
Closed		Yes	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND)		ARE WATER ANALYSES ATTACHED?	
Yes		Yes	
LIST ALL OTHER OPERATORS WITHIN ONE-HALF MILE OF THE INJECTION WELL			
Continental Oil Company, P. O. Box 460, Hobbs, New Mexico			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		THE NEW MEXICO STATE ENGINEER	
SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
Yes		Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		ELECTRICAL LOG	
Yes		Yes	
		DIAGRAMS SKETCH OF WELL	
		Yes	

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

(Signature)

Div. Prod. Supt.

November 27, 1968

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.

*Case 4000*

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR <b>Coastal States Gas Producing Company</b>		ADDRESS <b>P. O. Box 235, Midland, Texas 79701</b>	
LEASE NAME <b>Conoco Federal</b>	WELL NO. <b>2</b>	FIELD <b>Salado Draw Delaware</b>	COUNTY <b>Lea</b>
LOCATION UNIT LETTER <b>B</b> ; WELL IS LOCATED <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1710</b> FEET FROM THE <b>East</b> LINE, SECTION <b>15</b> TOWNSHIP <b>26S</b> RANGE <b>33E</b> NMPM.			
<b>CASING AND TUBING DATA</b>			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>8-5/8</b>	<b>339</b>	<b>200</b>
INTERMEDIATE			
LONG STRING	<b>4-1/2</b>	<b>5302</b>	<b>150</b>
TUBING	<b>2-3/8</b>	<b>5000</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Johnson 101S 5000</b>
NAME OF PROPOSED INJECTION FORMATION <b>Delaware</b>		TOP OF FORMATION <b>5049</b>	BOTTOM OF FORMATION <b>5104</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforations</b>	PROPOSED INTERVAL (S) OF INJECTION <b>5051-5055</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Oil</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>940'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>Unknown</b>
ANTICIPATED DAILY INJECTION VOLUME (BBL'S.) <b>25</b>	MINIMUM <b>50</b>	MAXIMUM <b>Closed</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>
IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Yes</b>		APPROX. PRESSURE (PSI) <b>Yes</b>	
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 - <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>	
NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>		ARE WATER ANALYSES ATTACHED? <b>Yes</b>	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Malcolm E. Madera, Box 94, Orla, Texas 79770</b>			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Continental Oil Company, P. O. Box 460, Hobbs, New Mexico</b>			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER	
<b>Yes</b>		<b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
<b>Yes</b>		<b>Yes</b>	
		ELECTRICAL LOG	
		<b>Yes</b>	
		THE NEW MEXICO STATE ENGINEER	
		<b>Yes</b>	
		DIAGRAMMATIC SKETCH OF WELL	
		<b>Yes</b>	

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

(Signature)

**Div. Prod. Supt.**

(Title)

**November 27, 1968**

(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.

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

Base 4000

OPERATOR <b>Coastal States Gas Producing Company</b>		ADDRESS <b>P. O. Box 235, Midland, Texas 79701</b>	
LEASE NAME <b>Conoco Federal</b>	WELL NO. <b>2</b>	FIELD <b>Salado Draw Delaware</b>	COUNTY <b>Leon</b>
LOCATION UNIT LETTER <b>B</b> WELL IS LOCATED <b>660</b> FEET FROM THE <b>North</b> LINE AND <b>1710</b> FEET FROM THE <b>East</b> LINE, SECTION <b>15</b> TOWNSHIP <b>26S</b> RANGE <b>33E</b> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	<b>8-5/8</b>	<b>339</b>	<b>200</b>
INTERMEDIATE			
LONG STRING	<b>4-1/2</b>	<b>5202</b>	<b>150</b>
TUBING	<b>2-3/8</b>	<b>5000</b>	<b>Johnson 1015 5000</b>
NAME OF PROPOSED INJECTION FORMATION <b>Delaware</b>		TOP OF FORMATION <b>5049</b>	BOTTOM OF FORMATION <b>5104</b>
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>tubing</b>		PERFORATIONS OR OPEN HOLE? <b>Perforations</b>	PROPOSED INTERVAL(S) OF INJECTION <b>5051-5055</b>
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Oil</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>No</b>
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>940'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>None</b>	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>Unknown</b>
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>25</b>	MINIMUM <b>30</b>	MAXIMUM <b>50</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>
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 - <b>Yes</b>		WATER TO BE DISPOSED OF <b>Yes</b>	NATURAL WATER IN DISPOSAL ZONE <b>Yes</b>
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Malcolm R. Madera, Box 94, Orla, Texas 79770</b>		LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL <b>Continental Oil Company, P. O. Box 460, Hobbs, New Mexico</b>	
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? <b>Yes</b>		SURFACE OWNER <b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) <b>Yes</b>		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	
		THE NEW MEXICO STATE ENGINEER <b>Yes</b>	
		ELECTRICAL LOG <b>Yes</b>	
		DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

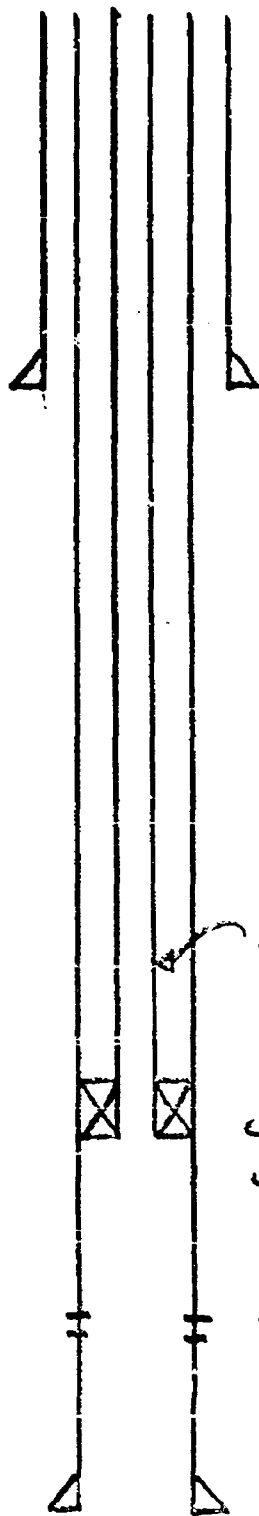
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

(Signature) Div. Prod. Supt. (Title) November 27, 1958 (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.

Coastal States Gas Co.  
Conoco Federal No. 2  
Lea County, N.M.

339'-8 5/8"  
Cmt w/ 200 sacks  
Cmt circulated



2 3/8" Tubing, plastic  
coated

Johnson 101-S Packer  
5000'

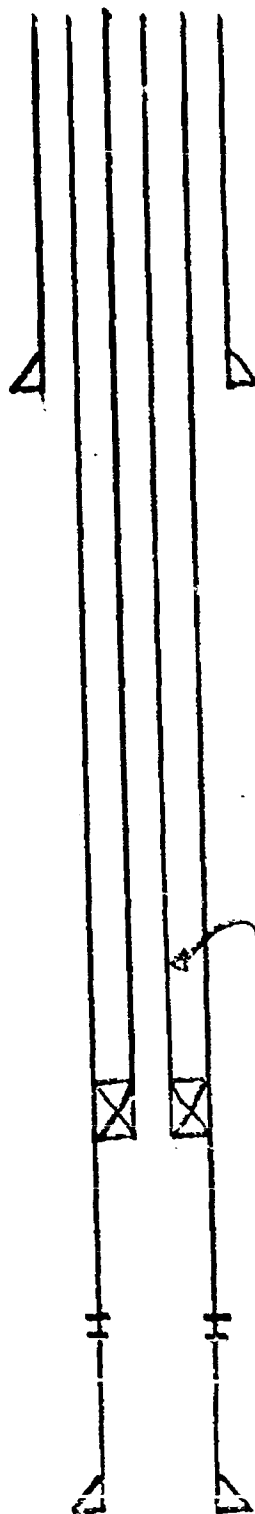
Parts. 5051-5055

5302'-9 1/2" Cmt w/ 150  
sacks - Top Cmt 4365'

Case 4000

Coastal States Crs Co.  
Conoco Federal No. 2  
Lea County, N.M.

339'-8 5/8"  
Cmt w/ 200 sacks  
Cmt circulated



2 3/8" Tubing, plastic  
coated

Johnson 101-S Packer  
5000'

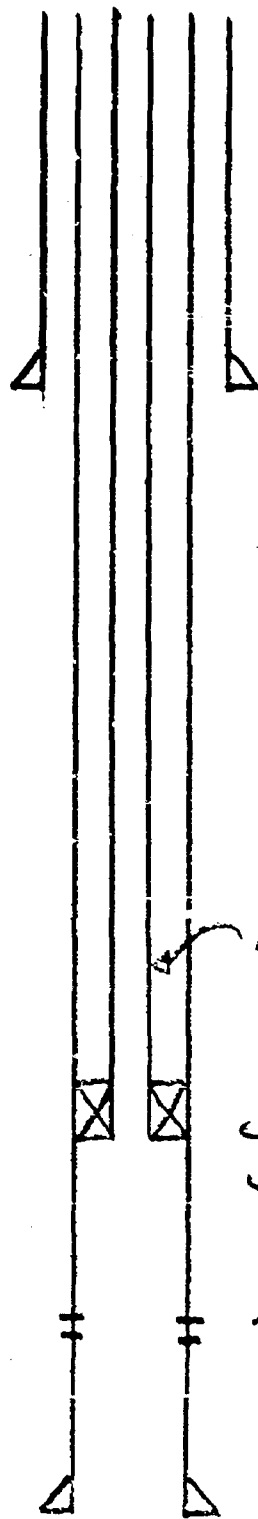
Arts. 5051-5055

5302'-9 1/8" Cmt w/ 150  
sacks - Top Cmt 4665'

Case #000

Coastal States Gas Co.  
Conoco Federal No. 2  
Lea County, N.M.

339' - 8 5/8"  
Cmt w/ 200 sacks  
Cmt circulated

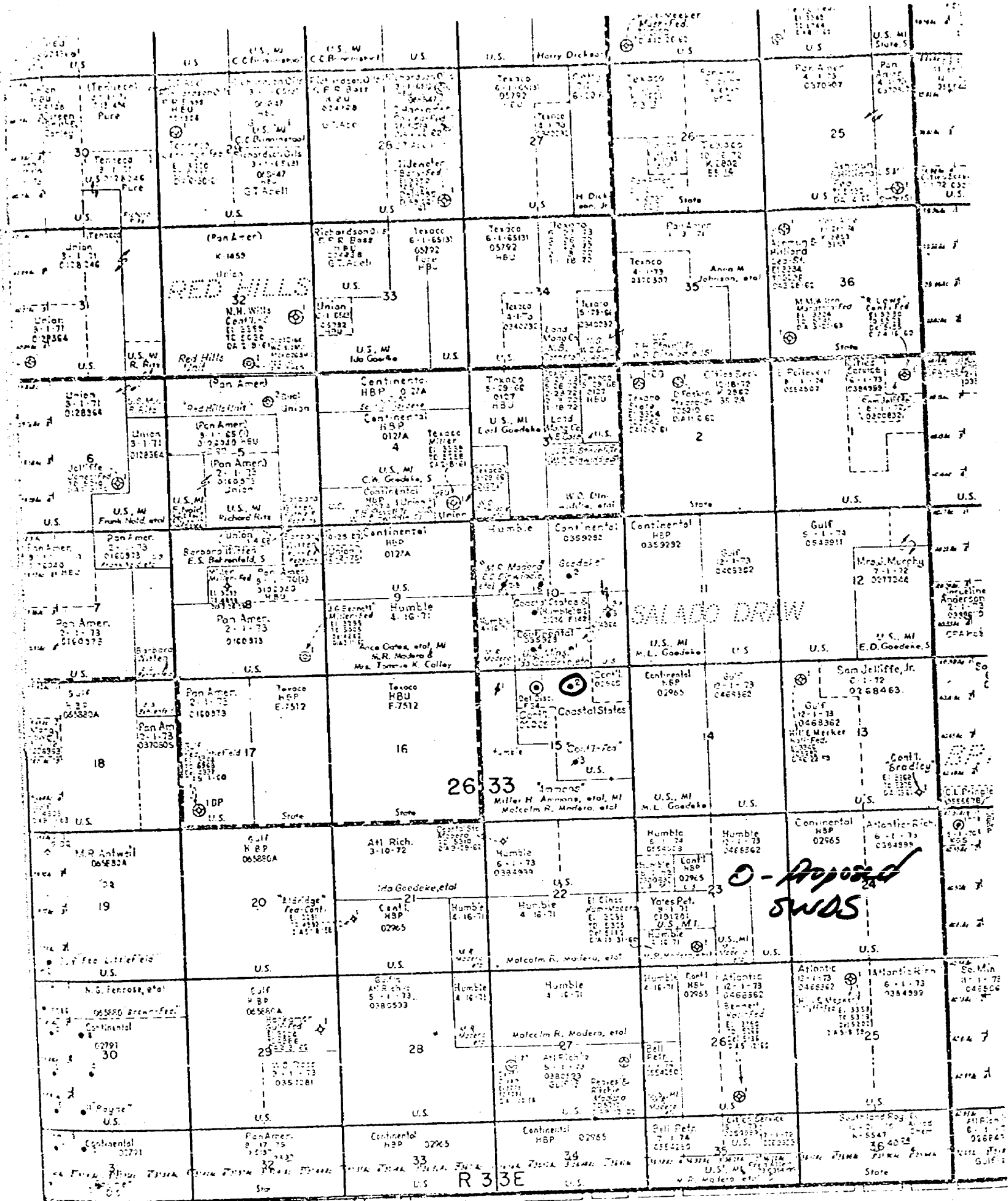


2 3/8" Tubing, plastic  
coated

Johnson 101-S Packer  
5000'

Brls. 5051-5055

5302' - 9 1/2" Cmt w/ 150  
sacks - Top Cmt 4665'



PREPARED BY

Case 4000

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BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

*A.P.*  
CASE No. 4000

Order No. R- 2638

APPLICATION OF COASTAL STATES GAS  
PRODUCING COMPANY FOR SALT WATER  
DISPOSAL, LEA COUNTY, NEW MEXICO.

*Don*  
ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 19, 1968  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter

NOW, on this \_\_\_\_\_ day of December, 1968, 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 Company,  
is the owner and operator of the Conoco-Federal Well No. 2  
located in Unit B of Section 15, Township 26 South, Range  
33 East, NMPM, Salado Draw-Delaware Pool, Lea  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Delaware Sand  
formation, with injection into the perforated interval  
from approximately 5051 feet to 5055 feet.

(4) That the injection should be accomplished through  
2 3/8-inch plastic-lined tubing installed in a packer set at

approximately 5000 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to utilize its Conoco-Federal Well No. 2 located in Unit B of Section 15, Township 26 South, Range 33 East, NMPM, Salado Draw-Delaware Pool, Lea County, New Mexico, to dispose of produced salt water into the Delaware Sand formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 5000 feet, with injection into the perforated interval from approximately 5051 feet to 5055 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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